AMENDED EIS/EA REPORT
CHAPTER 7: PUBLIC CONSULTATION AND ABORIGINAL ENGAGEMENT
VERSION 3

APPENDIX 7.III

Record of Communications – Public

January 2018
Project No. 1656263
Hammond Reef Gold Project

Communication Date	Communication Type	Purpose	Stakeholder Group	Key Issues Raised	Stakeholder Question/Concern	OHRG Response	Follow Up
December 20, 2011	Email	Rainy Lake Conservancy sent a list of concerns based on their review of the information package provided by OHRG.	Rainy Lake Conservancy	Environmental Monitoring	A detailed plan to monitor (real-time if feasible) surface and sub-surface water quality and flow should be part of both Water Management and the Closure and Rehab Plan . Downstream locations on the Seine River flowage should be published regularly on a public web site	– I will need to get back to you more fully as the project progresses.	– I will need to get back to you more fully as the project progresses.
December 20, 2011	Email	Rainy Lake Conservancy sent a list of concerns based on their review of the information package provided by OHRG.	Rainy Lake Conservancy	Water quality	What specific standards will be used to gauge water quality in the waste to be released into Marmion Lake.	OHRG has not finalized water quality predictions for the Project. Criteria and potential data sources for groundwater and surface water/sediment quality were provided.	OHRG has not finalized water quality predictions for the Project.
December 27, 2011	Letter	An individual stakeholder sent a letter to the Town of Atikokan expressing her concerns	Public Stakeholder	Ore Processing	What chemicals will be used on site?	OHRG has not finalized the materials use for the Project.	Provide list of chemicals to be used at site
April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process. OCAP provided background information about their organization, their personal backgrounds and detailed their concerns about the Project.	Ontario Coalition of Aboriginal People	Aboriginal Rights	• OCAP want to be recognized as Aboriginal. • OCAP want to be recognized by the crown as having Aboriginal rights. • OCAP represents that nearest Aboriginal community to the Project – Wabigoon Metis • OCAP asserts Aboriginal rights in the area of the Project	n/a	Discussions with the Crown
April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process.	Ontario Coalition of Aboriginal People	Cyanide	• Concerned about the effects of cyanide use	Included in EIS Guidelines and Terms of Reference.	EA Report
April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process.	Ontario Coalition of Aboriginal People	Environmental Assessment	• OCAP wants to stay involved in the EA process	**Information Provided** • Project Overview Booklet • Fact Sheets Open House 1 • Fact Sheets Open House 2 • Fact Sheets Open House 3 • Workshop 1 Presentation • Terms of Reference • EIS Guidelines	

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April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process.	Ontario Coalition of Aboriginal People	Aquatic Biology	• Concerned about the potential impacts to fish (walleye)	Included in EIS Guidelines and Terms of Reference.	EA Report
April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process.	Ontario Coalition of Aboriginal People	Hunting and Fishing	• Concerned about the potential impacts to hunting and the moose population Potential decreased access to lands and waters	Included in EIS Guidelines and Terms of Reference.	EA Report
April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process.	Ontario Coalition of Aboriginal People	Mining Operations	• Concerned about the potential effects of blasting	Included in EIS Guidelines and Terms of Reference.	EA Report
April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process.	Ontario Coalition of Aboriginal People	Mitta Lake	• Concerned about the loss of Mitta Lake as a productive part of the aquatic ecosystem	Included in EIS Guidelines and Terms of Reference.	EA Report
April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process.	Ontario Coalition of Aboriginal People	Noise	• Concerned about the impacts of noise on wildlife	Included in EIS Guidelines and Terms of Reference.	EA Report
April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process.	Ontario Coalition of Aboriginal People	Public Safety	• Safety is a concern, accidents happen even with good planning	Included in EIS Guidelines and Terms of Reference.	EA Report
April 13, 2012	Meeting	Meeting with OCAP to formally introduce and present and overview of the OHRG Project and EA process.	Ontario Coalition of Aboriginal People	Water Quality	• Concerned about the potential effects to water quality	Included in EIS Guidelines and Terms of Reference.	EA Report
May 5, 2012	Presentation	Osisko was invited to attend the Zone A Meeting of the Ontario Anglers and Hunters, of which the Atikokan Sportsmen's Conservation Club is a member. Osisko gave a Project Overview presentation on the Osisko Hammond Reef	Ontario Federation of Anglers and Hunters	Tailings Management	Are tailings and waste rock stored together?	No, tailings and waste rock are managed separated. Tailings are a waste product from the ore processing facility; tailings are finely ground material containing water. Waste rock is larger pieces of rock; waste rock has not gone through any processing (coarser because it has been blasted not ground), it is simply rock that does not contain an economic amount of gold ore.	

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		Gold project and answered questions about the Project.					
May 5, 2012	Presentation	Project Overview presentation on the Osisko Hammond Reef Gold project and answered questions about the Project.	Ontario Federation of Anglers and Hunters	Socio-economics	What about socio-economic effects? How will you take into account the traffic increase to the highways? They aren't built for that volume.	The socio-economic assessment will include a traffic study that measures existing traffic volumes and predicts increases due to the Project.	EA Report
May 5, 2012	Presentation	Project Overview presentation on the Osisko Hammond Reef Gold project and answered questions about the Project.	Ontario Federation of Anglers and Hunters	Aquatic biology	What is the buffer zone between the water and the development?	The goal is to keep a 30 metre buffer zone between the Project development and the shoreline.	
May 5, 2012	Presentation	Project Overview presentation on the Osisko Hammond Reef Gold project and answered questions about the Project.	Ontario Federation of Anglers and Hunters	Groundwater	The Canadian government has put in test holes north of Hammond Reef, have you looked at the groundwater information?	We will ensure that this information is passed on to the Golder hydrogeology team.	
May 5, 2012	Presentation	Project Overview presentation on the Osisko Hammond Reef Gold project and answered questions about the Project.	Ontario Federation of Anglers and Hunters	Baseline Studies	When I was reading the Terms of Reference and EIS Guidelines I saw you had to study the existing environment out there. Isn't it a lot different than it was 4 years ago?	Yes, some things have changed, however the aquatic and terrestrial ecosystems have still been found to be representative of the region. One example of where the change to the existing environment has influenced our approach to baseline data collection is for the acoustic environment. Noise levels at the site are not currently representative of "baseline" conditions; therefore instead of measuring current noise levels at the site, we plan to compare potential changes from the Project to rural conditions in the region.	
May 5, 2012	Presentation	Project Overview presentation on the Osisko Hammond Reef Gold project and answered questions about the Project.	Ontario Federation of Anglers and Hunters	EA Methods	How will the Federal Budget affect the EA for Hammond Reef?	We aren't sure how the changes will affect the Hammond Reef Project.	We aren't sure how the changes will affect the Hammond Reef Project.

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May 5, 2012	Presentation	Project Overview presentation on the Osisko Hammond Reef Gold project and answered questions about the Project.	Ontario Federation of Anglers and Hunters	EA Methods	We have concerns about changes to the Fisheries Act. Will Hammond Reef be governed under the new or old way?	We are not sure how these changes will affect the Project planning process.	We are not sure how these changes will affect the Project planning process.
May 5, 2012	Presentation	Project Overview presentation on the Osisko Hammond Reef Gold project and answered questions about the Project.	Ontario Federation of Anglers and Hunters	Transmission Line	Will you use natural gas at the site?	No, we plan to build a transmission line that will connect to the provincial grid.	
May 5, 2012	Presentation	Project Overview presentation on the Osisko Hammond Reef Gold project and answered questions about the Project.	Ontario Federation of Anglers and Hunters	Closure Planning	We need to plan in advance for potential socio-economic effects of mine closure.	Yes, we are working with the town and the municipal service providers.	
June 10, 2012	Email	Fishing concerns	Camp Quetico	Fishing	Expressed concerns over rumours that Osisko employees have been catching minnows from Mitta Lake for their own personal use.	Site Manager has no knowledge of OHRG employees bait fishing on Mitta Lake. Any Ontario resident is allowed to bait-fish as long as they have a proper trap (including identification) and a fishing license for their own personal use.	Staff communication between OHRG supervisors and employees to confirm that workers are not trapping minnows without the appropriate authority or permission.
July 10, 2012	Phone Call	OHRG requested a meeting to learn more about Camp Quetico's land use in the Project area. Camp Quetico indicated that he does not want to meet further until his specific questions and requests are met.	Camp Quetico	Community Consultation	Osisko has never consulted with him or taken any of his concerns seriously He was on the land first and Osisko conducted the exploration project with no regard for potential impacts to his business	OHRG has communicated with Camp Quetico throughout the EA process	

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July 10, 2012	Phone Call	OHRG requested a meeting to learn more about Camp Quetico's land use in the Project area. Camp Quetico indicated that he does not want to meet further until his specific questions and requests are met.	Camp Quetico	Fishing	Stated that Osisko should have bought the baitfish blocks from [redacted] before exploration began (he stated there are five blocks worth $30,000 each)	OHRG is not ready to discuss compensation (if any) for his perceived impacts.	
July 10, 2012	Phone Call	OHRG requested a meeting to learn more about Camp Quetico's land use in the Project area. Camp Quetico indicated that he does not want to meet further until his specific questions and requests are met.	Camp Quetico	Fishing	Alleged that Osisko staff members harvest minnows from Mitta Lake	Staff communication between OHRG supervisors and employees has occurred to confirm that workers are not trapping minnows without the appropriate authority or permission.	
July 10, 2012	Phone Call	OHRG requested a meeting to learn more about Camp Quetico's land use in the Project area. Camp Quetico indicated that he does not want to meet further until his specific questions and requests are met.	Camp Quetico	Aquatic Health	Alleged that the aquatic biology baseline sampling program has harmed the fish population in Mitta Lake		
July 10, 2012	Phone Call	OHRG requested a meeting to learn more about Camp Quetico's land use in the Project area. Camp Quetico indicated that he does not want to meet further until his specific questions and requests are met.	Camp Quetico	Community Consultation	Requested compensation for meetings with Osisko	OHRG is not ready to discuss compensation (if any) for his perceived impacts.	

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July 10, 2012	Phone Call	OHRG requested a meeting to learn more about Camp Quetico's land use in the Project area. Camp Quetico indicated that he does not want to meet further until his specific questions and requests are met.	Camp Quetico	Community Consultation	Requested presence of decision makers at meetings to allow for identification of a clear path forward towards a positive relationship	OHRG is not ready to discuss compensation (if any) for his perceived impacts.	
July 30, 2012	Presentation	Baseline Results Updated Project Alternatives	Town of Atikokan	Water Quality	Will the Project cause mercury levels to become higher during operations, then lowered?	What has been collected to date is data to characterize the existing environment. Predictions of different metal levels will be done during the environmental assessment. This step is when we use the existing environment, combined with the information from the engineering design to predict the affect of the Project on the environment. The exception is the results of the baseline geochemistry study, where potential changes are estimated based on laboratory testing.	
July 30,2012	Presentation	Baseline Results Updated Project Alternatives	Town of Atikokan	EA Methods	What is the timeline of the EA Report? Are you getting cooperation from the government?	We plan to have a draft EA Report completed for internal (Osisko) review by December 2012. We are currently working with the government to coordinate review timelines. Yes. We just got approval for the Terms of Reference from the Provincial government. We are now working with our environmental consultant, Golder Associates	
July 30,2012	Presentation	Baseline Results Updated Project Alternatives	Town of Atikokan	Hydrology	Is the watershed direction southwest?	Yes, the hydrology studies have shown that the water flows in a south west direction.	
July 30,2012	Presentation	Baseline Results Updated Project Alternatives	Town of Atikokan	Socio-economics	Vic has contacted potential airlines that the Town of Atikokan is interested in developing the air service The airlines stated that they needed to forecast requirements Vic asked OPG and Osisko what type	Description to be modified in the baseline study report	OHRG consultation team to follow up internally to determine potential requirements

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					of services they would need Airport was completely re-surfaced 3 years ago		
July 30,2012	Presentation	Baseline Results Updated Project Alternatives		Workers Camp	How many people will be at camp? Will this Project be bigger than Red Lake? Their bunkhouse holds 300 people. People don't always work where they live. No need to apologize, this is a way of life now. Thank you for your commitment to encourage people to live in Atikokan. Have you considered building a camp in town?	The on-site camp will likely be designed for 1,000 people. I am not familiar with the Red Lake project, the current plan is to design the on-site camp for approximately 1,000 people. A: We did consider it but are currently considering the "combination" option of either living in Town and commuting daily or working a shift rotation while living in the on-site camp. We will work with Atikokan to provide housing solutions in town, however we anticipate it may be difficult to recruit the entire workforce without offering an on-site accommodation alternative. When workers are traveling from elsewhere in Canada, the concept of commuting to accommodation on a daily basis is likely to be considered onerous.	
July 30,2012	Presentation	Baseline Results Updated Project Alternatives		Transmission Line	Will the transmission line be under water across Sawbill Bay or an overhead line? Is the transmission line 230kV? Who will pay for the installation of the transmission line? Is 100MW the total electricity needed?	The line will be overhead. Yes, the current design plan is for a 230kV transmission line. Osisko will be responsible for the costs of building it and will likely have an agreement with Hydro One for maintenance. The transmission line will be built to Hydro One's specifications. Yes, 100MW is the total electricity needed, including the on-site camp alternatives.	
August 6, 2012	Email	OCAP sent a list of concerns regarding the consultation process for the OHRG Project.	Ontario Coalition of Aboriginal People	Aboriginal Rights	Although not funded as an Aboriginal association, we continue to lobby as one, because we do have members from the Ontario Coalition of Aboriginal People, who do live in the region of development. A community of Aboriginals does not		

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					necessarily consist of hundreds of members, but as Metis or off reserve status/non status Indian families exist in the affected area and these members are from OCAP, we believe that the proponent, (Osisko) should recognize that fact.		
August 6, 2012	Email	OCAP sent a list of concerns regarding the consultation process for the OHRG Project.	Ontario Coalition of Aboriginal People	Consultation Process	We hope for and expect that meetings can be arranged with our consultation group, in Thunder Bay and expenses covered by the proponent. We have forwarded information and concerns for this mine to all involved, and look forward to consultations so that our members, who do live in the region, can be advised and involved. Thank you for taking the time to respond!		
August 14, 2012	Email	OCAP sent a list of concerns regarding the consultation process for the OHRG Project.	Ontario Coalition of Aboriginal People	Consultation Process	I see in the paper that there will be open houses for the mine near Atikokan. Could you please be so good as to send me a hard copy of the proposal, so that we can formulate an opinion as well as put forward our concerns as an Aboriginal group.	Thank you very much for your continued interest in the Osisko Hammond Reef Gold (OHRG) Project. I am very interested in meeting you and in the opportunity to continue sharing information on the OHRG with OCAP. I wanted to confirm that you received our invitation to attend the Open House in Atikokan on Saturday, August 18 (formal notice included). We would be happy to meet with OCAP to present our project information and although we will not be providing any funding to cover expenses for attendance at the meetings, we can offer to meet you in both Thunder Bay or in Dryden on September.	

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August 14, 2012	Email	OCAP sent a list of concerns regarding the consultation process for the OHRG Project.	Ontario Coalition of Aboriginal People	Aboriginal Rights	As OCAP's representative, we feel as though we belong at the table as an aboriginal group. We, as an Association will be in on the Environmental meetings, but normally, the government also encourages the proponent to meet with aboriginal groups. We hope that your company can do this. I look forward to your response		
August 23, 2012	Information Mailing	OCAP requested information about the Project. Information presented at the Open House on August 18, 2012 was sent to OCAP in hard copy.	Ontario Coalition of Aboriginal People	Aboriginal Rights	Thank you for the e-mail and the attention which you provided to myself, concerning the potential mine near Atikokan. Please remember that in all of the CEAA documents that the government hopes that the proponent of a project will meet with affected Aboriginal groups about that project. To date, we do not believe that a teleconference call would fit that description. Why are you meeting with other Metis groups about this mine, when leaving others out?	As promised, see enclosed for copies of the information that was presented and handed out at Osisko Hammond Reef Gold's fourt Open House in Atikokan on Saturday August 18, 2012. **Information Provided** • Project Update Presentation • Fact Sheets Open House 4 • Community News Briefs	

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August 29, 2012	Email	OCAP sent a list of concerns regarding the consultation process for the OHRG Project.	Ontario Coalition of Aboriginal People	Aboriginal Rights	As in documentation from the CEAA and MNDM explains, proponents of activities are encouraged to meet with Aboriginal groups about proposals for their ventures. Enclosed is a short bio. about OCAP which will help you in understanding that we are a legitimate association which is made up of individuals from all over this province as well as families or communities.		
August 29, 2012	Email	OCAP sent a list of concerns regarding the consultation process for the OHRG Project.	Ontario Coalition of Aboriginal People	Consultation Process	Teleconference does not cut it. Face to face gives a better understanding and dialogue helps heal any potential rifts which can occur. We are very concerned about a lack or respect and dialogue.	Osisko continues to be responsive to OCAP's interest in the OHRG project. We have met with OCAP once in person, have invited you to several other project information sessions, and have sent you information materials on the project. While we are not prepared to provide funding for expenses to meet, we would be pleased to arrange a meeting with you either in person or via teleconference to further discuss the project.	
September 2, 2012	Letter	An individual stakeholder sent a letter to the Town of Atikokan expressing her concerns	Public Stakeholder	Water quality	COPY FROM LETTER	With regards to your concerns about mercury emissions and related health effects. Osisko does not anticipate using, creating or discharging mercury to the land, air or water during any phase of the Project. Geochemical testing has shown that mercury will not likely leach from the tailings or waste rock. Our baseline studies have shown some levels of mercury exist in the aquatic environment, however we do not expect these levels to change as a result of the Project. As a precautionary measure, we will be including the	

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						analysis of mercury as a parameter in our ongoing water quality monitoring for the Project.	
September 3, 2012	Email	Fishing concerns	Camp Quetico	Exploration	The 150 man camp that was built on our minnow block (owned since 1999) without any consultation. The camp included water, sewer, garbage storage area, and a work area including storage of gas, diesel, etc.. We had been contemplating building a 'trapper's cabin' in this area because of the distance from our camp. The MNR will no longer even entertain such a consideration because of the development already present on this small lake.	Although no formal consultation requirements existed for the Hammond Reef exploration project, Osisko has published bi-weekly news briefs in local newspapers since November 2010. Osisko also held multiple community meetings, participated in local events and opened an office on Main Street to ensure the public and concerned stakeholders were able to get in touch with the Hammond Reef team to voice their concerns. Regarding Camp Quetico's plans for a trapper's cabin, our records show that on April 9, 2012 Barry stated that he had never submitted a formal application to build a cabin on Mitta Lake.	
September 3, 2012	Email	Fishing concerns	Camp Quetico	Fishing	The harvesting of our bait blocks by Osisko employees after hours. Alex Drapack will use the argument that every person is allowed one personal trap (and they are allowed 120 minnows per person) . However, the mere geographics of this area, will show that without Osisko mines developing the roads in and around my minnow blocks (that are located over 1 hour north of town) it would make no sense for people to even harvest minnows off my blocks as there would be no road access and the trip up and back to catch a limited amount of minnows would cost more than going to the local bait store to buy the same amount of minnows.	Osisko Hammond Reef Gold has a formal harvesting policy for employees working at our exploration camp. This policy includes restricted fishing in Mitta Lake. When we heard from Barry Giles that bait fishing may have been occurring on Mitta Lake, a formal directive was sent to all employees reminding them that this activity was not permitted. To our knowledge there have not been any recorded incidents of a Hammond Reef employee fishing for bait on Mitta Lake.	

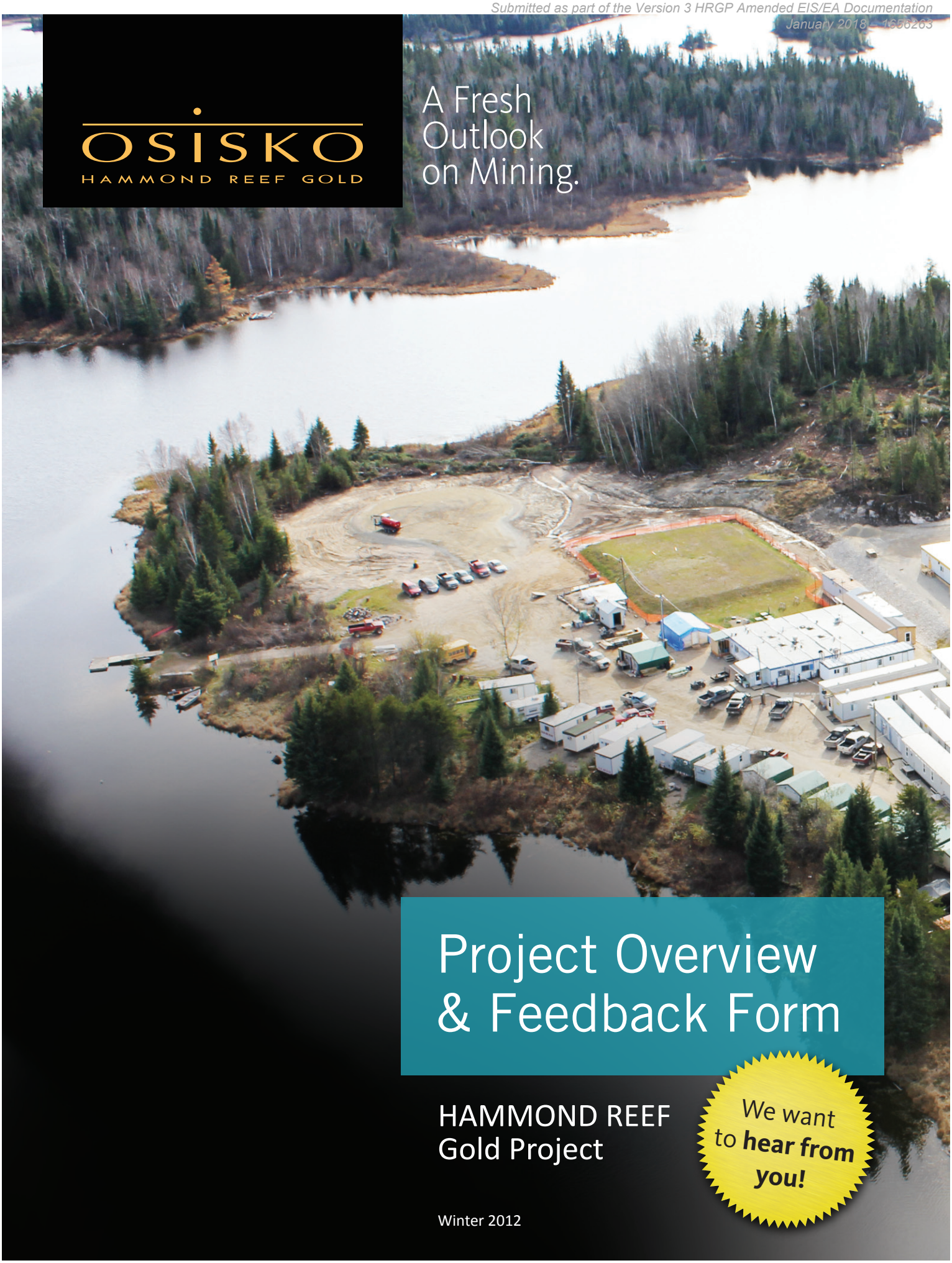
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September 3, 2012	Email	Fishing concerns	Camp Quetico	Hunting	Interference with on going business ie. geologists interfering with my fall bear hunt in August , 2011. I had a group of hunters hunting the West Pine Cone area when Osisko geologists went into the area, seeing the parked vehicle on the road etc. and looked right at one of the hunters (in a tree stand etc) during his hunt. They continued onward to the lake and chatted for over 10 minutes: this kind of action , totally destroyed the bait area. This represented over three weeks of work ie baiting , prior to the hunters arrival. Again our bear area was established long before Osisko Mines came to the area. And I had made a call in early in June, 2011 to Anne Chaunaird (in charge of the operations at this time) to discuss this very matter and I never did receive a call back.	Osisko understands that overlapping land uses in an area can cause conflicts. We regret if our work at Hammond Reef caused stress to Barry Giles and endeavour to move forward towards a positive relationship. On October 18, 2011 Osisko staff Mark Bowler, Anne Charland and Bud Dickson met with Barry Giles to discuss his concerns. Anne extended an apology on behalf of OHRG for not addressing his concerns regarding access in a more timely manner. OHRG committed to contacting Barry Giles in advance of the next bait fishing season to develop a plan to ensure access.	
September 3, 2012	Email	Fishing concerns	Camp Quetico	Mitta Lake	The possibility of draining and testing of Mitta Lake. At no time , even during their drilling program on Mitta Lake did they ever consult with Camp Quetico to discuss the use of this lake for drilling or testing. And now there is the suggestion of draining it.	Osisko understands that the loss of Mitta Lake is a concern to some of our Project stakeholders. However, the ore body is located under Mitta Lake and the Hammond Reef Gold Project will not feasible unless the lake is drained. As part of our environmental assessment and feasibility study, we will be evaluating the economic and social benefits of the Project and creating plans to minimize the environmental impacts of the Project. Osisko is currently working on a fish relocation plan to mitigate impacts to fish currently frequenting Mitta Lake. Osisko will share the details of this plan with our Project stakeholders as they become available and solicit feedback on how the effects can be minimized.	
September 3, 2012	Email	Fishing concerns	Camp Quetico	Tailings Management	The proposed tailing ponds needed to extract the gold from the ground. I	Osisko understands that, should the Hammond Reef Gold Project go forward,	

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					again sent maps, to Mark Boulder (who was in charge at the time) as per request, in February, 2012 (registered mail) to show how all areas proposed would affect my minnow blocks in and around Mitta Lake And once again, heard no response.	it will affect the fish in Mitta Lake. We also understand that the Project has the potential to affect fish in other water bodies within the minnow blocks held by Camp Quetico. We are currently in the planning stage of the Project. Osisko is committed to minimizing the effects to Camp Quetico by working together to provide access in a safe and appropriate manner. Our records show that Barry Giles and Mark Bowler had frequent communications regarding access	
September 3, 2012	Email	Fishing concerns	Camp Quetico	Consultation Process	Lack of commitment to engage in serious dialogue regarding these issues. A meeting set up by Osisko, (for August 2nd 2012) , never materialized Staff members from Osisko were to come to Camp Quetico and view and learn more about the operations of the camp. Not only did no one show up from Osisko, but no one even called to cancel the meeting.	On July 10, 2012 Cathryn Moffett of Osisko called Camp Quetico and asked Barry Giles if he was available to meet during the week of July 30, 2012. Cathryn was told that Barry would not be willing to meet with Osisko until his list of requests was met. Since Osisko was not able to meet these requests at the time, the meeting was never scheduled.	
September 3, 2012	Email	Fishing concerns	Camp Quetico		Osisko Mines are causing irreparable damage to our Camp Quetico operations: BMA (Bear Management Area), Moose Tag Area (12A) and fishing lakes used by Camp Quetico which keeps over 100 boats on 40 lakes including the Floodwaters (proposed mining area), Lizard Lake (Proposed Tailing Pond Area), Long Hike Lake (Proposed Tailing Pond Area), etc. This is all in addition to the damage that they have already inflicted on us at their 'Mitta Lake ' operation. We have owned this camp since 1998 and worked very hard to improve the overall experience for our many valued guests.	Osisko is committed to building positive relationships with our stakeholders. We are currently in the planning stage of the Hammond Reef Gold Project, and have not made a final decision as to whether the Project will move forward to the construction phase. Osisko would like to again request that Camp Quetico provide catch records for the bait fish blocks within the Project area so that we can better understand the potential effects of the Project, should it move forward.	

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

OSISKO
HAMMOND REEF GOLD

A Fresh Outlook on Mining.



Project Overview & Feedback Form

HAMMOND REEF Gold Project

We want to **hear from you!**

Winter 2012

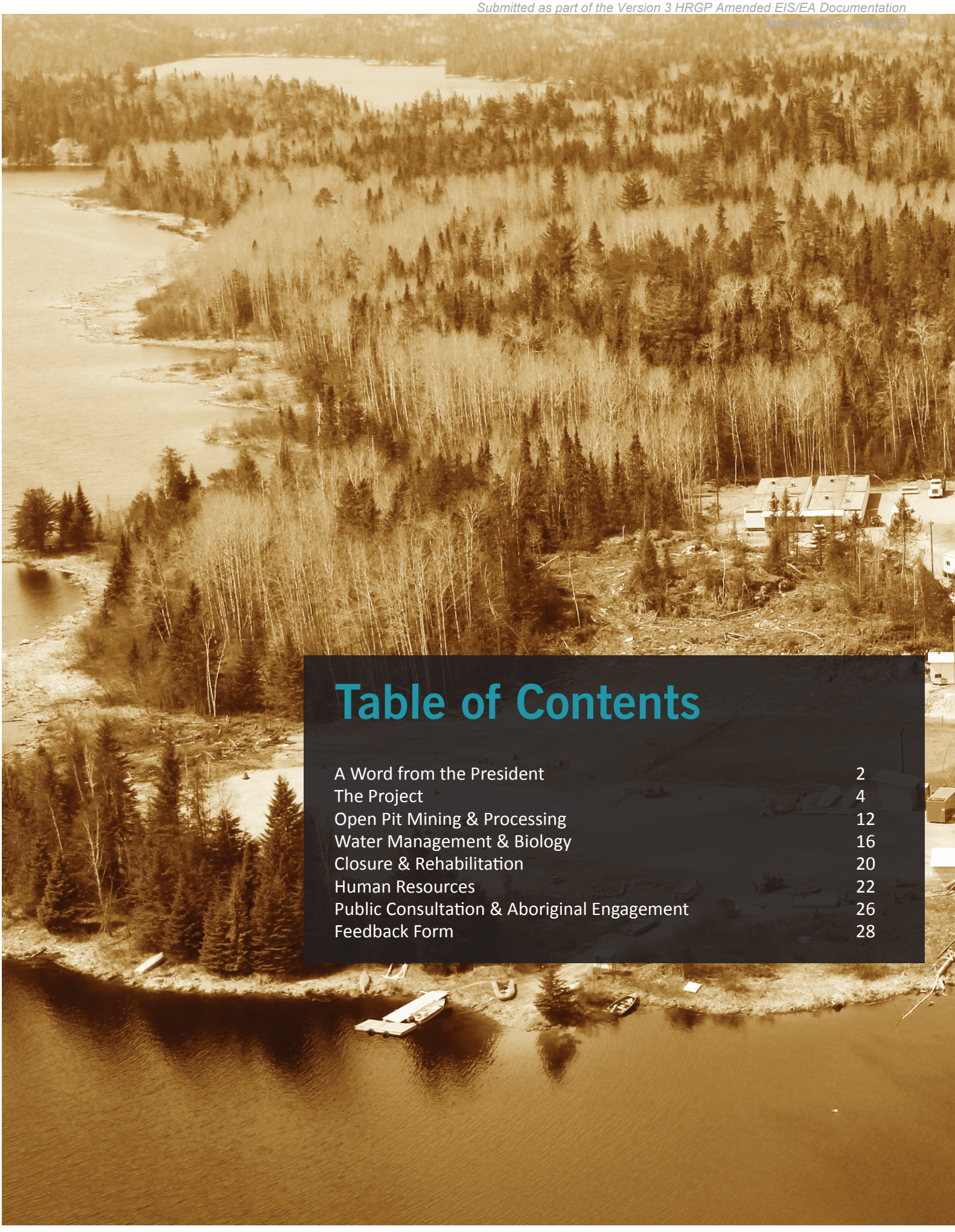


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Hammond Reef Main Camp (2010)

© Osisko

A Word from the President

Dear Reader,

We want to hear from you.



The year 2010 saw Osisko make the major acquisition of the Hammond Reef Gold Project, near Atikokan, Ontario. Currently the largest exploration drilling program in Canada, Hammond Reef has the potential to become a world-class open-pit gold mine similar in scale to our flagship Canadian Malartic Project, in Québec.

We want the Project to benefit all stakeholders. It will be successful only if it leads to lasting educational, employment, and economic benefits to the local community members.

Through this document and other opportunities to share information, such as our Open Houses, you will be able to better understand the Project's details. Don't hesitate to provide your valuable feedback.

Sincerely,

<Original signed by>

Sean Roosen
President & CEO

October 2011

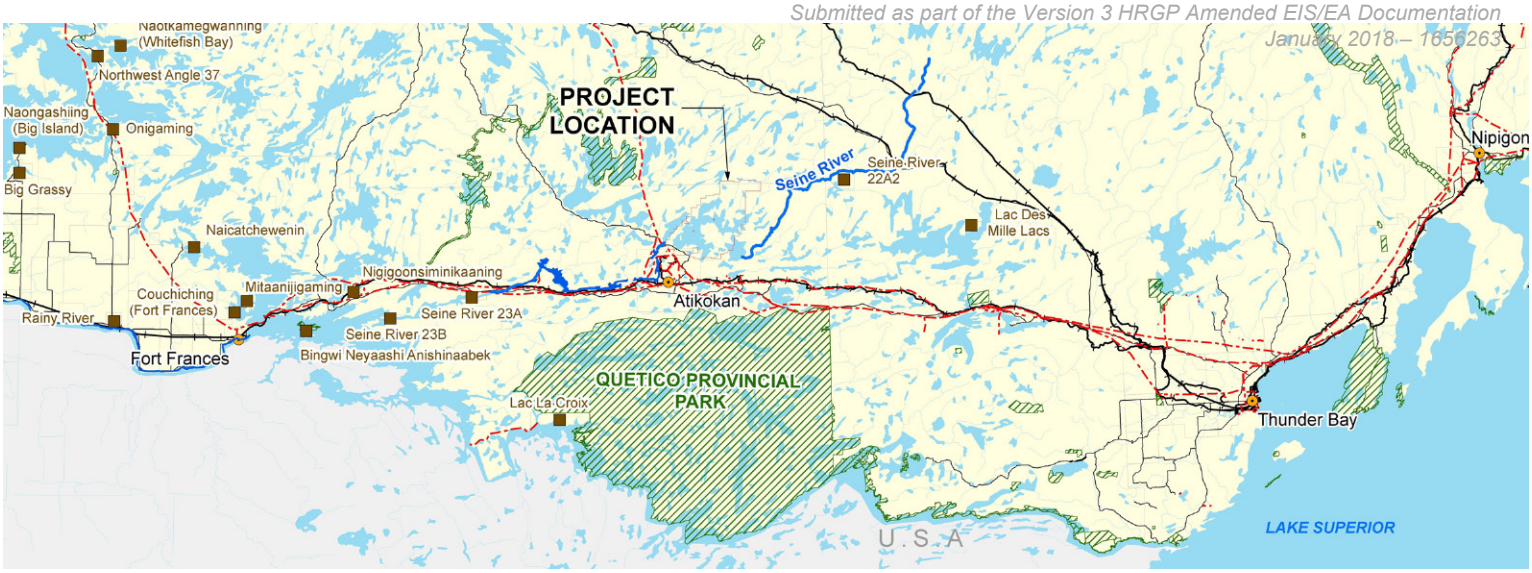

Hudson Bay
MANITOBA
James Bay
QUEBEC
PROJECT LOCATION
Kenora
Longlac
Timmins
Fort Frances
Atikokan
Thunder Bay
Lake Superior
Sudbury
U.S.A
Lake Huron
Toronto
Lake Ontario
Lake Michigan
Windsor
Lake Erie

The Project

On May 19th, 2010, Osisko Mining Corporation acquired Brett Resources Inc., and a controlling interest in the Hammond Reef Gold Project. Osisko Hammond Reef Gold (OHRG) is proposing the development of the Hammond Reef gold deposit near Atikokan, Ontario into a producing gold mine.



Workforce on site



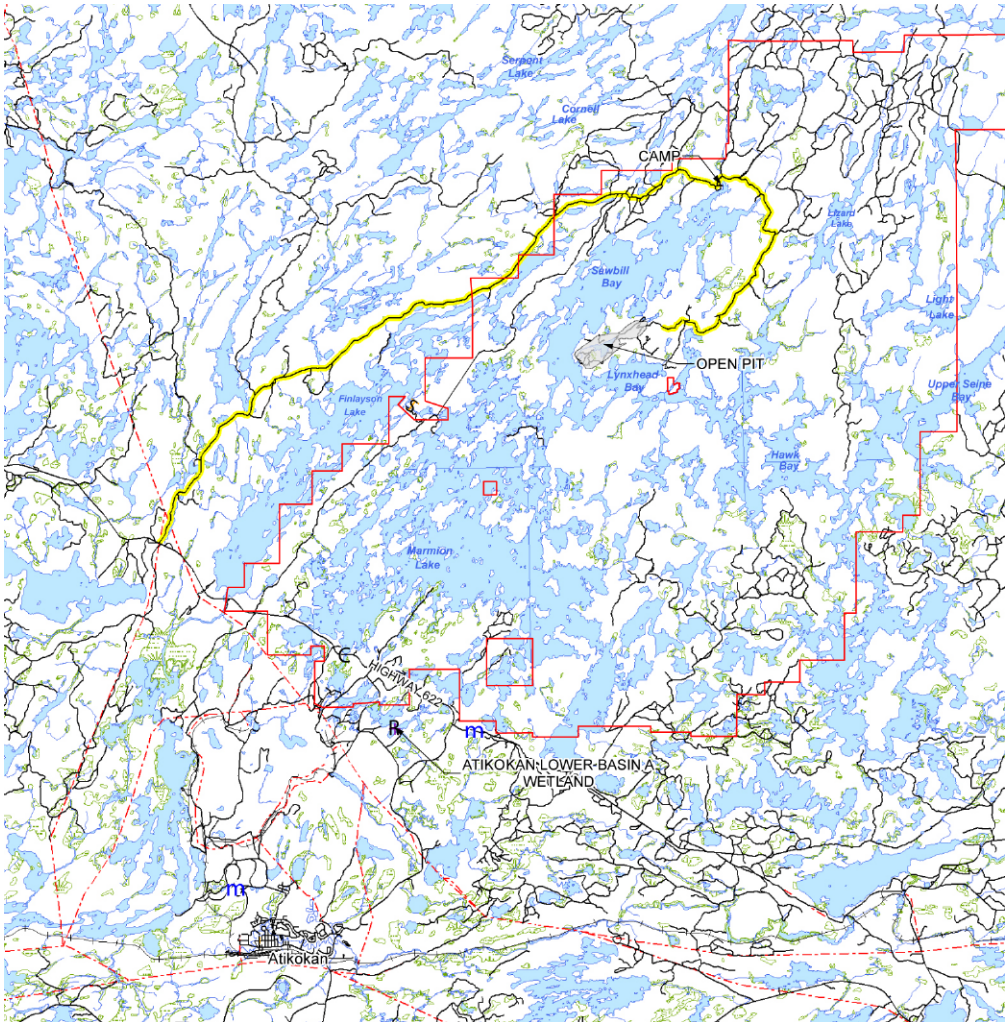
Regional setting

Geographic Information

The Hammond Reef property is located within the Thunder Bay Mining District in northwestern Ontario. The property is approximately 170 km west of Thunder Bay, Ontario and approximately 23 km (straight line measurement) northeast of the town of Atikokan, Ontario. Atikokan is located 3 km north of Highway 11 and has a population of approximately 3,400.

Access to the Hammond Reef property is presently via two routes: the Premier Lake Road, a gravel road that intersects Highway 623 near Sapawe and the Hardtack-Sawbill Road, a gravel road that intersects Highway 622 northwest of the Town of Atikokan. The exploration camp is located at the northern end of Sawbill Bay in the Upper Marmion Reservoir. The existing Hardtack-Sawbill road north of Finlayson Lake has been upgraded to provide an improved improved site access in support of the expanded exploration program.

The Hammond Reef deposit is located mainly on a peninsula of land extending into the north end of the Upper Marmion Reservoir. The peninsula is surrounded by the Marmion Reservoir on three sides with Sawbill Bay to the northwest and Lynxhead Bay to the southeast. The property also contains a number of smaller lakes. Mitta Lake is a small, steep-sided waterbody located atop mineralized zones of the deposit. Due to its location, the planned open pit mine and secondary pit areas will encompass Mitta Lake.



Local setting

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 - 1656263





Onsite exploration team members

General Information

Proponent

Osisko Hammond Reef Gold Ltd (OHRG)

Project Name

The Project is referred to as the Osisko Hammond Reef Gold Project.

History

The gold deposit has been referred to as "Hammond Reef" since 1896. Other parts of the property have previously been referred to as the Sawbill Mine, the Upper Seine Mine, the Upper Seine/ Sawbill Mine, the Rossmore Mine, and the Manley Patents.

Current Status of Project

The Project is currently in the pre-feasibility stage of mine development. Exploration is continuing to further refine the understanding of the deposit as plans are developed to bring the inferred resource to production. A 70,000 m drilling program was initiated in 2009 and was increased by 325,000 m in June 2010. Final locations of infrastructure to support the mine construction and operations have not yet been determined. OHRG has initiated the environmental studies required to move the Project to the development stage, which will continue throughout the permitting process.

The Environmental Assessment (EA) phase of the Project officially began in August 2011. The Canadian Environmental Assessment Agency (Agency) issued a Notice of Commencement of a Comprehensive Study type Environmental Assessment on August 10, 2011. On August 16, 2011, the Agency also posted the Draft Guidelines for the Preparation of an Environmental Impact Statement on the Canadian Environmental Assessment Registry.

As of August 2011, Osisko also entered into a Voluntary Agreement with the Ontario Minister of the Environment to make the Project subject to the requirements of Ontario's Environmental Assessment Act. Osisko has issued our formal Notice of Commencement of the Terms of Reference, and published the Draft Terms of Reference Report on September 21, 2011.

Aboriginal Groups

The Project lies within the traditional lands of Treaty 3, and there are a number of Aboriginal communities in the vicinity of the Project. First Nations communities with a potential interest in the Project have been identified as the Lac des Mille Lacs First Nation, Wabigoon Lake First Nation and the seven First Nations represented by the Fort Frances Chiefs Secretariat (Couchiching, Lac La Croix, Mitaanjigamiing [formerly known as Stanjikoming], Naicatchewenin, Nigigoonsiminikaaning, Rainy River and Seine River First Nations). The closest reserve lands are held by Lac des Mille Lacs.

The Project area is located within Métis Regions 1 and 2, within the Rainy Lake/ Rainy River, Lake of the Woods/Lac Seul, Lakehead and Nipigon Harvesting Territories. Métis community councils that may have an interest in the Project include the Atikokan Métis Council, the Sunset Métis Council, the Kenora Métis Council and the Northwest Métis Nation of Ontario Council.



Drill on site



Canadian Malartic Mine

Osisko-Sponsored Trip to Malartic

A dozen people from the Atikokan area – Mayor Dennis Brown, Town CAO André Morin, Atikokan Economic Development Corporation Chair Dave Elder, Atikokan Progress editor Michael McKinnon and eight leaders from the area's First Nations – were invited to get a first-hand look at our Malartic mine operation November 10-11th, 2010. Invitees were given a project presentation, a helicopter tour, a ground tour of the facilities, and a tour of the new subdivision. During the visit, Mayor Dennis Brown was also able to have a brief meeting with Malartic's Mayor, André Vezeau. Osisko financed the trip in an effort to help give Northwestern Ontario residents a better sense of what it hopes to accomplish at Hammond Reef.

Project Description

The Project consists of the development of an open pit mine, including an ore processing facility, and a tailings management area. Also included is the associated infrastructure at the site, the upgrading of an access road to the site, and the construction of a new electrical transmission line. Options assessments are currently being completed to determine the preferred location for the tailings management area. Three on-site options within OHRG's claim area are under consideration. All other facilities will be collocated with the mine.

Mining

The Project will use open pit mining methods to recover the ore at a projected initial rate of 18.25 million tonnes per year. The property contains an Inferred Resource of 259.4 million tonnes of ore at a grade of 0.8 gram/tonne gold, at a cut-off grade of 0.3 gram/tonne. This amounts to an inferred resource of 6.7 million ounces of gold. Two open pits will be developed to access the ore that will require the draining of a small lake (Mitta Lake). As mining proceeds, pit dewatering will be necessary to access the ore, which is below the water table. Ramps will be used to move personnel and equipment into and out of the mine, and to move ore and waste rock to the surface.

Facilities & Process

The Project includes an ore processing plant with a projected throughput of 50,000 tonnes per day. The ore processing plant will be consistent with technology used at the Malartic Mine in Quebec that OHRG is currently developing, and will include crushing, grinding, flotation, cyanidation leaching, carbon-in-pulp gold recovery, gold elution, gold electro-winning, smelting using an induction furnace, cyanide destruction and tailings production. The tailings will be managed using one of the on-site options noted above. It is expected the mine will have an average workforce of 465 persons over the 14 year operating life. Supplies to support the operation of the site (e.g., fuel, explosives, consumables) will be transported along an access road on an as-required basis. Supporting infrastructure will include maintenance facilities, warehouses, water supply plant, an explosives plant, sewage treatment plant, and electrical substation. There will be no camp on-site as workers will travel by road from Atikokan.

Closure

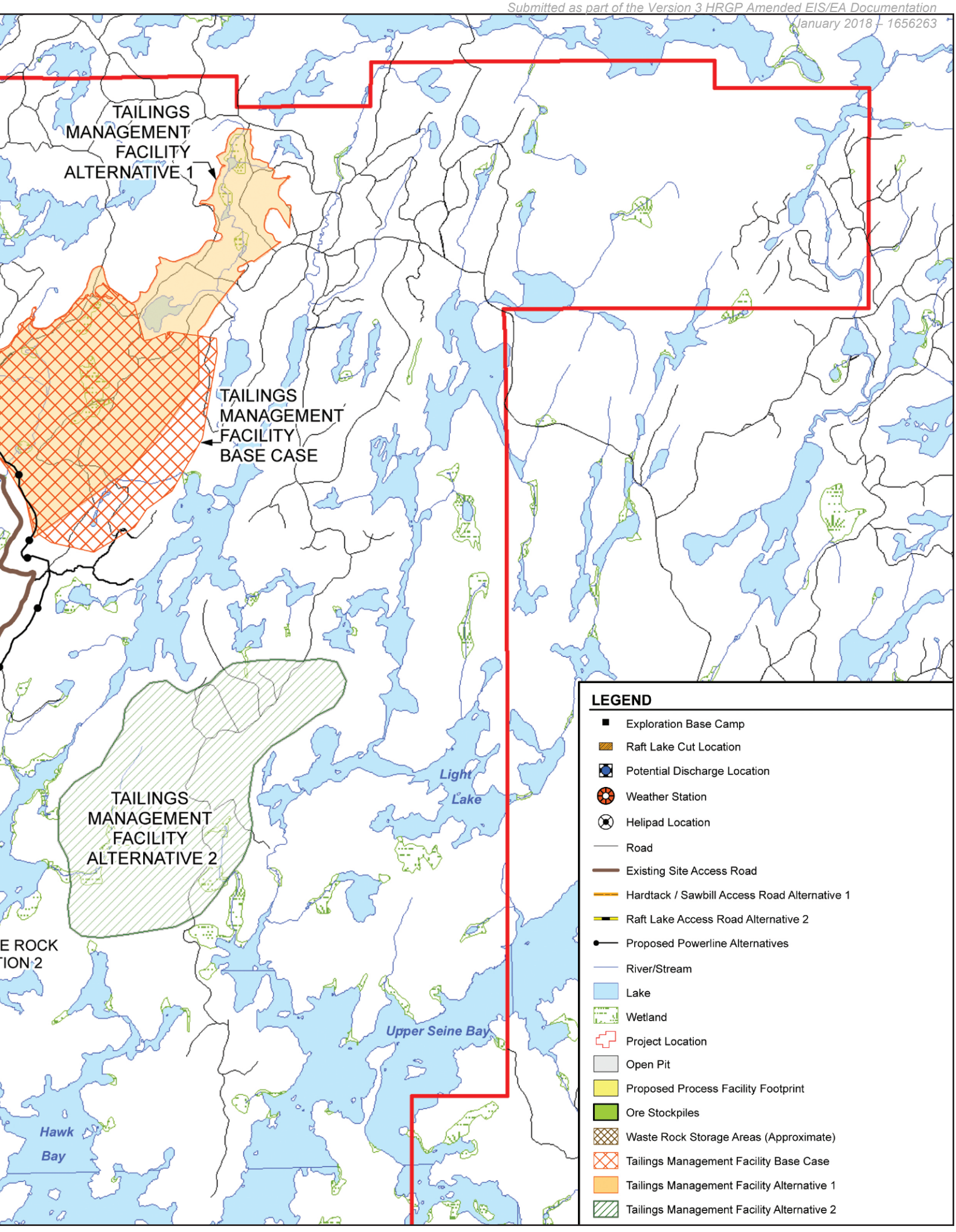
Closure and rehabilitation measures for the Project will be confirmed once the Project Description has been finalized. As per the requirements of Part VII of the Ontario Mining Act, a certified Closure Plan, outlining the method, schedule, cost and financial assurance of all rehabilitation to be conducted on the site once closure commences, will be submitted for the Project. The closure plan will be prepared based on the specific requirements for Closure Plans including the standards, procedures and minimum requirements for the closure of mine hazards, as outlined in Ontario Mining Act, Reg. 240/00. The Project's proposed closure concept is to allow the pit(s) to be flooded and rehabilitate disturbed land and watercourses, restoring them to their pre-Project conditions to the extent feasible.

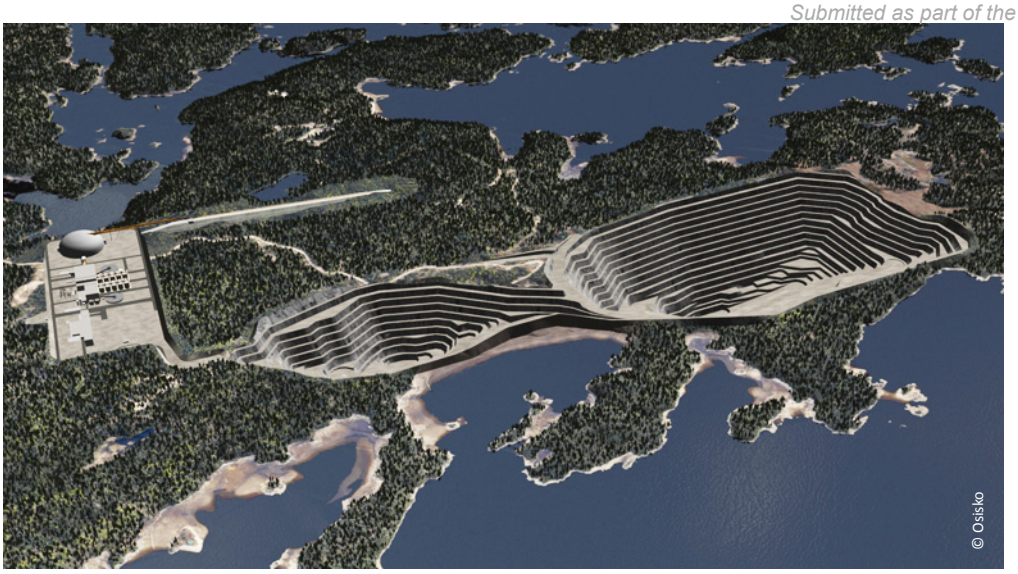


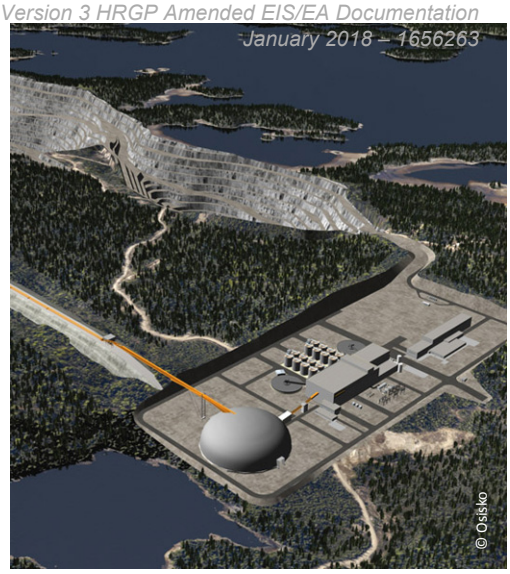
Open pit mining at Canadian Malartic

Draft Site Layout




TAILINGS MANAGEMENT FACILITY ALTERNATIVE 1
TAILINGS MANAGEMENT FACILITY BASE CASE
TAILINGS MANAGEMENT FACILITY ALTERNATIVE 2
E ROCK
TION 2
Light Lake
Upper Seine Bay
Hawk Bay
LEGEND
Exploration Base Camp
Raft Lake Cut Location
Potential Discharge Location
Weather Station
Helipad Location
Road
Existing Site Access Road
Hardtack / Sawbill Access Road Alternative 1
Raft Lake Access Road Alternative 2
Proposed Powerline Alternatives
River/Stream
Lake
Wetland
Project Location
Open Pit
Proposed Process Facility Footprint
Ore Stockpiles
Waste Rock Storage Areas (Approximate)
Tailings Management Facility Base Case
Tailings Management Facility Alternative 1
Tailings Management Facility Alternative 2





Conceptual project layout

Project Details*

The table below provides details on the major components of the Project. Information is provided at a conceptual or a preliminary level and represents what was known of the Project as of the publication of the Project Description report in May 2011. The Project includes three key components: an open pit mine, an ore processing facility, and a tailings management area. These, along with their supporting facilities and infrastructure, are described in further detail in the following sections.

Major Components	Constituents	Base Case Location
1. Mine	▪ Open pits ▪ Waste rock management ▪ Warehouses, workshops and maintenance facilities ▪ Chemicals, fuel and explosives storage ▪ Power supply (grid) ▪ All-weather roads ▪ Office and support facilities ▪ Waste management ▪ Water management, including dewatering of the open pit	▪ Marmion Peninsula Site
2. Ore Processing Facility	▪ Ore crushing ▪ Stockpiles ▪ Ore grinding ▪ Ore processing	▪ Adjacent to mine at Marmion Peninsula Site
3. Tailings Management Facility	▪ Tailings Containment ▪ Tailings Disposal Pipeline	▪ Tailings Management Base Case, located approximately 6 km northeast of the mine site

* Information is provided at a conceptual or a preliminary level and represents the information provided in the Project Description report, May 2011. Technical alternatives regarding mining methods, power supply and site layouts will be considered in the future.

Environmentally-friendly Practices at Hammond Reef

In the exploration phase, all drilling is conducted according to the Mining Act (Ontario) and Fisheries Act (Canada) requirements to ensure that it adheres to the strict environmental laws in place.

Osisko's on-site environment team closely monitors drilling activities and equipment operation, and ensures that the highest standards of soil/water security measures are in practice each and every day.



Barge drilling on Mitta Lake

© Osisko

Open Pit Mining & Processing

The Project will use the open pit mining method, because the gold ore is located close to the surface. Because the deposit is relatively low grade, the throughput will be about 50,000 tonnes per day. This will require the construction of a large mining complex.



Open pit mining at Canadian Malartic

© Osisko



Canadian Malartic's processing plant



CAT 793F mining truck used at Canadian Malartic

Open Pit Details

The mine will include two open pits, which will be excavated using a staged approach including sloped walls for safe access. The mine will be located on top of Mitta Lake.

- **Maximum Pit Size:**
  - 5.50 km long, 1.75 km wide and 345 m deep
- **Mine Life:**
  - Approximately 14 years
- **Gold Ore Recovered:**
  - 17.5 million tonnes per year
- **Total Gold Produced:**
  - 6.7 million ounces

Ore Stockpiles

Stockpiling of ore is necessary to blend ore from different areas within the pits prior to processing and to allow for differences in mining rates and processing rates over time. Two ore stockpiles are planned for the Project, both located near the processing facility.

Waste Rock

Miners refer to rock that is excavated from the pit, but does not contain an economic amount of gold, as waste rock. Some of the rock that is excavated from the open pit will never be crushed or processed, and must be stockpiled. This rock pile will be covered and vegetated throughout the Project life. Some of the waste rock may also be used to fill in part of the pit area and for maintenance of access roads.

- Size of rock pile:
  - 348 million tonnes
- Height of rock pile:
  - 60 m higher than the current elevation, or about as high as 20 story building.

Processing

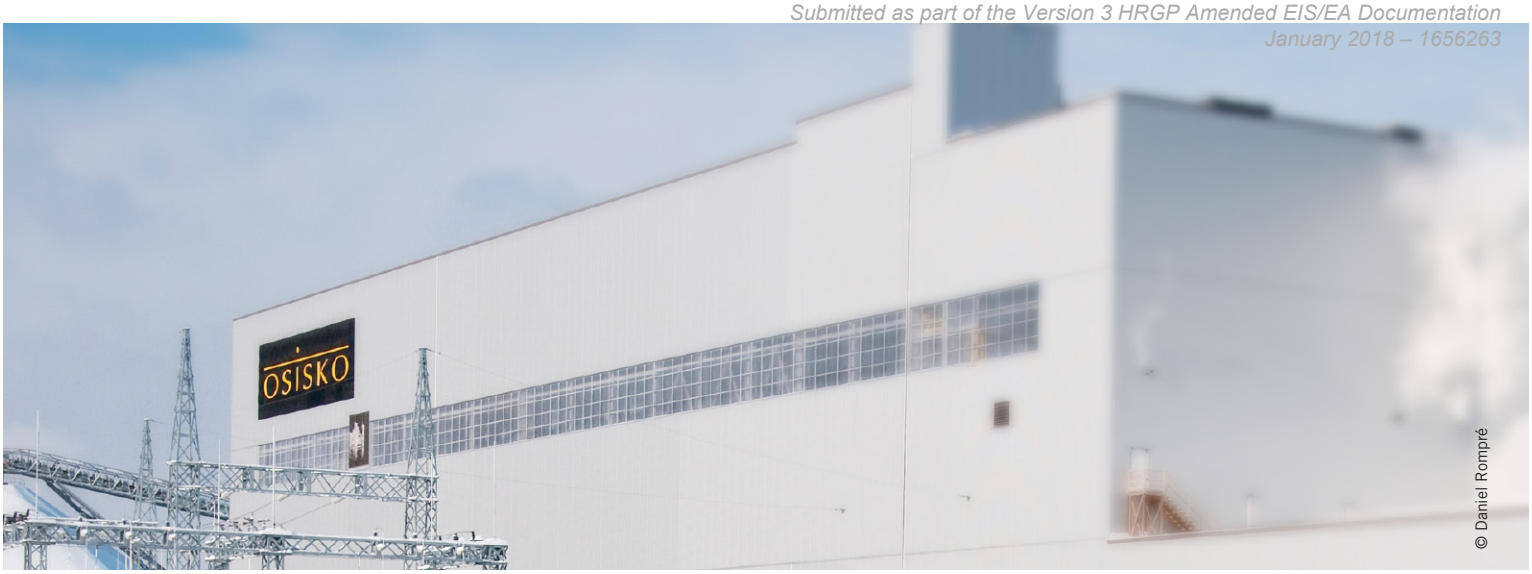
Gold ore is sent to the processing facility so that the gold can be separated from the rock. The key steps of ore processing are summarized below.

1. A series of processes crush and grind the large rocks into a product that is similar to sand.
2. Water is added to create a slurry that is easily transported by pipes throughout the Processing Facility.
3. Chemicals are added to the slurry which encourages the gold to stick to air bubbles.
4. The air bubbles are skimmed off the surface of the slurry to create a concentrated gold solution.
5. Cyanide is added to the gold concentrate which transforms the gold into ions that are then absorbed onto activated carbon.
6. A cyanide destruction unit neutralizes any remaining cyanide.
7. The gold is stripped from the carbon using acid, and plated into a solid using electricity.
8. The gold is further refined using furnaces to produce gold doré.
9. The remaining slurry is called tailings and is pumped to a holding area.
10. The majority of the water is recovered and recirculated through the process.

What is Cyanide and Cyanide Destruction?

- Made up of carbon and nitrogen
- Found naturally in sugars, large fruit pits and tobacco leaves
- Not a known carcinogen
- Can cause sickness or death by preventing oxygen absorption to blood cells
- Used for film processing, cleaning metals, making paper and making plastic
- Used to recover gold since the 1890's
- Can be easily destroyed by UV rays

A cyanide destruction unit will be part of the process. The cyanide destruction unit breaks down cyanide into carbon and nitrogen to ensure it cannot harm living things. By the time the liquid from the processing plant leaves the facility, the levels of cyanide will be below the concentration that can harm living things.



© Daniel Rompré

Tailings Options

The ground rock leftover after processing and gold removal is referred to as tailings, a slurry of rock and water which requires management. Initial studies have shown that the tailings produced from the Hammond Reef gold deposit will not be acid generating.

Total tailings produced

- 245 million tonnes

Osisko is currently considering three options for tailings containment areas. The areas have been selected to minimize environmental effects, especially to fish-bearing habitat.

Base Case

- Designed to take advantage of a natural ridge
- Would affect small streams, forest and wetland areas
- No wildlife species of concern have been found in these areas

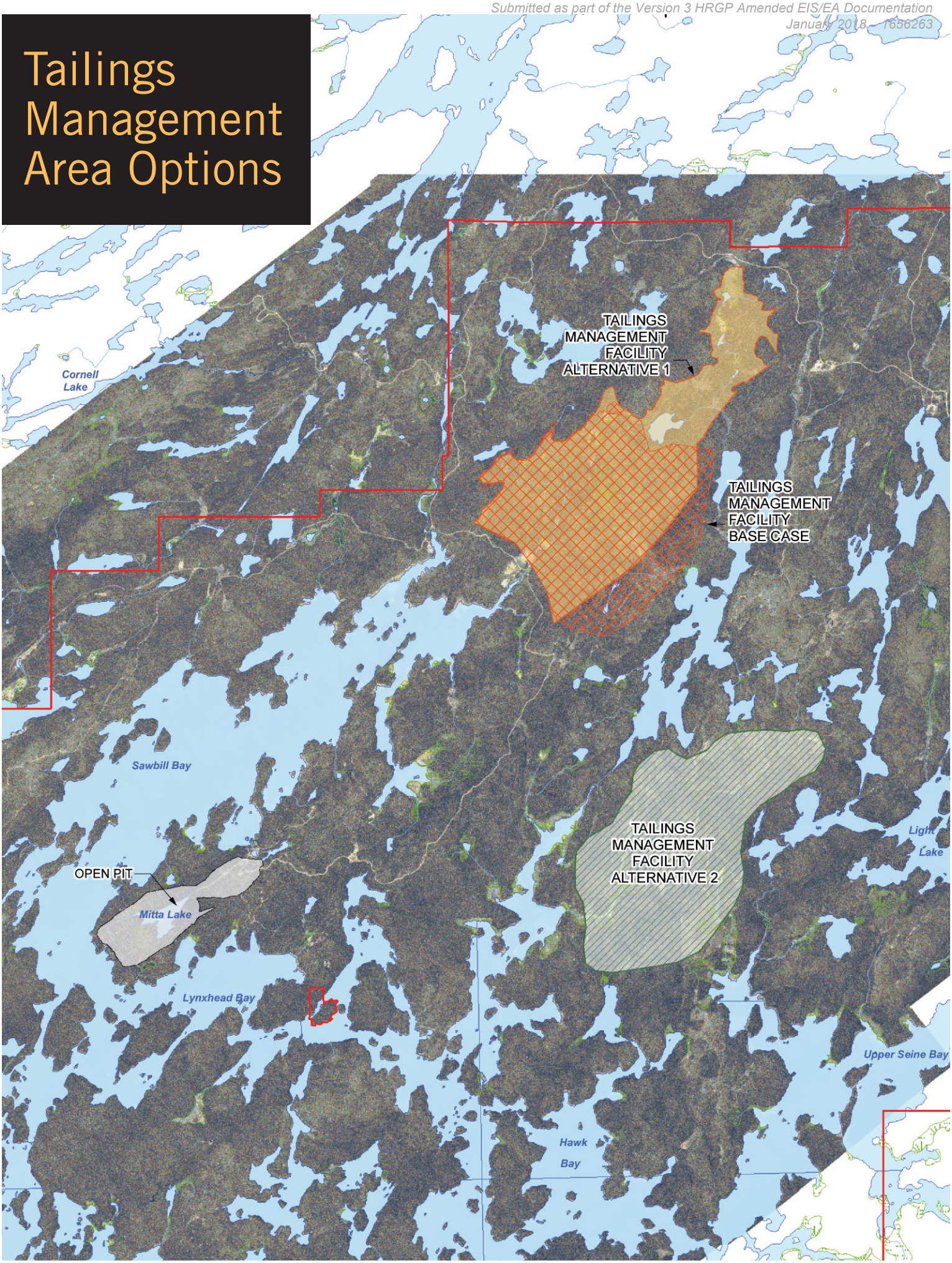
Alternative #1

- Similar to Base Case, but larger and farther east
- Would affect small streams, forest and wetland areas
- Includes placing tailings in a small lake

Alternative #2

- Located to the east in an upland area
- Requires more extensive dam construction, since there is no natural ridge
- Effects to aquatic habitat would be minimized for this option
- Only small intermittent streams would be affected

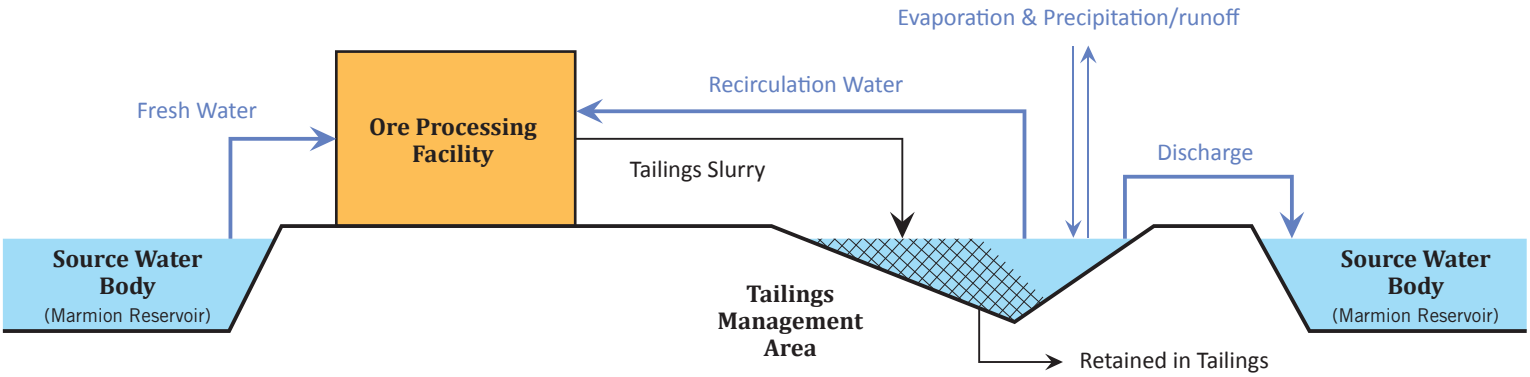
Tailings Management Area Options



Water Management & Biology

The Project is located in an area surrounded by small lakes and streams. Osisko's water management plan will work to make sure that the water surrounding the Project site is protected and affected as little as possible.





Water Management

The schematic above shows the movement of water through the Ore Processing Facility, the largest use of water for the Project.

Quick facts

- The Project will use 9,000,000 m^3/year
- A Permit to Take Water will be needed from the Ontario government
- Pumps will be used to keep the open pit dry
- Water will be used to move ore through the Processing Facility
- Dust will be controlled with water during construction and operations
- Fresh drinking an washing water and water in kitchens and bathrooms will be provided for workers
- To the maximum extent possible, water will be recycled and fresh water requirements will be minimized

Process

- Most of the water will be reclaimed from the tailings
- A polishing pond will clean tailings water
- Before water is released to Marmion Lake it will be tested to make sure it meets standards
- The discharge point will be in an area of quickly moving water
- The discharge point will avoid areas that have important fish habitat features





Biologists conducting surveys on site

Aquatic Biology

As home to fish such as walleye, northern pike and small mouth bass, the Upper Marmion Reservoir is a popular destination for anglers. By comparison, fish found in Mitta Lake include white sucker, ninespine stickleback, fathead minnow, slimy sculpin and dace, which are not sport fish targeted by anglers. Lynxhead Narrows and the north shoreline of the Upper Marmion Reservoir have been identified as important spawning and nursery sites for walleye.

Areas of Potential Impact were identified by aquatic biologists based on the Project layout. Studies have focused on these areas to better understand how fish and fish habitat could be affected by the Project, so that effects can be avoided or minimized. An example of a study that has taken place to date includes characterizing resident fish communities. Fish tissue sampling was also completed in order to determine background levels of metals such as mercury, which often occurs naturally in lake systems.

Terrestrial Biology

The terrestrial biology studies have focused on identifying the plants and animals that live in the area and could be affected by the Project. Studies to date have included vegetation community surveys, breeding bird counts and turtle basking surveys.

Common Trees

- Black spruce
- Jack pine
- Trembling aspen
- White birch

Mammals + Birds

- Timber wolf
- Black bear
- Moose
- Beaver
- Bald eagle
- Great blue heron
- Common loon

The bald eagle, Canada warbler and common nighthawk are three birds found in the area that are listed by the provincial government as Species of Concern. The common snapping turtle is also known to live in the area. Biologists are undertaking surveys for whip-poor-will and other species protected under the provincial Endangered Species Act to detect their presence or absence in the Project area.



The Snapping Turtle

Various wetland and upland vegetation communities have been identified at the Project site, and maps will be created to illustrate their locations. Besides the painted turtle shown below, the common snapping turtle has been found in the Project area, and is considered to be of special concern both federally and provincially.

The protection of snapping turtles is being carefully considered during all phases of the mine development. Known habitats for this species are being identified and avoided where possible during the mine planning stage and the risk of potential harm to individual snapping turtles during mine construction and operation activities will be reduced through the development and implementation of appropriate mitigation and BMPs (best management practices) for the life of the project.



© Osisko

Closure & Rehabilitation

As per the requirements of the Ontario Mining Act, a certified Closure Plan will be submitted for the Project. The Closure Plan will include financial assurance, and will indicate the method, schedule and cost of all rehabilitation to be conducted on the site once closure commences.





Canadian Malartic's tailings pond uses thickened tailings technology, allowing re-vegetation long before mine closure.



Environmental monitoring on site

Closure Plan

The Closure Plan will be prepared based on the specific Mining Act requirements.

End of Mine Life

The mine and related facilities will be decommissioned at the end of the mine's life. The Project's proposed decommissioning concept is to rehabilitate disturbed land and watercourses and restore them to their pre-Project conditions to the extent feasible. The tailings management facility will be progressively rehabilitated during operations, with final rehabilitation during closure. The open pits will be flooded upon closure, and returned to a lake environment.

Re-vegetation

The primary objective of the re-vegetation activities will be to establish a vegetative cover over major areas that will be disturbed by the Project (e.g., plant site, waste rock pile, roadways). The vegetative cover will also promote the re-establishment of flora and fauna, will serve as erosion protection and will re-establish some of the aesthetics of the Project site. Native plant species will be used for re-vegetation.

A conceptual Closure Plan will be developed for the purposes of the EA and will be refined through the operations phase as additional information becomes available. Community feedback through ongoing public consultations also shape the Closure Plan.Additionally, current mineral exploration activities in the Project area may eventually result in more local mining operations, potentially extending the life of the local mining industry. This may affect the Project's ultimate closure design to the extent that some Project infrastructure may be useful to other mining operations.

Monitoring

Monitoring for physical and chemical stability of the site will be required after closure and will continue on a regular basis until water quality monitoring indicates that runoff from disturbed areas of the site can be released directly to the receiving environment. Monitoring results will be consolidated to produce an annual report with an explanation of site conditions.

Quick Facts

- Planning for closure and rehabilitation is currently underway
- A certified Closure Plan will be submitted to the government and provided to the public
- Closure plan must include financial assurance, schedule and costs
- Community feedback will help determine post-closure land uses
- Osisko will rehabilitate disturbed areas to pre-Project conditions wherever possible
- Open pits will be flooded upon closure

Human Resources

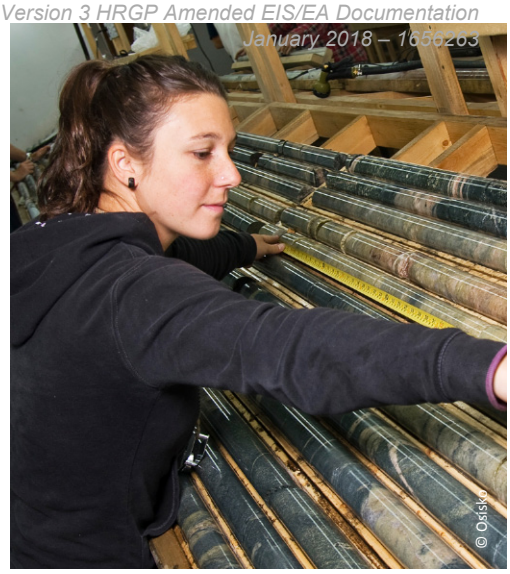
Project personnel are divided into three areas: services, operations, and maintenance. Mine staffing levels are expected to vary throughout the Project and are mostly dependent upon scheduled production rates.



The Osisko Hammond Reef Gold Ltd.team shown here with the NWOPA 2010 Developer of the Year Award.

© Osisko





Employing and Developing Resources

Current Workforce

Osisko Hammond Reef Gold Limited's workforce has been growing steadily since Osisko took over the project in July 2010. We have hired over 40 full time employees over the past 15 months, bringing the total number of Osisko Hammond Reef Gold Limited employees to over 100! Osisko is committed to hiring local people:

- 75% of our employees are from Atikokan and NW Ontario
- 14% are First Nations
- We also try to outsource contracts for work to local suppliers

Some of the jobs people are currently doing at the Hammond Reef Gold Project include:

- Geologists
- Geological Technicians
- General Labourers
- Environmental Technicians
- Variety of office staff

Projected Needs

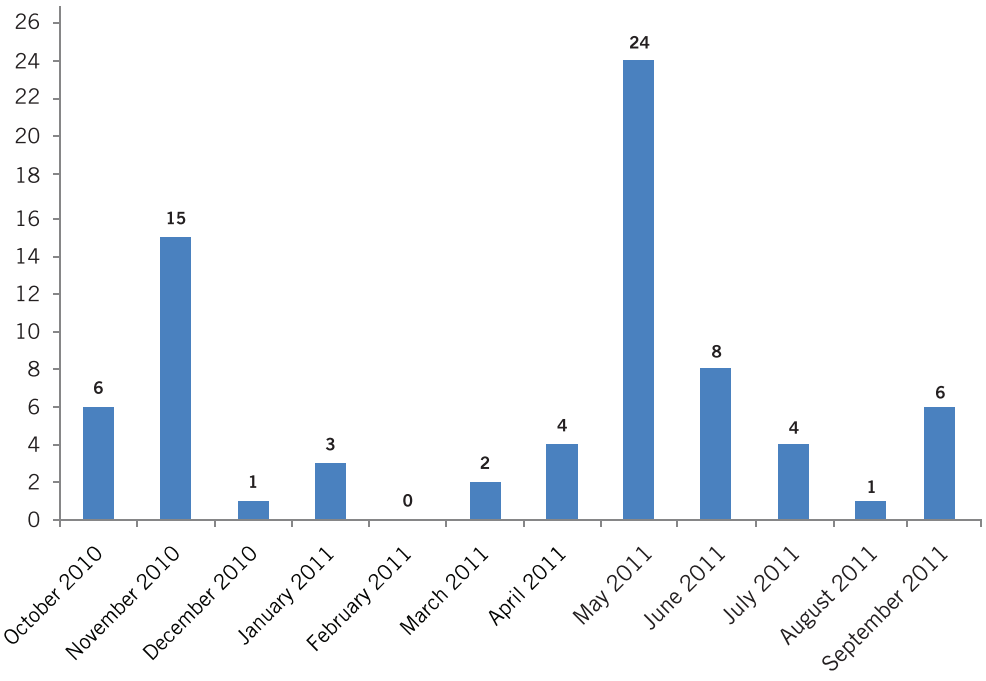
As the Project moves forward, Osisko Hammond Reef Gold Limited's need to hire talented people will continue to grow. We estimate hiring between 200 and 530 people throughout the life of the Project. Osisko Hammond Reef Gold Limited's hiring efforts will likely begin in 2014 when the permitting is complete and construction can begin.

Some examples of new jobs that could be created from the Project include:

- Engineers
- Technicians
- Trades people (mechanics, electricians, pipe fitters, etc.)
- Labourers
- Truck drivers

Although it will likely be at least two years until most of the hiring will take place, feel free to drop off your resume at Osisko Hammond Reef Gold Limited's 101 Goodwin Street office anytime for current opportunities or email hammondreefjobs@osisko.com. We also have a "Careers" section on our website where you can upload your resume or apply to job postings.

New Hires



Project Schedule

2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | ... | 2028 | 2029 | 2030 | 2031

P.-F.[1]

EA[2] AND PERMITTING

FEASIBILITY

The mining feasibility study is an evaluation of a proposed mining project to determine if the mineral resource can be mined economically.



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.

A pre-feasibility study is used to determine whether or not to proceed with a detailed feasibility study and to determine areas within the project that require more attention.

CONSTRUCTION

The construction work for a comparable large-scale mining complex such as the one that would be needed at Hammond Reef is approximatively 18 to 24 months.



OPERATIONS

Ongoing



The Preliminary Assessment Study, completed in November 2009, outlines an initial 14-year mine life operating at 50,000 tonnes per day. Over the first six years, on average, Hammond Reef is expected to produce 463,000 ounces of gold per year. Over the life of mine, Hammond Reef is expected to produce a total of 5.13 million ounces of gold at an average rate of 369,000 ounces per 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.

Monitoring & management continues





[1] Pre-feasibility
[2] Environmental Assessment

Our Goals

With respect to social issues, Osisko's goals are clear:

- Maximize economic spin-offs by supporting local employment at our mine sites and directly and indirectly by using local suppliers;
- Promote the well-being of local communities; and
- Provide host communities with lasting municipal infrastructure.



Public Consultation & Aboriginal Engagement

The Environmental Assessment (EA) of the Project will adhere to a strict process. The Project's possible effects on the surrounding communities and natural environment will be evaluated to allow Osisko to choose the best alternatives for carrying out the Project.

Public Consultation

Osisko has been talking to community members in Atikokan about the Hammond Reef Gold Project. One of the communications that locals often mention they enjoy is the bi-weekly Community News column published in the local newspapers. This column has been providing interesting facts and updates about the Hammond Reef Project since November 2010.

We have had two public events since our Project Description was published in May 2011. Open House 1 took place on June 18, 2011 at our Main Street office in Atikokan. Everyone from the Atikokan was invited to come by and learn about the Project, share their thoughts and enjoy a barbeque lunch. We also participated in the Atikokan Trade Show for the second year in a row. This year we set up some posters in the local Economic Development office and asked people to tell us more about what makes the local environment and community important to them.

So far people have been very welcoming to have Osisko in their community. We have heard that they appreciate us coming out and hosting events and that most people want to know more about employment, schedule, and protecting the aquatic environment. Osisko will continue to consult with the public throughout the Project and plans to host several more meetings throughout the coming year.



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Signing of Impact Benefit Agreement between Osisko and First Nations on December 10th, 2010

Aboriginal Engagement

To date, Osisko has given a series of presentations providing an overview of the Project, had discussions with trap line holders in the Project area, hired First Nations field monitors and sponsored mining education seminars. Discussions are currently underway with the Métis Nation of Ontario, including five identified Métis community councils, to develop a Memorandum of Understanding as a starting point to meaningful engagement and capacity building. The agreement is anticipated to include a provision for the Métis to conduct traditional land use studies.

Osisko and First Nations Sign Resource Sharing Agreement (RSA)

On Friday, December 10th, 2010, Osisko Hammond Reef Gold Ltd. was pleased to announce that the Fort Frances Chiefs Secretariat, Lac des Mille Lacs First Nation and Osisko Hammond Reef Gold Ltd. signed a Resource Sharing Agreement, creating a commitment by all parties to engage in active consultation and collaboration as part of our continued exploration activities at our Hammond Reef Project. The signing of this Resource Sharing Agreement is the result of a respectful and considered consultation process between the signatories.

The agreement includes a commitment by the signing parties to create several committees to facilitate information gathering, and maintain open and transparent lines of communication. We have also now successfully signed all eight band council resolutions required to begin forming committees under agreement detailed below. Osisko further agrees to provide employment and training opportunities to members of the participating communities. The communities agree to create operating trusts that will be able to receive training and educational funding from Osisko Hammond Reef Gold Ltd., as well as to accept shares of Osisko Mining Corporation as milestones in exploration and development are reached. We believe that this significant step will result in a mutually beneficial development and operation at Hammond Reef, which will lead to lasting educational, employment, and economic benefits to the community members. The seven participating First Nations of the Chiefs Secretariat are:

- Couchiching First Nation
- Lac La Croix First Nation
- Mitaanjigamiing First Nation
- Naicatchewenin First Nation
- Nigigoonsiminikaaning First Nation
- Rainy River First Nation
- Seine River First Nation

"This is an important and significant next step in the continued relationship between First Nations. Osisko has proactively engaged in a process of consultation that respects our traditional territories and our Treaty rights, and we are pleased to support their initiative and its continued development."

– Tammy Ryll, Executive Director of the Fort Frances Chiefs Secretariat

"Today is a good day. It is a historical day not only for our First Nation, but also for the other participating First Nations, surrounding communities, and Osisko, in that we are entering into a mutually respectful and beneficial agreement regarding Industry on our Traditional Lands."

– Chief White Cloud of the Lac des Mille Lacs First Nation quoting one of her Elders

"The area First Nations are finally participating in the local economy, an opportunity which has not been available to them until having the chance to grow with the Hammond Reef Project. This signing of this agreement will provide a bright future for not only the aboriginal people but for all residents within the Rainy River District."

– Tony Marinaro, Economic Development Advisor for Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services

Feedback Form

We want to **hear from you!**



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FEEDBACK FORM

As the Hammond Reef Gold Project undergoes a consultation phase, Osisko wishes to consult with Aboriginal communities, stakeholders, the public and others about key issues and features of the Project. Consultation discussions involve feedback into Project design and plans, benefits arising out of the Project and how potential effects may be avoided, mitigated or compensated.

Your feedback can also be provided online at the following address:
http://www.osisko.com/en/properties/hammond-reef.html

1. **How likely would you participate in the following methods of collecting information related to the Project?**

Please circle one number beside each method :	Not at all likely	Not very likely	Neither likely nor unlikely	Somewhat likely	Very likely
Newspaper insert with feedback form	**1**	**2**	**3**	**4**	**5**
Stakeholder meetings	**1**	**2**	**3**	**4**	**5**
Public open houses	**1**	**2**	**3**	**4**	**5**
Online feedback form	**1**	**2**	**3**	**4**	**5**
Online stakeholder meetings	**1**	**2**	**3**	**4**	**5**
Online bulletin boards	**1**	**2**	**3**	**4**	**5**

2. **How likely are you to read further information about the Hammond Reef Gold Project if you receive it in the following way:**

Please circle one number beside each method :	Not at all likely	Somewhat likely	Very likely
Mail	**1**	**2**	**3**
Email	**1**	**2**	**3**
Newspaper ad	**1**	**2**	**3**
Website	**1**	**2**	**3**
Other?	**1**	**2**	**3**

3. **Additional comments**

4. **How important are each of the following factors to you when evaluating the Hammond Reef Gold Mine?**

Please circle one number for each:	Not important at all	Not important	Neutral	Somewhat important	Very important
Using clean electricity	**1**	**2**	**3**	**4**	**5**
Providing permanent jobs for a minimum of 14 years	**1**	**2**	**3**	**4**	**5**
Managing environmental impacts	**1**	**2**	**3**	**4**	**5**
Managing social impacts	**1**	**2**	**3**	**4**	**5**
Providing the municipality with lasting municipal infrastructure	**1**	**2**	**3**	**4**	**5**
Investing in various community organizations	**1**	**2**	**3**	**4**	**5**

5. **Additional comments**

6. **Please indicate the importance of each of the following.**

Please circle one number next for each	Not important at all	Not important	Neutral	Somewhat important	Very important
Regional employment and skills training	**1**	**2**	**3**	**4**	**5**
Local employment opportunities during construction	**1**	**2**	**3**	**4**	**5**
Opportunities for local contractors to provide services during construction	**1**	**2**	**3**	**4**	**5**
Enhanced recreational opportunities	**1**	**2**	**3**	**4**	**5**
Upgrades to infrastructure such as roads, bridges, parks, health facilities, etc.	**1**	**2**	**3**	**4**	**5**
Dependable energy	**1**	**2**	**3**	**4**	**5**
Other: _____	**1**	**2**	**3**	**4**	**5**

7. **Additional comments**

8. **Do you use Marmion Reservoir for recreation?**

❑ Yes
❑ No

9. **If yes, during which of the following seasons? (Check all that apply.)**

❑ Spring
❑ Summer
❑ Fall
❑ Winter

10. **How likely would you be to use Marmion Reservoir for the following recreation opportunities?**

Please circle one number next to each activity	Very unlikely	Unlikely	Neither likely nor unlikely	Likely	Very likely
Boating – non motorized	**1**	**2**	**3**	**4**	**5**
Boating - motorized	**1**	**2**	**3**	**4**	**5**
Hiking	**1**	**2**	**3**	**4**	**5**
Day use	**1**	**2**	**3**	**4**	**5**
Camping	**1**	**2**	**3**	**4**	**5**
Hunting	**1**	**2**	**3**	**4**	**5**
Fishing	**1**	**2**	**3**	**4**	**5**
Other	**1**	**2**	**3**	**4**	**5**

11. **Do you fish in the Marmion Reservoir?**

❑ Yes
❑ No

12. **Please rank, in order of preference, the species you prefer to fish, with 1 being the highest and 3 being the lowest.**

____ Northern Pike
____ Small mouth bass
____ Walleye
Other: _____

13. **How do you prefer to fish?**

❑ Shore
❑ Boat
❑ Both
❑ Ice fishing

14. **Additional comments**

How Feedback Will Be Used:

Feedback collected via meetings, Internet, fax, and mail will be recorded and summarized in the Consultation Report as part of the EA report.

Would you like to receive updates on the Project?

❑ Yes
❑ No

Please provide your contact information *(optional)*:

Name: _____

Street Address: _____

P.O. Box _____Postal Code: _____

Phone: _____ Email: _____

CONSENT TO USE PERSONAL INFORMATION

I consent to the use of my personal information by Osisko Hammond Reef Gold for the purpose of contacting me and keeping me updated about the Hammond Reef Gold Project.

For purposes of the above, "my personal information" includes name, mailing address, telephone number, and email address, as per the information I provide.

Signature: _____

Date: _____

For further information or to submit your feedback form:

Alexandra Drapack
Manager, Sustainable Development
Osisko Mining Corporation
155 University Avenue, Suite 1440
Toronto, ON M5H3B7
Tel: (416) 363-8653 ext. 110
Fax: 416- 363-7579
Email: adrapack@osisko.com

http://www.osisko.com/en/properties/hammond-reef.html

Under the Freedom of Information and Protection of Privacy Act and the Environmental Assessment Act, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

OSISKO
HAMMOND REEF GOLD

A Fresh
Outlook
on Mining.

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OSISKO
HAMMOND REEF GOLD

A Fresh Outlook on Mining.

Hammond Reef Gold Project
Mercury and the Environment





We have heard that people are concerned about mercury in the environment. This is a common concern for many communities in Northern Ontario. The Ministry of Environment has been studying contaminants in sport fish within the province since 1976 and publishes recommended fish consumption levels for many lakes throughout the province.

Existing Environment

Field studies carried out at Hammond Reef included measuring existing levels of mercury in ground water, lake water, sediment and fish. The results showed that mercury levels in the water are low, and higher levels are found in sediments and fish. The Ministry of Environment has also recognized that mercury levels found in fish living in the Marmion Reservoir are high.

Assessment of Effects

The assessment of potential effects from the Hammond Reef Gold Project included laboratory testing and computer models to predict how air quality and water quality could change during Project construction and operations. The assessment also included an evaluation of any health or ecological risks that could be increased because of the Project.

Tailings Measurements

Laboratory testing measured mercury levels in tailings that would be created from the Project. The results of the laboratory tests showed that the tailings water had a non-acidic pH, and that mercury concentrations in the tailings water would be below the detection limit and below the surface water quality guidelines. Mercury is not found in the rock at Hammond Reef and will not be added during processing of the ore.

Air Quality

Mercury was not included as an indicator compound in air modeling, because it is not found in our process chemicals. Air modeling did include a prediction of changes to sulphate concentrations – some scientists believe that elevated sulphate levels can be linked to the release of mercury from sediment. The Project is predicted to cause a small increase sulphate concentrations in lake water from their existing levels, and is not expected to trigger any additional release of mercury from sediments.

Water Quality

Mercury was included in water quality modeling. Our predictions show operation of the discharge will not result in an increase in mercury. The concentrations will be identical to baseline concentrations.

Risks to Humans, Fish and Wildlife

Our studies show that the Project does not pose a risk of mercury exposure to humans, wildlife or fish. Mercury levels in the air and water will not increase as a result of the Project, and fish will not be exposed to increased mercury from the Project. Mercury is not a contaminant of concern for the Project because it is not found in the ore and will not be used in any of our processes.

Camp Quetico

OSISKO

[redacted]

February 8 2012

Dear [redacted]

Thank you for meeting with Alix Drapack and me via teleconference on January 17th to discuss your bait fish operations. As discussed in the meeting, I am writing to request information regarding your bait fishing and bear management plans for 2012 in the vicinity of the Osisko Hammond Reef Gold (OHRG) project. I understand that you plan to begin bait fishing operations in mid-May and bear hunting in early August. The information that I am requesting is:

- maps of the area near OHRG that are part of your bait fishing block and bear management area;
- catch records bait fishing blocks in the vicinity of OHRG; and
- general plans for 2012 bait fishing in the vicinity of OHRG.

During our teleconference, you mentioned being denied by MNR on your application to construct a cabin on Mitta Lake. You offered to provide us with a copy of the application and the denial paperwork. I would like to also request the cabin application information.

I understand that you will not be near your files until mid-February but I was hoping to receive the information prior to the end of March so that I could develop a plan to avoid or minimize the negative impacts of Osisko's exploration activities this summer on your bait fishing and bear hunting plans. I hope to reflect on the information you provide and work with our site operations to come up with some procedures to assist you in accessing your areas this summer. Upon development of a draft plan, I hope to meet with you either on the telephone or in person to finalize the plans in advance of your 2012 operating season.

If you have any questions, please contact me by email at mbowler@osisko.com or by telephone at 416-363-8653. I look forward to working with you.

Sincerely,
<Original signed by>

Mark Bowler
Senior Advisor, Sustainable Development
Osisko Hammond Reef Gold

The finest in hunting and fishing



P.O. BOX 1087,
Atikokan, Ontario
POT ICO
PHONE: 807-929-2266
FAX: 807-929-2122
[redacted]

September 3, 2012

To: Michelle Whitmore, Ministry of the Environment

From: [redacted] Camp Quetico

Subject: Osisko Hammond Reef Gold Ltd & the lack of consultation with a major stake holder –Camp Quetico

As per phone conversation in late August, we have many concerns with the way Osisko Mines has been conducting business (ie not conducting business) with their stake holder Camp Quetico.

Our first concern: the 150 man camp that was built on our minnow block (owned since 1999) without any consultation. The camp included water, sewer, garbage storage area, and a work area including storage of gas, diesel, etc.. We had been contemplating building a 'trapper's cabin' in this area because of the distance from our camp. The MNR will no longer even entertain such a consideration because of the development already present on this small lake.

Our second concern: the harvesting of our bait blocks by Osisko employees after hours. Alex Drapack will use the argument that every person is allowed one personal trap (and they are allowed 120 minnows per person) . However, the mere geographics of this area, will show that without Osisko mines developing the roads in and around my minnow blocks (that are located over 1 hour north of town) it would make no sense for people to even harvest minnows off my blocks as there would be no road access and the trip up and back to catch a limited amount of minnows would cost more than going to the local bait store to buy the same amount of minnows.

Our third concern: interference with on going business ie. geologists interfering with my fall bear hunt in August , 2011. I had a group of hunters hunting the West Pine Cone area when Osisko geologists went into the area, seeing the parked vehicle on the road etc. and looked right at one of the hunters (in a tree stand etc) during his hunt. They continued onward to the lake and chatted for over 10 minutes: this kind of action , totally destroyed the bait area. This represented over three weeks of work ie baiting , prior to the hunters arrival. Again our bear area was established long before Osisko Mines came to the area. And I had made a call in early in June, 2011 to Anne Chaunaird (in charge of the operations at this time) to discuss this very matter and I never did receive a call back.

Our fourth concern: the possibility of draining and testing of Mitta Lake. At no time , even during their drilling program on Mitta Lake did they ever consult with Camp Quetico to discuss the use of this lake for drilling or testing. And now there is the suggestion of draining it.

Our fifth concern: the proposed tailing ponds needed to extract the gold from the ground. I again sent maps, to Mark Boulder (who was in charge at the time) as per request, in February, 2012 (registered mail) to show how all areas proposed would affect my minnow blocks in and around Mitta Lake And once again, heard no response.

Our sixth concern: lack of commitment to engage in serious dialogue regarding these issues. A meeting set up by Osisko, (for August 2nd 2012) , never materialized Staff members from Osisko were to come to Camp Quetico and view and learn more about the operations of the camp. Not only did no one show up from Osisko, but no one even called to cancel the meeting.

Our seventh concern : Osisko Mines are causing irreparable damage to our Camp Quetico operations: BMA (Bear Management Area), Moose Tag Area (12A) and fishing lakes used by Camp Quetico which keeps over 100 boats on 40 lakes including the Floodwaters (proposed mining area), Lizard Lake (Proposed Tailing Pond Area), Long Hike Lake (Proposed Tailing Pond Area), etc. This is all in addition to the damage that they have already inflicted on us at their ‘Mitta Lake ‘ operation. We have owned this camp since 1998 and worked very hard to improve the overall experience for our many valued guests.

We also own another resort on Calm Lake which is damned and receives all water from the Floodwaters area . And this camp could also be seriously impacted.

We have made a verbal offer to sell our affected minnow blocks, but even that has not brought this company to the table for discussions. We will be following up with a written offer to purchase

We consider ourselves to be a very major stakeholder in the Osisko Mining operations in the Atikokan area, and want to be dealt with in a fair and equitable fashion.

We appreciate your time in reviewing this matter and perhaps assisting Osisko Mining Corporation perform its due diligence.

CC: Alex Drapack

October 17, 2012

Camp Quetico
P.O. BOX 1087,
Atikokan, Ontario
POT ICO

RE: Offer to sell minnow blocks

[redacted],

Thank you for your letter dated September 3 2012.

I contacted Brenda Koenig (Aquatic Ecologist; Fisheries Policy Section, Biodiversity Branch; Ontario Ministry of Natural Resources) to find out whether Osisko could consider your offer to sell your bait harvest area(s) (BHA). She provided me with the following response (in italics):

> *When a BHA is allocated to a licence - it provides access to a resource. A BHA cannot be owned. However, once allocated to a licence, they can then be transferred to another licence or potential licensee at District Manager (of MNR District) discretion.*
>
> *MNR guidelines direct staff to review annual report information submitted by licensees to ensure that BHAs are being harvested, although some harvesters regularly let some BHAs sit fallow so that they can recover from harvest.*
>
> *The intent of issuing a commercial bait licence is to enable harvest and/or sale of bait. If licenses are issued where this is subsequently shown to not be the case i.e. the intent was not for commercial harvest and/or sale of bait, the licence has been revoked as it was deemed to have been issued in error.*

Since Osisko has no intention of harvesting or selling bait, we would not be a good candidate for you to transfer your license. However, we are currently in the phase of an Environmental Assessment and we continue to be interested in potential impacts from our proposed OHRG project. In order to fully understand the financial implications of our proposed infrastructure layout on your bait fishing operations, please provide us with your bait fish returns (catch records) for the bait fishing blocks you have offered to sell to us.

Respectfully,

Alexandra Drapack, MBA, P.Eng.
Director, Sustainable Development
Osisko Hammond Reef Gold Ltd.

CC: Michelle Whitmore, Ontario Ministry of the Environment
Amy Liu, Canadian Environmental Assessment Agency

Dear Alix,

Thank you for your letter of October 17th, regarding our offer to sell minnow blocks.

I find your consultation with an aquatic ecologist at this stage of your operations to be very interesting. Perhaps an earlier consultation with such a person might have 'saved' this small lake, its habitat and its surrounding environment and landscape. However, now with the damage already in place, its time to move forward.

Therefore, I would agree with what Ms. Koenig has said, "a BHA is to enable the licensee to harvest and/or sale of bait." And in this respect, your company, OSISKO, would be doing neither. And therefore you are right in saying that you would not 'be a good candidate for us to transfer our license.' You would be a good candidate to pay for/provide compensatory funds for the damage you have caused to me as a BHA owner. Your company has used my BHA resources without permission; you just haven't paid for the same. The damage to this area is irreversible.

And in your conversation with Ms. Koenig, did you relay how your employees, both at Mitta Lake base camp and the nearby surrounding lakes, harvested minnows (in my BHA areas). Did you also relay that Mitta Lake was the subject of numerous, in excess of 200 as I understand it, drill holes, which were not all capped (could be verified by an underwater camera?). This was in addition to the building of a base camp, storage areas, waste disposal etc; Your company, did all these things on this very small lake and area. Your company simply decided to use this lake and area without, and again, I say without any consultation with me as a principal stake holder.

Your company, OSISKO simply moved in, set up a base camp and started drilling activities, etc. on Mitta Lake without any consultation with us as stake holders as BHA owners. However, should I, as a common citizen decided to go to another lake of a BHA owner and trap minnows and/or set up a base camp. I would be subjected to a very large fine, and possibly be the subject to other penalties by MNR.

The BHA properties offered to you by the way of sale, represent only the properties that you already damaged and/or will be damaging with your proposed mining operation. OSISKO has been and is presently using/abusing the lake to the extent that it is no longer a viable BHA and that is what is being offered to your company for purchase.

OSISKO, does not have the right, in my opinion, to assume ownership of properties that they have not paid for. (the reason the sale offering). For numerous years I have paid the MNR monies, , for the right to use Mitta Lake BHA. This is totally unlike OSISKO who simply came in and 'set up' camp and started drilling without even a 'courtesy call' What laws are availed to you as a mining company that allow for a total disrespect, use and abuse of another's property, virtually making them unusable both now and in the future?

These articles listed below, represent a small sampling of the numerous articles, in August, September, October, 2012, from the Atikokan Progress.

August 7th Osisko eyes permanent work camp at Hammond Reef
Osisko pushes ahead on EA
Osisko updates Council on Hammond Reef Plans for Work Camp
August 13th Osisko Reports Progress as Malartic ramps up
Osisko Notice of Consultation Event
Osisko News Brief
Working out the Project Details
August 27th Osisko News Brief
Environment Assessment Process Moves Forward
September 10th Osisko News Brief
Summer Comes to an end

September 27th Osisko News Brief
Mine Closure Plan
October 9th Osisko News Brief
Project Phases and Schedule

These many article, just in the last 3 months, detail the construction of base camp, including storage, warehousing, and maintenance areas. not to mention the draining and dewatering of the lake, disposal of waste rock and tailings, including potentially hazardous wastes.

I find it very interesting that issues of wildlife, all stakeholders, BHA ownership, etc are never addressed.

In closing, we will not be providing your company with the bait fish returns for these bait blocks as MNR only requires paperwork be kept for two years and we have not used the Mitta Lake BHA for the previous two years, as you are aware. We were letting them rest, or at least that was our intention. It makes no sense for any harvester to 'over harvest' an area; this simply depletes the resources. Although, in our case, someone else (OSISKO) has already, by their actions depleted and/or is in the process of depleting our resource for us.

The blocks are still for sale as per September 3rd.

Now Alix, we would appreciate a response to some of our requests, major issues involving our business:

Use of portage lakes
Drilling activities in/around floodwaters
Future Bear Hunts
Moose Hunting Activity in 12A
Lack of consultation and planning 'with decision makers'
State of Mitta Lake

We look forward to hearing from you regarding your response to the above issues.

Yours truly,

[redacted]

Michelle Whitmore, Special Project Officer
Ministry of Environment, Environmental Approvals Branch
2 St. Clair Avenue West, 14th Floor
Toronto, Ontario
M4V 1L5

November 2, 2012

Ms. Whitmore,

As per your request, please see below for respsonses to Camp Quetico's concerns regarding the Hammond Reef Gold Project. These concerns were provided in a letter addressed to you dated September 3, 2012.

1. The 150 man camp that was built on our minnow block (owned since 1999) without any consultation. The camp included water, sewer, garbage storage area, and a work area including storage of gas, diesel, etc.. We had been contemplating building a 'trapper's cabin' in this area because of the distance from our camp. The MNR will no longer even entertain such a consideration because of the development already present on this small lake.

Although no formal consultation requirements existed for the Hammond Reef exploration project, Osisko has published bi-weekly news briefs in local newspapers since November 2010. Osisko also held multiple community meetings, participated in local events and opened an office on Main Street to ensure the public and concerned stakeholders were able to get in touch with the Hammond Reef team to voice their concerns.

Regarding Camp Quetico's plans for a trapper's cabin, our records show that on April 9, 2012 [redacted] *stated that he had never submitted a formal application to build a cabin on Mitta Lake.*

2. The harvesting of our bait blocks by Osisko employees after hours. Alex Drapack will use the argument that every person is allowed one personal trap (and they are allowed 120 minnows per person) . However, the mere geographics of this area, will show that without Osisko mines developing the roads in and around my minnow blocks (that are located over 1 hour north of town) it would make no sense for people to even harvest minnows off my blocks as there would be no road access and the trip up and back to catch a limited amount of minnows would cost more than going to the local bait store to buy the same amount of minnows.

Osisko Hammond Reef Gold has a formal harvesting policy for employees working at our exploration camp. This policy includes restricted fishing in Mitta Lake. When we heard from [redacted] *that bait fishing may have been occurring on Mitta Lake, a formal directive was sent to all employees reminding them that this activity was not permitted. To our knowledge there have not been any recorded incidents of a Hammond Reef employee fishing for bait on Mitta Lake.*

3. Interference with on going business ie. geologists interfering with my fall bear hunt in August , 2011. I had a group of hunters hunting the West Pine Cone area when Osisko geologists went into the area, seeing the parked vehicle on the road etc. and looked right at one of the hunters (in a tree stand etc) during his hunt. They continued onward to the lake and chatted for over 10 minutes: this kind of action , totally destroyed the bait area. This represented over three weeks of work ie baiting , prior to the hunters arrival. Again our bear area was established long before Osisko Mines came to the area. And I had made a call in early in June, 2011 to Anne Chaunaird (in charge of the operations at this time) to discuss this very matter and I never did receive a call back.

Osisko understands that overlapping land uses in an area can cause conflicts. We regret if our work at Hammond Reef caused stress to [redacted] *and endeavour to move forward towards a positive relationship.*

On October 18, 2011 Osisko staff Mark Bowler, Anne Charland and Bud Dickson met with [redacted] *to discuss his concerns. Anne extended an apology on behalf of OHRG for not addressing his concerns regarding access in a more timely manner. OHRG committed to contacting* [redacted] *in advance of the next bait fishing season to develop a plan to ensure access.*

4. The possibility of draining and testing of Mitta Lake. At no time , even during their drilling program on Mitta Lake did they ever consult with Camp Quetico to discuss the use of this lake for drilling or testing. And now there is the suggestion of draining it.

Osisko understands that the loss of Mitta Lake is a concern to some of our Project stakeholders. However, the ore body is located under Mitta Lake and the Hammond Reef Gold Project will not feasible unless the lake is drained. As part of our environmental assessment and feasibility study, we will be evaluating the economic and social benefits of the Project and creating plans to minimize the environmental impacts of the Project. Osisko is currently working on a fish relocation plan to mitigate impacts to fish currently frequenting Mitta Lake. Osisko will share the details of this plan with our Project stakeholders as they become available and solicit feedback on how the effects can be minimized.

5. The proposed tailing ponds needed to extract the gold from the ground. I again sent maps, to Mark Boulder (who was in charge at the time) as per request, in February, 2012 (registered mail) to show how all areas proposed would affect my minnow blocks in and around Mitta Lake And once again, heard no response.

Osisko understands that, should the Hammond Reef Gold Project go forward, it will affect the fish in Mitta Lake. We also understand that the Project has the potential to affect fish in other water bodies within the minnow blocks held by Camp Quetico. We are currently in the planning stage of the Project. Osisko is committed to minimizing the effects to Camp Quetico by working together to provide access in a safe and appropriate manner. Our records show that [redacted] and Mark Bowler had frequent communications regarding access as shown in the bullet points below.

- ***January 17, 2012:*** *Alix and Mark call [redacted] to develop a plan to ensure access to his baitfish blocks in 2012.*
- ***February 8, 2012:*** *Mark Bowler mails and emails a letter to [redacted] requesting maps of his baitfish blocks and bear management areas; catch records for baitfish blocks in the vicinity of the Project; and general plans for 2012 bait fishing in the area. Osisko also requests a copy of Camp Quetico's MNR application to build a cabin on Mitta Lake.*
- ***March 9, 2012:*** *Mark Bowler sends an email to [redacted] acknowledging receipt of letter and maps.*
- ***April 9, 2012:*** *[redacted] sends email to Mark Bowler indicating he plans to trap Mitta Lake from mid-May to mid-June, 2012. [redacted] requests an updated map of the Project area.*
- ***April 18, 2012:*** *Mark Bowler sends email to [redacted] with a map of the OHRG area and asks for details regarding Barry's plans for accessing Mitta Lake.*
- ***April 23, 2012:*** *[redacted] sends email to Mark Bowler indicating that the only baitfish block he plans to trap within the Project area is Mitta Lake.*
- ***April 23, 2012:*** *Mark Bowler sends email to [redacted] asking for planned dates for trapping Mitta Lake.*
- ***April 30, 2012:*** *Mark Bowler phones [redacted] and follows up with an email. Mark provides [redacted] with a local Osisko contact (Erik Johansson, Site Manager OHRG) in order to facilitate easy and safe access to his baitfish block on Mitta Lake.*
- ***June 10, 2012:*** *[redacted] emails Mark Bowler indicating that he will be delaying his plans to trap Mitta Lake until later in the summer.*

6. Lack of commitment to engage in serious dialogue regarding these issues. A meeting set up by Osisko, (for August 2nd 2012) , never materialized Staff members from Osisko were to come to Camp Quetico and view and learn more about the operations of the camp. Not only did no one show up from Osisko, but no one even called to cancel the meeting.

On July 10, 2012 Cathryn Moffett of Osisko called Camp Quetico and asked [redacted] if he was available to meet during the week of July 30, 2012. Cathryn was told that [redacted] would not be willing to meet with Osisko until the following requests were met:

- *Compensation for his time when he meets with Osisko*
- *Presence of decision makers at meetings*

- *Identification of a clear path forward towards a positive relationship*
- *Specific answers about Osisko's plans to compensate him for impacts felt during exploration*
- *Specific answers about Osisko's plans to compensate him for the loss of Mitta Lake*

Since Osisko was not able to meet these requests at the time, the meeting was never scheduled.

7. Osisko Mines are causing irreparable damage to our Camp Quetico operations: BMA (Bear Management Area), Moose Tag Area (12A) and fishing lakes used by Camp Quetico which keeps over 100 boats on 40 lakes including the Floodwaters (proposed mining area), Lizard Lake (Proposed Tailing Pond Area), Long Hike Lake (Proposed Tailing Pond Area), etc. This is all in addition to the damage that they have already inflicted on us at their 'Mitta Lake ' operation. We have owned this camp since 1998 and worked very hard to improve the overall experience for our many valued guests.

Osisko is committed to building positive relationships with our stakeholders. We are currently in the planning stage of the Hammond Reef Gold Project, and have not made a final decision as to whether the Project will move forward to the construction phase. Osisko would like to again request that Camp Quetico provide catch records for the bait fish blocks within the Project area so that we can better understand the potential effects of the Project, should it move forward.

Camp Quetico also sent a letter to Osisko on September 3, 2012 with an offer to sell Osisko three bait fish blocks in the vicinity of the Hammond Reef Gold Project. Osisko respectfully declined Camp Quetico's offer in a letter dated October 17, 2012.

Regards,

Alexandra Drapack, MBA, P.Eng
Director, Sustainable Development
Osisko Hammond Reef Gold Ltd.

The finest in hunting and fishing

CAMP QUETICO
ATIKOKAN • ONTARIO

P.O. BOX 1087,
Atikokan, Ontario
POT ICO
PHONE: 807-929-2266
FAX: 807-929-2122
[redacted]

October 17, 2013

Michelle Whitmore, Special Project Officer
Ministry of Environment, Environmental Approvals Branch
2 St. Clair Avenue West, 14th Floor
Toronto, Ontario
M4V 1L5

Amy Liu, Project Manager
Canadian Environmental Assessment Agency, Ontario Region
55 St. Clair Avenue East, Suite 907
Toronto Ontario
M4T 1M2

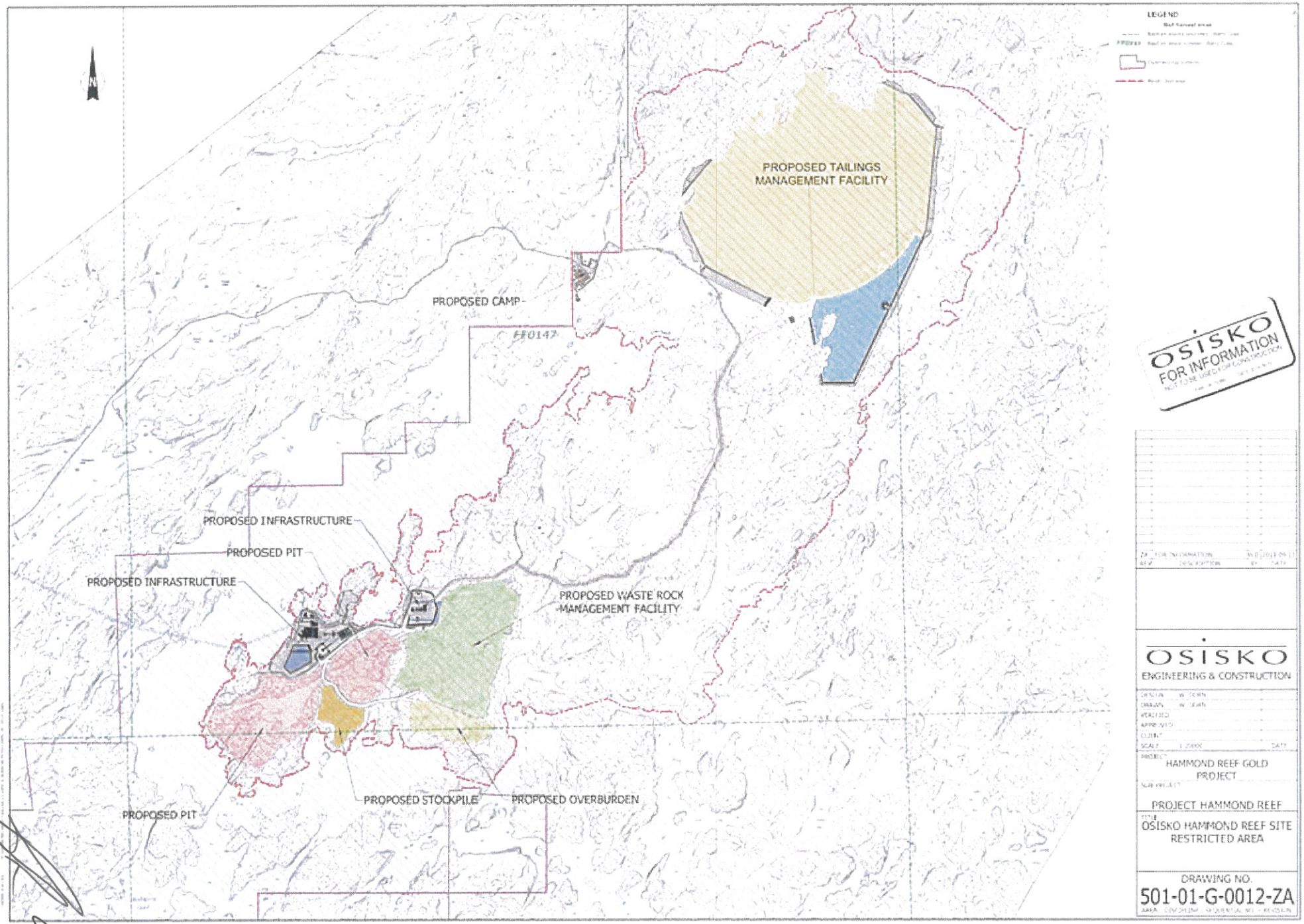
Ms. Whitmore and Ms. Liu,

Please accept the following letter as a formal acknowledgement that my concerns regarding the Hammond Reef Gold Project have been resolved. I have previously raised concerns that the exploration project and planned mine would negatively affect my business, including bait harvesting and bear hunting as per "Drawing No 501-01-G-0012-ZA. These concerns have been resolved. I am please to inform you that through ongoing discussions with Osisko we were able to come to a fair and equitable agreement that met the requirements of both parties re : Drawing No 501-01-G-0012-ZA .

Regards,

<Original signed by>

Camp Quetico


LEGEND
PROPOSED TAILINGS MANAGEMENT FACILITY
PROPOSED CAMP
FF0147
PROPOSED INFRASTRUCTURE
PROPOSED PIT
PROPOSED INFRASTRUCTURE
PROPOSED WASTE ROCK MANAGEMENT FACILITY
PROPOSED STOCKPILE
PROPOSED OVERBURDEN
PROPOSED PIT
OSISKO
FOR INFORMATION
OSISKO
ENGINEERING & CONSTRUCTION
HAMMOND REEF GOLD PROJECT
PROJECT HAMMOND REEF
OSISKO HAMMOND REEF SITE RESTRICTED AREA
DRAWING NO.
501-01-G-0012-ZA

Comments on Draft EIS-EA Report

From: Alexandra Drapack
Sent: February 20, 2013 8:30 AM
To: Cathryn Moffett
Cc: Hélène Cartier; 'bud@nwon.com'; Martin Griffin; Marie Manchester
Subject: Fw: Osisko Hammond Reef Gold Ltd.

Fyi

From: Dennis Brown [mailto:dennis.brown@atikokan.ca]
Sent: Wednesday, February 20, 2013 08:27 AM Eastern Standard Time
To: Alexandra Drapack
Subject: Osisko Hammond Reef Gold Ltd.

Hi Alexandra As Mayor of the Town of Atikokan, I want to emphasize again the importance of the Osisko Hammond Reef Gold Project to Atikokan in many ways ,especially economically. As you know Atikokan needs more jobs so we can have more people come to Atikokan to work and help cover the costs incurred to running a community. Ever since day one our community has supported the Hammond Reef Golf project. We have always been impressed with the way Osisko is proceeding in an environmentally, sustainable manner and asking for input every step of the way. We have appreciated the way Osisko, led by you and the Board of Directors, has kept our community informed as you are doing again today by coming to make a presentation this afternoon on the draft EIS/EA REPORT. Other community stakeholders ,such as the Atikokan Economic Development Board and staff, as well as the Chamber of Commerce and the Atikokan Sportsmen's and Conservation Club,as well as interested citizens are planning on attending this session. The draft EIS/EA Report makes sense to me and it is our hope that it will be accepted by the regulators as quickly as possible so the construction of the actual mining facility at Hammond Reef can begin. As always if there is anything Atikokan Town Council can do to help the Osisko Hammond Reef Gold Project proceed please let me know. The entire community overall is very supportive of this project. Good luck in moving forward. Dennis Brown ---Mayor

From: Alexandra Drapack
Sent: February 21, 2013 10:38 AM
To: 'Amy.Liu@ceaa-acee.gc.ca'; 'michelle.whitmore@ontario.ca'; 'Patrick.M.Barnes@ontario.ca'
Cc: Cathryn Moffett
Subject: Fw: Hammond Reef

FYI

From: Garry McKinnon [mailto:garry.mckinnon@atikokaninfo.com]
Sent: Thursday, February 21, 2013 11:33 AM Eastern Standard Time
To: Alexandra Drapack
Subject: Hammond Reef

Alex:

The Atikokan Economic Development is very encouraged by the very responsible manner in which Osisko Hammond Reef Gold is proceeding through the Environmental Assessment process. It is quite apparent that OHRG is giving full consideration to the environmental, social, and economic impacts of the project. We are confident that the measures outlined by OHRG will address the areas of concern and mitigate the risks involved in developing this gold mine. Congratulations and keep up the good work.

Sincerely,

Garry McKinnon, B.Comm.
Executive Director
Atikokan Economic Development Corporation
www.atikokaninfo.com

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From: Alexandra Drapack
Sent: February 21, 2013 12:23 PM
To: Cathryn Moffett; Hélène Cartier; Bud Dickson; Erik Johansson
Subject: Fw: Draft EIS/EA Report

FYI

----- Original Message -----
From: [redacted]]
Sent: Thursday, February 21, 2013 12:01 PM Eastern Standard Time
To: Alexandra Drapack
Cc: Cathryn Moffett
Subject: Draft EIS/EA Report

Hello Alex:

First of all, I want to commend you and Cathryn for the excellent presentation of the Draft EIS/EA Reprt. The report is impressive in the details of the various elements of the study and proposal, but equally impressive were your and Cathryn's understanding and interpretation of all the matters and details covered by the report, and also the answers provided to the public attending the presentation.

I will study the report for effects the mining development and operations might have on the Atikokan area and submit my comments, if any, prior to the deadlines established. However, based on the excellent work that OHRG has carried out do far, I am confident that any negative implications would be resolved to the satisfaction of the EIS and EA , as well as the community of Atikokan.

However, I can definitely state at this time that the economic benefits from the OHRG development and mining operations would be huge, given the size of the community and the present economic climate in Northwestern Ontario. And the cost of mitigating any adverse effects (and the effects themselves) could indeed be minor compared to the economic and social benefits. I am sure that all the residents of Atikokan would support these comments.

Yours sincerely, [redacted]

[redacted]

From: [redacted]
Sent: February 22, 2013 3:44 PM
To: Alexandra Drapack

Alex:

Thank you for the outstanding presentation in the Council Chambers at the Atikokan Town Hall on Wednesday.

I have spent most of my life in Atikokan and I am an avid outdoorsman and fisherman. As such, I noted with great interest the options for mitigation with respect to fishery and fish habitat disturbance that the Osisko Hammond Reef project might cause.

I am absolutely opposed to off-site options and particularly opposed to any money being applied to rehabilitation of the Steep Rock Iron Mine site. Ontario and Canada received millions of dollars in revenue over the forty years that Steep Rock and Caland operated and it is clearly the governments' responsibility to rehabilitate this site.

I fully support any and all OHRG dollars being spent to do habitat and fishery development and rehabilitation on the Marmion Resivoir.

Sincerely,

[redacted]

From: Paula Sanders <paula.sanders@atikokaninfo.com>
Sent: February 22, 2013 10:10 AM
To: Alexandra Drapack
Subject: Osisko development in Atikokan

Dear Alexandra:

As a staff member of the Atikokan Economic Development Corporation, I am writing to express our enthusiasm about the Osisko project in our community. I understand the Environmental Assessment study has been completed, and that it continues to look positive for this initiative. I would like to assure you that our office is available to assist in any way possible. This development already has, and will continue to, create employment within Atikokan and very tangible economic benefits. We appreciate the way that Osisko has gone out of their way to keep residents informed.
Again, we encourage you to contact us if we can lend a hand in this extremely exciting endeavor.
Sincerely,

Paula Sanders, Ec.D.
Senior Community Development Advisor
Atikokan Economic Development Corporation
P.O. Box 218, 214 Main Street West
Atikokan, ON
P0T 1C0
www.atikokaninfo.com
Ph 807-597-2757
Fax 807-597-2726
Canoeing Capital of Canada
Top 10 Pick of Worldwide Boating Destinations according to www.lonelyplanet.com

"Surround yourself by people who inspire you."
-Unknown

From: [redacted]
Sent: February 24, 2013 7:57 AM
To: Alexandra Drapack
Subject: EIS/EA report

Hello Alex,

Just a short note to congratulate you on the completion of your draft EIS/EA report. I know that it was a long and arduous journey and for that reason I congratulate you on your tenacity and dedication to completing this report. Rest assured that as a member of this community and the AEDC that all of us and myself in particular will be cheering and lending our support in whatever way possible to achieve a successful outcome.It strikes me that due to your diligence towards this project that you have left no"stones unturned.(pardon the pun!) and your report will be viewed most favourably by the powers that be.

Thank you once again Alex and be assured that I will support the contents of your report wholeheartedly. Hopefully we will have an opportunity to visit in the near future and share a coffee or a glass of wine.

Kindest regards,

[redacted]

From: Mary Makarenko [redacted]
Sent: February 26, 2013 10:07 AM
To: Alexandra Drapack
Subject: Osisko Hammond Reef Gold Project

Hi Alex

As an Atikokan Municipal Councillor, Atikokan Economic Development Board Member, and long time Atikokan resident, my perception of Osisko, its operation and plans, over the past few years, has been very positive. Already, there have been economic benefits (jobs and business) to the community, which will be multiplied by the construction and operation of the Hammond Reef Gold Mine. Your excellent information presentations here continued last week with the session on the draft EIS/EA Report. After attending that meeting, I am confident that Osisko is doing everything possible to meet all environmental standards, and I look forward to Osisko being given permission to move forward.

Mary Makarenko

From: Larry Fraser [redacted]
Sent: March 6, 2013 7:46 PM
To: Alexandra Drapack
Subject: Hammond Reef Project

Dear Sir
As a councillor in the neighboring community of Ignace, I whole heartedly support the Osisko Hammond Reef Gold Project,
for all the economical and social benefits it will provide for the Town of Atikokan.
Yours Truly
Larry Fraser
Councillor, Twp of Ignace

CITY OF Thunder Bay
Superior by Nature

500 Donald Street East
Thunder Bay, ON P7E 5V3
www.thunderbay.ca

OFFICE OF THE MAYOR

Tel: (807) 625-3600
Fax (807) 623-1164

March 8, 2013

EMAILED TO: adrapack@osisko.com

Osisko Hammond Reef Gold Ltd.
Alexandra Drapack
Manager, Sustainable Development
155 University Avenue, Suite 1440
Toronto, ON M5H 3B7

Dear Alexandra Drapack:

I am writing in support of Osiko Hammond Reef Gold Ltd.'s efforts to become Ontario newest producing gold mine.

Thunder Bay and Northwestern Ontario has realized direct benefits from Osisko Hammond Reef Gold Ltd. relative to pre-mine exploration initiatives, educational and training requirements and more importantly your continued efforts will provide significant contributions to Thunder Bay's growing mining economy.

The future of mining in Northwestern Ontario is dependent on the efforts of newly opened mines to serve as role models setting future examples of sustainable development and social responsibility. I have watched with admiration and pride as you engage our Northern Aboriginal and Metis members in the progressive stages of mining exploration to hopefully becoming Ontario's newest gold-producing mine.

Northwestern Ontario expects to see 13 new mines open in the upcoming decade. I have no doubt Osisko Hammond Reef Gold Ltd. will continue to lead by example in sustainable development and social responsibility once the mine is fully operational.

You have served Northwestern Ontario well as a model mining company of which social, corporate and environmental mining practices is leading edge.

Sincerely,
<Original signed by>

Keith Hobbs, Mayor
City of Thunder Bay

From: LAlexander@thunderbay.ca
Sent: March 8, 2013 4:39 PM
To: Alexandra Drapack
Cc: Dennis Brown; garry.mckinnon@atikokaninfo.com; admin@noma.on.ca; JMason@thunderbay.ca
Subject: Emailing: Thunder Bay Mayor Letter of Support Osisko EA 2013
Attachments: Thunder Bay Mayor Letter of Support Osisko EA 2013.pdf

Mayor Hobbs is pleased to offer his support of Osisko's efforts to be Ontario's newest future gold mine.

Laury Alexander, Policy Assistant
Mayor's Office, City of Thunder Bay

Tel: (807) 625-2741 Cell:(807) 630-2346 Fax:(807) 623-1164
Email lalexander@thunderbay.ca

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CITY OF Thunder Bay
Superior by Nature

500 Donald Street East
Thunder Bay, ON P7E 5V3
www.thunderbay.ca

OFFICE OF THE MAYOR

Tel: (807) 625-3600
Fax (807) 623-1164

March 8, 2013

EMAILED TO: adrapack@osisko.com

Osisko Hammond Reef Gold Ltd.
Alexandra Drapack
Manager, Sustainable Development
155 University Avenue, Suite 1440
Toronto, ON M5H 3B7

Dear Alexandra Drapack:

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You have served Northwestern Ontario well as a model mining company of which social, corporate and environmental mining practices is leading edge.

Sincerely,

<Original signed by>

Keith Hobbs, Mayor
City of Thunder Bay

From: Northwestern Ontario Municipal Association <admin@noma.on.ca>
Sent: March 11, 2013 3:10 PM
To: Alexandra Drapack
Cc: 'Dennis Brown'
Subject: Support for Osisko Hammond Reef Gold Ltd
Attachments: support Osisko Hammond Reef Gold Ltd.pdf

Good afternoon Ms. Drapack

Please find attached our support letter from President Ron Nelson.

Sincerely,

Charla Robinson
Executive Director
e. admin@noma.on.ca

Northwestern Ontario Municipal Association
P.O. Box 10308
Thunder Bay, ON P7B 6T8
t. 807.683.6662

www.noma.on.ca
Follow us on Twitter: @noma_nwo

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noma
Northwestern Ontario
Municipal Association

Representing the Districts of Kenora, Rainy River and Thunder Bay
P.O. Box 10308, Thunder Bay, ON P7B 6T8
www.noma.on.ca

p. 807.683.6662 e. admin@noma.on.ca

March 11, 2013

Osisko Hammond Reef Gold Ltd.
Alexandra Drapack
Manager, Sustainable Development
155 University Avenue, Suite 1440
Toronto, ON M5H 3B7

Dear Ms. Drapack:

The Northwestern Ontario Municipal Association is pleased to express our support for the Osisko Hammond Reef Gold project northeast of Atikokan, Ontario.

We commend Osisko on their consultation activities with the Town of Atikokan and local First Nations and are pleased to recognize that supportive letters have been provided by the Town of Atikokan, Lac Des Mille Lac First Nation, the Fort Frances Chiefs Secretariat, and the Metis Nation of Ontario.

We are excited about the positive impacts that this project will have on employment and economic activity for the region as well as the skills development opportunities that will be realized.

We look forward to your successful completion of the assessment process and the beginning of project construction.

Sincerely,
<Original signed by>

Ron Nelson
President
/cr

TOWNSHIP OF O'CONNOR

R.R. #1, Kakabeka Falls, Ontario P0T 1W0 • Tel. (807) 476-1451 Fax (807) 473-0891
E-Mail - twpoconn@tbaytel.net www.oconnortownship.ca

Mayor
Ron Nelson

Clerk-Treasurer
Lorna Buob

Councillors
Gwen Garbutt
Jerry Loan
Bishop Racicot
Jim Vezina

March 26, 2013

Ms. Alexandra Drapack
Manager of Sustainable Development
Osisko Hammond Reef Gold Ltd.
101 Goodwin St.
Atikokan ON,
P0T 1C0

Dear Ms. Drapack:

The Council of the Township of O'Connor, at their meeting held on March 25, 2013 discussed the development of Osisko's Hammond Reef Project located near Atikokan, Ontario. Council supports the efforts of Osisko to move forward with this project and recognize the socio-economic benefits that the project will bring to the Town of Atikokan and Northwestern Ontario.

As a small rural municipality in Northwestern Ontario, the Township of O'Connor is home to a number of residents that also own property in the Atikokan area and/or enjoy the recreational outdoor activities that are available year round. The Hammond Reef Project promises to strengthen the socio-economic situation in Atikokan by creating jobs and sponsor community cultural and recreational opportunities. Council feel that the project will greatly benefit local residents and will encourage a healthy and prosperous community and they also feel that it is in the best interest of the Town of Atikokan that the project proceeds as quickly as possible.

Yours truly,
<signature removed>

for Mayor and Council
Township of O'Connor

Cc: Mayor Dennis Brown, Town of Atikokan
Garry McKinnon, Atikokan Economic Development Corporation
N.O.M.A.

From: Stephanie Morin <administration@tbaytel.net>
Sent: April 2, 2013 3:32 PM
To: Alexandra Drapack
Subject: Support
Attachments: Township of Ignace.pdf

Good Afternoon Alexandra,

As requested by Mayor Dennis Brown, please find attached a copy of Resolution #186/2013, passed by Council for the Corporation of the Township of Ignace in support of the Osisko Hammond Reef Gold Project.

If you should require any further assistance please feel free to contact Wayne Hanchard, Administrator Treasurer for the Township of Ignace at 807-934-2202.

Sincerely,

Stephanie L Morin
Administrative Assistant
Township of Ignace
34 Hwy 17 W, Box 248
Ignace, ON P0T 1T0
Phone: 807-934-2202
Fax: 807-934-2864

The Corporation of the
Township of Ignace

34 Highway 17 West P.O. Box 248 Ignace, ON P0T 1T0

March 28, 2013

RESOLUTION #	186 /2013
Moved By: <Original signed by>	**Seconded B:** <Original signed by>

Whereas, Council for the Corporation of the Township of Ignace is highly aware of the Osisko Hammond Reef Gold Project, has a keen interest in the Project, and has been following this Project since its inception,

Whereas, Council supports sustainable natural resource development projects that demonstrate that they are environmentally, socially and economically responsible,

Whereas, Township administration has reviewed the Draft Environmental Impact Statement/Environmental Assessment Report issued by the Osisko Mining Corporation on February 15, 2013, and considers the Osisko Hammond Reef Gold Project to be environmentally, socially and economically responsible,

That, Council for the Corporation of the Township of Ignace fully supports the Osisko Hammond Reef Gold Project and hopes the mine development will move forward expeditiously to fruition.

<Original signed by>

MAYOR

Resolution Results	**Recorded Vote**		
_ CARRIED	**MAYOR AND COUNCIL**	**YES**	**NO**
_ DEFEATED	**Kimberley Baigrie**		
_ TABLED	**Larry Fraser**		
_ RECORDED VOTE	**Alan Graver**		
_ PECUNIARY INTEREST DECLARED	**Lee Kennard**		
_ WITHDRAWN	**Chicki Pesola**		

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

ExpressPost

[redacted]

FYI

I am interested i
possible option/sal
of our claim FF1508

Osisko Hammond Reef Gold Ltd.
155 University Ave., Suite 1440
Toronto, Ont.
M5H 3B7

Attn: Alexandra Drapack
Manager, Sustainable Development

Dear Ms. Drapack,

Re. Osisko's Feb. 15/13 submission of the Draft EIS/EA report, the following needs to be addressed/corrected re our mining claim FF15086 (Jack Lake Mine) which is within HRG Project Description Area or is considered adjacent to it.

In the above-noted report for HRG Project, Appendix 7.11 Notifications Fig. 2 Project Boundaries shows 3 distinct areas outlined in red within the Project location that are not OHRG held claims. Our lease claim FF15086 should also be outlined in red on this map as a separate claim not held by OHRG. FF15086 is within claim 4208721 McCaul Twp. Claim 4208721 being 100% OHRG owned and listed in Appendix 1.VI Version 1 second from the bottom of Pg. 4 of 4).

Both these claims show in Appendix 1.VI Version 1 Fig 1 Claim Boundaries map in the very bottom row of claims farthest to the right within the Project location, FF15086 barely showing grey as other dispositions according to the legend of Fig. 1 map. It should show a separate border outlin as others do on the map to distinctly identify it as a separate claim.

Also, in Fig. 3-58 Mining Claims in the Socio-Economic Environmen

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

Alexandra Drapack

March 31, 2013

LSA, our claim FF15086, which should show bright yellow active dispositions according to the legend as are other areas bright yellow on the map, is showing as a dulled yellow with pink overtones (pink denoting Osisko claims) as if Osisko holds an interest in FF15086 somehow. Claim FF15086 is still an active disposition.

Furthermore, Pg. 1-18 of the Draft, Section 1.8.4. states that "all other adjacent lands are owned by the Crown." If there is any reference here to FF15086, note that the ore dump on our claim was not reserved from the claim when the lease issued. As the title to the dump was not reserved to the Crown, the title to the dump is the owners.

I did have contacts with Brett Resources re. our claim and then with Osisko from June 2011 to last registered letter dated Apr. 25/12 addressing our claim FF15086 being erroneously included in OHRG project description and request for discussion re. the possibility of allowing our claim to be included with possible sale/option, with further reply from Osisko that upon review of information, there would be interest in further discussion. As I have heard nothing yet and as OHRG holds no interest or tenure nor is there any agreement of any kind between OHRG and we, the holders of FF15086, these above-noted matters of correction need your prompt attention. In view of a possible mine coming here, it is hoped this can be rectified/resolved satisfactorily for all concerned.

Also in view of a possible mine coming here, I am enclosing an anonymous submission drawing and ~~news article~~ comments and news article for consideration before the Apr. 5th comments deadline.

I had written you a letter Jan 23/12 asking for a copy of the (Jan 2012?) Proposed Terms of Reference - Fed. & Prov.

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

Alexandra Drapack

March 31, 2013

for HRG (which I had hoped to review) and to date, I have not received a reply from you. I hope this will not be the case this time around.

I look forward to your response and action on the above matters and on any other errors pertaining to FF15086.

Sincerely,

[redacted]

(holders of FF15086)

c.c. Ms. Amy Liu, Project Manager
Canadian Environmental Assessment Agency
Ontario Region
Suite 907, 55 St. Clair Ave E.
Toronto, On M4T 1M2

c.c. Patrick Barnes, Mineral Exploration & Development Consultant
Ministry of Northern Development & Mines
Ontario Government Building
Suite B002
435 James St. S.
Thunder Bay On. P7E 6S7

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

OSISKO TAILINGS

HAMMOND REEF

REHAB

unstable walls
- affect
- Town?
- riverbank shift?
- Hardy Dam?
- monitor land shift

SRIM PIT

SHELF SLIDE

- future water problems downstream

helps supply water Atikokan

HARDY DAM WALL weakening?

ONE o TWO ROUTES

ATIKOKAN-HAMMON REEF CAMP

scratch scratch

WHAT TO DO?

DIVERT - KEEP SEPARATE

55,500 tpd FLOTATION SLURRY → 4500 tpd CYANIDE EXPOSED

store another site

store other site - re-fill pit later?

SLURP SLURP

tailings absorbent?
- Hammond Reef rock carbonate to neutralize acid at Steep Rock site?

HARDY DAM WALL AREA

- raise road
- shore up wall

- HAMMOND REEF SITE
- LESS TAILINGS TO MONITOR
- MORE ASCETICALLY PLEASING
- RE-FILL PIT?

OR:

use Osisko concentrator break down rock +

for last part, use Knelson concentrators instead of cyanide process - POSSIBLE?

(K) (N) (E) (L) (S) (O) (N)

see news article "Going for the Gold" next..

Questions:
- Does empty SRIM pit weaken land around Atikokan? Affect subterranean? May be important fill sooner?
- If mine life gets extended, where will tailings go if Hammond Reef can't accomodate? waste rock, too?
- How about Knelson-type concentrators? no chemicals. Tailings can go anywhere?

NO CHEMICALS JUST WATER!!

- a more environmentally friendly mine!

HMM!

DO-ABLE? FEASIBLE?

BEEN THERE? DONE THAT?

ANONYMOUS - NO LEONARDO

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

Going for the gold

B.C. man's invention finds the tiniest flakes

By SALLY JOHNSTON
Canadian Science News

LANGLEY, B.C. — Byron Knelson holds out a dish of ordinary grey gravel and issues a challenge.

"Can you see the gold in there? There's not a lot, about a dollar's worth. But it's there and I can get it out," boasts the amiable British Columbian.

He claims to be able to recover gold from "pretty well any gravel," using a machine that he invented and has sold to 52 countries from his factory in Langley, 32 kilometres southeast of Vancouver.

The Knelson Concentrator is a simple centrifugal device that uses water and the force of gravity to recover more of the precious metal from ore than can be gathered using conventional gold-refining techniques.

It catches the oh-so-fine specks of gold that are otherwise invisible to the human eye and that other machines miss, says Knelson.

A few minutes into a demonstration and Knelson has reduced the dinner plate full of gravel to a tablespoon of black sand in which lie a few tiny, but clearly visible, glittering grains of gold dust.

A mixture of water and gravel is fed into a rapidly spinning polyurethane inner cone in the machine. As it rotates at 400 revolutions per minute, the gravitational force traps heavier material — including gold — into the ribs of the cone.

In conventional gold-recovery techniques, gold is separated from other rock in a sluice box.

Knelson's concentrator also differs from other centifugal devices by having a flow of water pumped in through small holes in the side of the cone.

A conventional centrifuge has to be stopped and cleaned about every half hour to release material that becomes packed in the ribs of the cone.

"The water in my concentrator keeps the material moving, allowing the machine to be run for up to 24 hours without a break," says Knelson.

The largest concentrator, with a 0.75-metre diameter inner cone, processes 40 tonnes of material an hour. Seven hundred machines are in operation from Australia to Zimbabwe.

Now Knelson is examining ways of using the machine to aid the environment by extracting heavy metals from industrial waste.

THUNDER BAY TIMES NEWS - NOV. 30/91

Atikokan Sportsmen's Conservation Club

P.O. Box 788,
Atikokan, Ontario P0T 1C0
807-597-6990



April 4, 2013

Alexandra Drapack
Director Sustainable Development
155 University Avenue, Suite 1440
Toronto, ON M5H 3B7

Dear Amy,

Re: Comments on the EIS/EA submitted by OSISKO Hammond Reef Gold Project

We have examined documents related to the above Environmental Assessment and have the following comments to make on the project this time:

Aquatic Environment TSD:

The report begins with a long listing of background information including locations, maps, and photos, lists of water bodies and fish species information. This is followed by dates and methodology involved in fish collection as well as habitat mapping.

The fish collection methods proved satisfactory for determining the absence/ presence of fish species in each examined water body.

Fish habitat sampling involved a Habitat Suitability Index approach which ranks the value of each body of water examined.

Presence/absence data are a very qualitative measure of environmental impact from a particular action. While it tells you whether a species that was present before the impact is also present after the impact it does not measure the magnitude of any specific action on the fish species employed as indicators of environmental change. For example while northern pike might still be present in Lake A after mining, the method does not measure the status of the pike population after mining activity has taken place and any degradation or improvement in this species population. Baseline data are not available in this report to measure such changes.

The results of the *Fish Tissue Analysis* outlined in 2.1.4.3 are unacceptable to be considered adequate baseline data for the study area. The mathematical approach chosen by Golder Associates (2.1.4.3) was

neither comprehensible nor comparable to the approach used by the MOE, as was stated. Average mercury concentrations were reported for 8 fish of the most common size of fish caught and the results are very misleading. As seen in Table 2-8, higher levels of mercury contamination appear to exist in the walleye of Lizard Lake. However, the average total length and age were not reported for these fish. If the average length and weight were shown in the same table (as seen in Table 1 below) these walleye contaminant averages for Lizard Lake are less shocking.

Table 1 - Walleye Average Total Hg and Size

Location	Average Total Mercury (ug/g)	Average Weight (g)	Average Fork Length (mm)
Lizard Lake (n=8)	1.210	1590	510
Sawbill Bay (n=18)	0.523	640	398
Turtle Bay (n=8)	0.461	520	364

Standardizing the total mercury concentration to a total length would create comparable values for inter-lake comparisons of contaminants according to species. The data that were collected are insufficient and would not provide a baseline for future conditions. The correct approach would involve sampling more than just 8 fish and would require sampling a full range of ages and sizes for each species. As the variability in fish length increases with age, ageing structures should be collected from each individual fish in order to determine how much variability in fish mercury concentrations is associated with age.

Furthermore, northern pike and smallmouth bass should be included in the contaminant analysis. These sport fish are frequently consumed and changes in aquatic conditions could present a human health concern. Ignoring certain sport fish species and the human health concerns is not acceptable.

Moreover, the methods used for fish tissue analysis did not outline if the lab facilities chosen were accredited for Total Mercury in biological tissue. Laboratory results of fish tissue analysis were not presented in Appendix 2.IV. This appendix did not exist.

As far as using benthos to indicate water quality five samples per site employing a Ponar dredge is not the most efficient way to detect any quantitative change with time. Much more intensive methods are available but of course more expensive and time consuming. These data are the most minimal that could have been presented.

The report then deals with operational and post-operational activity that would impinge upon water quality, fish habitat and specific species.

In the operational phase four items stand out:

1) The Sewage Plant - "will meet MOE guidelines?" What process is used to ensure this outcome?
2) Blasting Effects - somewhat vague as to who will collect the data and what will be the mitigation measures to counteract any blasting effects detected.
3) Cyanide and Copper Levels in Processing Waters - If these remain high how will this be addressed and treated?
4) Closure Phase - Refilling of pits will not cause any direct impacts - because stratification will result in water quality of the upper layer to be suitable for discharge! What about the bottom layer? What about the Steep Rock disaster? Are we creating another such scenario? Once the upper layer drains what about the lower layers?

The statement (pg. 95) that in general the predicted results are the same or marginally greater than average values in Lizard Lake concentrations - high mercury and selenium above average. Is this the old

bromide- "the solution to pollution is dilution?"

The Sewage may meet water quality standards but what about phosphorous and nitrogen loading, resulting in algal blooms?

Also, could you spell out what the exact measures will be to counteract blasting effects- it is very fuzzy at present.

Regarding species habitat, the weightings assigned to various fish species favour sport fish- they ignore for example the Brassy Minnows- this is a very rare species of fish in the Thunder Bay region and North Western Ontario with a very scattered distribution. Given that two populations will be eliminated, serious thought should be given to save and reintroduce this scarce species as part of the rehabilitation plan and to give it a higher ranking in the weightings.

Another point that disturbs me is to imply that assistance with remediation of Steep Rock could substitute for remediation efforts on the mine site and adjacent habitats. I absolutely oppose this as a cop out - the duty of Osisko is to rehabilitate what they have impaired and not get caught up in the mess at Steep Rock- a totally separate disaster. Help us pay for treatment of toxic Steep Rock effluent and we will look the other way when it is your turn? Come on!

Residual compensation by stocking is another dubious way to evade responsibility for correcting the damage resulting from this operation and does not substitute for rehabilitation.

Also the claim that effluent would only be a problem in "wet years" with a statistical probability of 1 in 25 does not mean that a wet year can only occur once in a 25 year period. This is another evasive maneuver. You could get three wet years in a row and then what? I would want to see a back-up plan should such an event occur.

Overall we do realize that hard rock mining is a very ecologically destructive process and is financially riskier than for example oil production by conventional means. The ecological baseline data that were collected and are used to evaluate detrimental effects and rehabilitation of such effects are the bare minimum and mostly qualitative rather than quantitative in nature. The latter are needed to measure rehabilitation. Furthermore, how can we be certain the proponent will be able to carry out all the proposed actions of the post-closure monitoring and mitigation projects if it becomes insolvent? Who then pays for this portion of the plan? We have only to look at some entrepreneurs in the forest industry to see examples of this.

<Original signed by>

Sincerely,
<Original signed by>

John Charbonneau
ASCC President

Roy DeCorte
O.F.A.H. Zone A
Secretary/Treasurer

c.c. Amy Lin, CEAA, Toronto

From: Alexandra Drapack
Sent: April 4, 2013 10:26 AM
To: 'Liu,Amy [CEAA]'; Whitmore, Michelle (ENE); Barnes, Patrick (MNDM)
Cc: Cathryn Moffett
Subject: FW: Tourism concerns
Attachments: Osisko Mine proposal - tourism effects.docx

Follow Up Flag: Follow up
Flag Status: Flagged

FYI

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development / Directrice développement durable
155 University Avenue, Suite 1440 | Toronto, ON M5H 3B7
101 Goodwin Street | PO Box 2020 | Atikokan, ON P0T 1C0
Tel. : 416-363-8653 #110 | Cell. : 416-606-1692 | Fax: 416-363-7579
adrapack@osisko.com | www.osisko.com

From: Crystal Beach Resort [mailto:crystalbeach@xplornet.com]
Sent: April 3, 2013 8:27 PM
To: Alexandra Drapack
Subject: Tourism concerns

Hello Alex,
It was nice meeting you at the open house. Now we know who we are talking to anyway when sending and receiving email correspondence. Thank you for listening to our concerns dealing with effects on the tourism sector. I attached a copy of the questions we have at this point, I am sure more will arise in the future, especially if the mine proceeds. We will be thinking of other alternative methods of promoting the tourism camps that may be effective as time progresses, some of which we feel Osisko may be able to aid with if the project proceeds. Of course, if no action is taken to proceed, there will not be any necessary actions to take as the businesses (at least ours anyway) is operating at a successful level.

I know if the mine project proceeds, it will absolutely have some impact on tourism being that the Floodwaters is the primary fishery that keeps all the drive-in camps going in the local area. We can discuss future action if needed, pending on the future of the mine. At least is seems like we are somewhat on the same page.
regards,
[redacted]
Crystal Beach Resort
www.fishcrystal.com
fishcrystalbeach@gmail.com
crystalbeach@xplornet.com
807-929-1156

TOURISM CONCERNS AND QUESTIONS:

[redacted]

CRYSTAL BEACH RESORT

Atikokan, ON

<personal information removed>

<email address removed>

1. Some of our guests currently enjoy fishing Lizard Lake, as it is a prime, remote lake, with a decent access point. Will this lake maintain the quality of the fishery it currently has before, during and after the mine operations?

2. Page 6-39, Transmission lines will have no structures and footings in the water and will be set back from the shorelines. Is this true and is there still any consideration of the alternative of running the line up Hardtack Road all the way rather than crossing Sawbill Bay with it?

- also, is the line taken down after closure of the mine?

3. What is going to be the tree "buffer" along the shoreline during mine construction and operations. I remember it was originally stated that there would be a 100' minimum buffer from the water's edge?

4. What is the protocol plan if there is evidence of a massive fish die-off or effluent discharges from either the accommodation camp or mine operations above acceptable guidelines?

-Who does the testing of these different effluents, and how regularly is it done?

5. Commitment 47 Sec 6.2.2

states that: Fishing by personal while on-site will be restricted to help maintain the fish stocks. What does "on-site" refer to, and how do you plan to restrict it? Also, where is it stated (page #) under Section 6.2.2, as I must have missed it?

-what mitigation actions, if any, have been discussed to do if there is evidence of a drastic decline in the fishing quality of Marmion Lake/ Floodwaters after the mine opens?

6. Commitment 52 Sec 6.3 (similar to Commitment 47)

- states: Implement a policy to restrict hunting/fishing for workers while at camp. Please define "at camp", and from what I read in Sec 6.3, it only talks about implementing a gun policy for on-site workers, what about a "fishing policy" as stated in the Commitment 52? I could not find anything about a fishing policy as I read through Section 6.3, again I may have missed it.

7. Page 144 of 181 under the Effects Assessment

-Paragraph 1 talks about a limited access to some sites on Marmion, what sites specifically would these be? Please indicate on a map where the proposed restricted sites are. (such as the sites that Canoe Canada is concerned about)

-Paragraph 4 states: "In other cases, where there is POTENTIAL for a business or recreation opportunity to be affected, an agreement is entered/ developed by OHRG and the potentially affected party.", assuming this is referring to these restricted areas. Our concerns are that our guests too, more than likely utilize many of these same sites, maybe not for the exact same uses, but for shore lunch's/ relaxation etc., as part of their fishing experience.

What type of agreement can be entered into to protect the interests of our business as it relates to effects on our guests?

-Right now, it is highly likely our business will be affected due to the operations should the mine proceed. Not only visual/ aesthetic influences on our guests, but I am guessing the noise/sound generated as well from a large scale mine operation. Many of our guests, including myself while guiding clients, regularly fish the waters of Sawbill Bay and Lynxhead Bay as they are an extremely good part of the Floodwates fishery for not only fantastic walleye fishing, but huge smallmouth bass and northern pike. Not many people are going to enjoy fishing where they here blasting, see air and water discharges, and see mining equipment running around.

Our concern as an outfitter in the area, is the loss of some of our groups once they see the detrimental effects a mine operation has on the landscape and environment and may POTENTIALLY not want to re-book cabins with us in the future, in search of a new 'remote wilderness ' area to vacation in.

***95% of our guests regularly fish Marmion Lake and the Floodwaters, as it is by far the biggest and best drive-to fishery anywhere around our camp. They access it both by the main launch North of Atikokan, and many come in from the East end in Upper Seine Bay and Reserve Bay.

Just an estimation if the mine development proceeds, we anticipate losing 3-6 of our regular groups a year at a cost to us of approx. $5-10,000 annually, not to mention extra advertising costs we may have to put forth to try to re-fill any of our lost groups. Has there been any consideration to the tourist outfitters directly regarding this – possibly something like extra funding or paid for advertising of some sort to help re-fill vacant reservations if that occurs with the progression of opening the mine?

-Paragraph 5 states: There may be some perception of negative effects on outdoor tourism and recreation due to construction of a mine project in the area, and associated effects on visual aesthetics. However, these negative perceptions can be mitigated by reinforcing the positive outdoor tourism and recreation reputation of the Socio-economic Environmental LSA.

- What is meant directly by this?? - It does refer to donations ($5000 in 2012) to the Atikokan Bass Classic, which sounds great for tourist camps, and I agree IS a very beneficial function for the town; however, operating as a tourist camp, the ABC doesn't benefit our operations.

In fact, when I get inquiries from some of our groups that either have, or want to fish Marmion Lake, I direct them away from the week of the bass tournament, as many of our guests have complained about all the bass boats running around.

What other mitigations reinforce the positive outdoor tourism and recreation reputation has Osisko researched or contributed too?

* One question I asked at our conversation, what is the projected height of the waste ore piles near Lizard Lake above the current terrain?

8. In summary, we of course realize the economic benefits to all the residents of Atikokan if the mine develops. We realize the environment has to suffer a bit at the cost of progression in some instances. We, however, are concerned about the economic effects on our operations and finances, with our main concern being that we don't lose business we already have spent 11 years building. Have the management of Osisko put forth any thought to aid tourist outfitters such as ourselves, if the procession of the mine shows to have negative effects on our bottom line?

[redacted], Crystal Beach Resort, Atikokan, ON

<personal information removed>

From: Alexandra Drapack
Sent: April 5, 2013 2:35 PM
To: Cathryn Moffett; 'Amy.Liu@ceaa-acee.gc.ca'; 'michelle.whitmore@ontario.ca'; 'Patrick.M.Barnes@ontario.ca'
Subject: Fw: OFAH Response to Osisko Hammond Reef Gold Project
Attachments: OFAH_Response_Osisko.pdf

FYI

From: Shari Sokay [mailto:shari_sokay@ofah.org]
Sent: Friday, April 05, 2013 02:34 PM Eastern Standard Time
To: Alexandra Drapack
Cc: EAASIBgen@ontario.ca <EAASIBgen@ontario.ca>
Subject: OFAH Response to Osisko Hammond Reef Gold Project

Hello Alexandra,

Please find attached a copy of our comments for the **Osisko Hammond Reef Gold Project** submitted by the Ontario Federation of Anglers and Hunters (OFAH).

Yours in Conservation,

Shari Sokay

Land Use Specialist
Ontario Federation of Anglers and Hunters
P.O. Box 2800, 601 Guthrie Drive
Peterborough, ON K9J 8L5
Phone: 705-748-6324 Ext. 268
Fax: 705-748-9577
E-mail: shari_sokay@ofah.org

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

ONTARIO FEDERATION OF ANGLERS & HUNTERS

P.O. Box 2800, 4601 Guthrie Drive, Peterborough, Ontario K9J 8L5
Phone: (705) 748.6324 • Fax: (705) 748.9577 • Visit: www.ofah.org • Email: ofah@ofah.org

Ontario Conservation Centre

OFAH FILE: 339/349A/420/451
April 4, 2013

Alexandra Drapack, Director Sustainable Development
Osisko Hammond Reef Gold
155 University Avenue, Suite 1440
Toronto, Ontario
M5H 3B7

Dear Alexandra:

Subject: Osisko Hammond Reef Gold Project

On behalf of the Ontario Federation of Anglers and Hunters (OFAH), its 100,000 members, subscribers and supporters, and 710 member clubs, we have reviewed the Draft Environmental Impact Statement / Environmental Assessment Report and have provided our questions and comments below.

The location and scale of the proposed development will undoubtedly result in significant impacts to fish and fish habitat. Changing groundwater flows, destroying or altering fish habitat by modifying surface water (draining a waterbody or creating a tailings pond), as well as the discharge of effluent and contaminants (with subsequent accumulation of contaminants in fish) are a few of the major ecological issues associated with mining operations. Developments are often permitted under a blanket statement that there will be "no negative impacts" or "no net loss". However, the reality of post-construction and long-term monitoring often shows that compensation measures are not reflective of pre-construction conditions. Therefore, avoidance must take priority over compensation and mitigation measures.

The OFAH is deeply concerned with the impacts associated with this development. The large scale and location of this development will most certainly result in a significant impact to fish and fish habitat within the region. The project is located within Fisheries Management Zone (FMZ) 5 which has identified Walleye, Northern Pike and Smallmouth Bass as the top three preferred species, and all three of these species have been identified within the project location. FMZ 5 is a popular fishing destination with a staggering $48.4 million spent annually on recreational fishing alone. In addition, a well-known Smallmouth Bass fishing tournament takes place annually in the Marmion Lake, directly adjacent to the proposed development.

The OFAH does not feel that sufficient pre-construction (baseline) information has been collected to accurately determine post-construction impacts. In particular, the potential for an increase in fish tissue contamination has been identified, however the details of the methodology for sampling is appallingly sparse. Without a sound sampling methodology the "results" are essentially meaningless. Therefore, the "baseline" study preformed is sorely lacking in scientific basis and does not provide for any meaningful comparison for post-construction monitoring.

The Ministry of Environment (MOE) regularly conducts fish tissue contaminant testing, and therefore has information available through the *Sport Fish Contaminant Monitoring Program*, including the *"Protocol for the Collection of Sport Fish Samples for Inorganic and Organic Contaminant Analysis"*. The Osisko Draft Environmental Impact Statement / Environmental Assessment Report falls well short of what is recommended in the MOE protocol. The following comparison of the aforementioned protocol versus what was reported by Osisko provides an example of the shortcomings of the baseline data collected:

.....2

1. **Protocol**: Fish communities sampled a) within areas potentially impacted; and b) a reference area separated by a barrier to fish.
   Osisko: Only three sample locations chosen. None of which would qualify as a reference area.
2. **Protocol**: Requires the collection of large fish in addition to forage fish.
   Osisko: No apparent separation between collections. Only one forage fish species noted in collection.
3. **Protocol**: Large fish protocol recommends the collection of 20 individuals (per species and per area impacted) of at least 25-55 cm in size.
   Osisko: Only three areas selected for sampling with a total of 88 individuals sampled. Number of individuals per area/per species ranged from only one to 18, therefore all samples were below the recommended 20 individuals, with only three samples even above 10 individuals. No fish lengths were provided.
4. **Protocol**: Forage fish collection is the preferred method of sampling and requires composite samples (e.g. five to 10 individuals, per sample) of selected young-of-the-year species (typically Yellow Perch) or appropriate cyprinid species with a minimum of five composite samples. ***Therefore, at minimum, 25 individual fish per sample site for a total of no less than 75 individual fish for the three sample sites would be required.***
   Osisko: Of the three sites selected for sampling a single cyprinid (one individual fish) was sampled for two of the sites.

In addition, insufficient detail was provided within the report to determine if other aspects such as sample collection techniques, preservation, and/or tissue size collections were completed properly.

Conclusions

In conclusion, the OFAH does not support the Osisko Hammond Reef Gold project as proposed because of the high potential for impacts to local fish and fish habitat. We do not believe the proposed compensation and mitigation measures will be adequate for the protection of fish, fish habitat and other important recreational fishery values within this area. We are also very concerned that the data collected for fish tissue contaminant analysis is wholly inadequate and cannot be considered sufficient to use as a baseline for subsequent monitoring.

We look forward to receiving a response to our concerns.

Yours in Conservation,
<Original signed by>

Shari Sokay
Land Use Specialist

/ss

cc: Ministry of Environment, Environmental Approvals Branch
OFAH Zone A Executive
OFAH Fisheries Advisory Committee
OFAH Land Use/Access/Trails Committee
Angelo Lombardo, OFAH Executive Director
Dr. Terry Quinney, OFAH Provincial Manager of Fish and Wildlife Services
Greg Farrant, OFAH Manager of Government Affairs and Policy
Matt DeMille, OFAH Assistant Manager of Fish and Wildlife Services

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

Town of Atikokan

Box 1330, 120 Marks Street
Atikokan, Ontario P0T 1C0

Office of the Mayor
807-597-1234 x235
Administration/Accounting
807-597-1234
Community Services
807-597-1234 x232 or x229
Director of Public Works
807-597-1234 x231
Fire/Building
807-597-1234 x228
Office Fax: 807-597-6186
www.atikokan.ca

May 28, 2013

Alexandra Drapack
Director Sustainable Development
Osisko Mining Corporation
155 University Avenue, Suite 1440
Toronto, Ontario
M5H 3B7

Dear Alix

On behalf of Atikokan Town Council I would like to thank you and your team from Osisko for attending the Atikokan Town Council meeting on May 22, 2013 to provide and update on the EA process with the Osisko Hammond Reef Gold project. We were quite impressed with the professional manner that you and your team are dealing with the 700 comments that you received on the draft environmental assessment. This no doubt takes a great deal of time and effort on your part.

We were also pleased that you attended the special spring blessing ceremony with the elders and other First Nations in the area that was put on by Osisko. It no doubt was much appreciated.

In closing Alix, as we have said before, Atikokan is very fortunate to have Osisko in this area and we certainly hope your company can have an operating mine here in the near future.

Yours truly

<Original signed by>

Dennis Brown
Mayor

Cc Atikokan Town Council

OHRG Responses

OSISKO

April 21, 2013

[redacted]

Dear [redacted]

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,
<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

155 University Av., Suite 1440, Toronto, Ont., Canada M5H 3B7
Telephone (416) 363-8653 – Telecopier (416) 363-7579
www.osisko.com

OSISKO

April 21, 2013

[redacted]

Dear [redacted]

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
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Please do not hesitate to contact me if you have any questions.

Regards,
<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

155 University Av., Suite 1440, Toronto, Ont., Canada M5H 3B7
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www.osisko.com

OSISKO

April 21, 2013

Gary McKinnon
Atikokan Economic Development Corporation
214 Main Street West
P.O. Box 218
Atikokan, ON P0T 1C0

Dear Mr. McKinnon,

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,

<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

155 University Av., Suite 1440, Toronto, Ont., Canada M5H 3B7
Telephone (416) 363-8653 – Telecopier (416) 363-7579
www.osisko.com

OSISKO

April 21, 2013

[redacted]

Dear [redacted]

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,
<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

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Telephone (416) 363-8653 – Telecopier (416) 363-7579
www.osisko.com

OSISKO

April 21, 2013

Councillor Larry Fraser
Township of Ignace
34 Highway 17 West
P.O. Box 248
Ignace, ON P0T 1T0

Dear Councillor Fraser,

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,

<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

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OSISKO

April 21, 2013

Councillor Mary Makarenko
Town of Atikokan
120 Marks Street
Box 1330
Atikokan, ON P0T 1C0

Dear Ms. Makarenko,

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,

<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

OSISKO

April 21, 2013

Mayor Dennis Brown
Town of Atikokan
120 Marks Street
Box 1330
Atikokan, ON P0T 1C0

Dear Mayor Brown,

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,
<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

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www.osisko.com

OSISKO

April 21, 2013

Mayor Keith Hobbs
City of Thunder Bay
500 Donald Street East
Thunder Bay, ON P7E 5V3

Dear Mayor Hobbs,

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,
<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

155 University Av., Suite 1440, Toronto, Ont., Canada M5H 3B7
Telephone (416) 363-8653 – Telecopier (416) 363-7579
www.osisko.com

OSISKO

April 21, 2013

Mayor Lee Kennard
Township of Ignace
34 Highway 17 West
P.O. Box 248
Ignace, ON P0T 1T0

Dear Mayor Kennard,

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your resolution in support of the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,
<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

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www.osisko.com

OSISKO

April 21, 2013

Paula Sanders
Atikokan Economic Development Corporation
214 Main Street West
P.O. Box 218
Atikokan, ON P0T 1C0

Dear Ms. Sanders,

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,
<Original signed by>

Alexandra Drapack, MBA, P.Eng
Director Sustainable Development
Osisko Hammond Reef Gold Ltd.

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April 21, 2013

Ron Nelson
Northwestern Ontario Municipal Association
P.O. Box 10308
Thunder Bay, ON P7B 6T8

Dear Mr. Nelson,

Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your letter of support for the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
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June 25, 2013

Mayor Roy Avis
Town of Fort Frances
320 Portage Avenue
Fort Frances, ON P9A 3P9

Dear Mayor Avis,

Sorry for the delay in sending this letter expressing our gratitude. We recently received a copy of your letter dated February 17, 2012. Thank you for reviewing the Osisko Hammond Reef Gold Ltd. (OHRG) Draft EIS/EA Report and providing your resolution in support of the project. We appreciate your on-going participation in the Environmental Assessment process and value your feedback. We have received comments from public stakeholders, Aboriginal groups and the government review team. We are currently working to address these comments and will keep you informed as the planning process moves forward. The report and technical documents are available on the Osisko website at:
http://www.osisko.com/en/properties/hammond-reef/environmental.html

Please do not hesitate to contact me if you have any questions.

Regards,
<Original signed by>

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October 16, 2013

[redacted]

Dear [redacted]

Thank you for your comments on March 31, 2013 regarding the Environmental Assessment submitted by Osisko for the Hammond Reef Gold Project. We understand that you are the owner of Claim FF1508. This claim is located south east of the mine development area, more than 10 km away from the proposed project infrastructure. As such it will not be affected by the Project.

We trust this answers your concerns.

Sincerelv.
<Original signed by>

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development

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November 8, 2013

John Charbonneau and Roy DeCorte
Atikokan Sportsmen's Conservation Club
PO Box 788
Atikokan, ON P0T1C0

Dear John Charbonneau and Roy DeCorte:

Thank you for your comments on April 4, 2013 regarding the Environmental Assessment (EA) submitted by Osisko for the Hammond Reef Gold Project. We are pleased to provide the following clarifications in response to your concerns (original questions marked in bold).

With respect to your specific concerns, we offer the following clarifications.

a. **Presence/absence data are a very qualitative measure of environmental impact from a particular action. While it tells you whether a species that was present before the impact is also present after the impact it does not measure the magnitude of any specific action on the fish species employed as indicators of environmental change.**
Sufficient baseline data on fish communities within all of the lakes potentially impacted by the project was collected in order to assess project effects and develop mitigation and compensation measures as part of the EA. In addition, an Environmental Effects Monitoring (EEM) program will be implemented to collect additional baseline data as a benchmark to evaluate any potential for additional effects during operations.

b. **The results of the *Fish Tissue Analysis* are unacceptable to be considered adequate baseline data for the study area. Higher levels of mercury contamination appear to exist in the walleye of Lizard Lake. However, the average total length and age were not reported for these fish. If the average length and weight were shown in the same table these walleye contaminant averages for Lizard Lake are less shocking.**
The length and weight information of the fish sampled and used in the *Fish Tissue Analysis* was provided to the Atikokan Sportsmen Club during the public comment period of the Draft Environmental Impact Statement/Environmental Assessment (EIS/EA) Report.

c. **Standardizing the total mercury concentration to a total length would create comparable values for interlake comparisons of contaminants according to species. The data that were collected are insufficient and would not provide a baseline for future conditions. The correct approach would involve sampling more than just 8 fish and would require sampling a full range of ages and sizes for each species. As the variability in fish length increases with age, ageing structures should be collected from each individual fish in order to determine how much variability in fish mercury concentrations is associated with age.**
The level of detail that is being requested is not appropriate for an EA. The information was collected and data is available for additional analysis should it be required in the future. The EEM Program will collect additional data on fish tissue contaminants, as well as detailed fish measurements.

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d. **Northern pike and smallmouth bass should be included in the contaminant analysis. These sport fish are frequently consumed and changes in aquatic conditions could present a human health concern. Ignoring certain sport fish species and the human health concerns is not acceptable.**
Data was collected on one of the key sport fish: walleye. Walleye was chosen as a valued ecosystem component (VEC) through consultation with the government review team, the public and Aboriginal groups. We will consider additional species when we look at the EEM Program. Recommendations for consumption of fish are the mandate of MOE and are not part of the requirements for an EA.

e. **The methods used for fish tissue analysis did not outline if the lab facilities chosen were accredited for Total Mercury in biological tissue. Laboratory results of fish tissue analysis were not presented in Appendix 2.IV. This appendix did not exist.**
The laboratory was accredited for Total Mercury in biological tissue. Detailed laboratory results were provided to the Sporstmen's Club during the public comment period on the Draft EIS/EA Report.

f. **As far as using benthos to indicate water quality five samples per site employing a Ponar dredge is not the most efficient way to detect any quantitative change with time. Much more intensive methods are available but of course more expensive and time consuming. These data are the most minimal that could have been presented.**
The use of a Ponar dredge is a method that is widely accepted and approved by regulators.

g. **The Sewage Plant – "will meet MOE guidelines?" What process is used to ensure this outcome?**
The Environmental Compliance Approval (ECA) process will ensure that all sewage discharge meets water quality requirements. An Industrial Sewage ECA will be required prior to any discharge. Operational monitoring and reporting to regulators is also required through the ECA.

h. **The Sewage may meet water quality standards but what about phosphorous and nitrogen loading, resulting in algal blooms?**
Nutrients are considered an important water quality criterion in the accommodation camp discharge. The predicted nutrient mixing concentrations did not result in nutrient concentrations in exceedances of any water quality guidelines with the exception of phosphorus. The exceedances of the PWQO for phosphorus in Sawbill Bay will be addressed through modification to the treatment system prior to release of domestic waste water. The predicted results will be incorporated into the final design criteria for the domestic sewage treatment plant to ensure there are no predicted exceedances of the PWQO. The camp policies will include use of phosphate free soap.

i. **Blasting Effects - somewhat vague as to who will collect the data and what will be the mitigation measures to counteract any blasting effects detected. Also, could you spell out what the exact measures will be to counteract blasting effects- it is very fuzzy at present.**
Osisko will be responsible for monitoring and implementing a mitigation/avoidance plan as required to offset blasting effects. There are a number of measures that can be implemented. Some examples are:
- Use of bubble curtains
- Adjust the magnitude of the blast (reduce hole diameter; deck blasts)
- Adjust the time of blasting to avoid sensitive life cycle stages of fish.

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j. **Cyanide and Copper Levels in Processing Waters- If these remain high how will this be addressed and treated?**

A contingency plan will be developed that includes the treatment of metals, if necessary. The exceedances of the CWQG and PWQO for free cyanide are based on conservative assumptions. Free cyanide was assumed to equal total cyanide concentrations. The actual concentrations of free cyanide are predicted to be less than the values provided. The cyanide detoxification circuit in the processing plant can be modified if necessary to further reduce the cyanide concentration in tailings. In addition, as the feasibility process advanced, the concentration of cyanide exiting the cyanide detoxification circuit was reduced from 20 ppm to 5 ppm. This resulted in lower concentrations in the tailings stream and is reflected in the revised EIS/EA report that will be submitted as the final report.

k. **Closure Phase – Refilling of pits will not cause any direct impacts because stratification will result in water quality of the upper layer to be suitable for discharge! What about the bottom layer? What about the Steep Rock disaster? Are we creating another such scenario? Once the upper layer drains what about the lower layers?**

The pits will not be drained during the closure phase. They will slowly fill with water, allowing stratification and settling to occur naturally. The water at the bottom of the pit will not mix with the water at the top because of depth and small surface area = permanent thermal stratification. No, Osisko will not be creating a scenario similar to Steep Rock. Two key things differentiate this project from the Steep Rock mine. Firstly, the nature of the rock, tailings and process water at Hammond Reef is very different from the Steep Rock Mine. Geochemical testing has shown that there is no potential for acid rock drainage or metal leaching. Secondly, government regulations around closure have changed significantly in the past fifty years. Osisko has the responsibility to create a detailed closure plan which includes making a significant financial commitment before construction can begin.

l. **The statement (pg. 95) that in general the predicted results are the same or marginally greater than average values in Lizard Lake concentrations high mercury and selenium above average. Is this the old bromide "the solution to pollution is dilution?"**

The statement is referring to the magnitude of change to water quality and is not referencing dilution factors. There is no predicted change to mercury or selenium, for the Canadian Water Quality Guidelines (CWQG) based on method detection limit (MDL).

m. **Regarding species habitat, the weightings assigned to various fish species favour sport fish- they ignore for example the Brassy Minnows- this is a very rare species of fish in the Thunder Bay region and North Western Ontario with a very scattered distribution. Given that two populations will be eliminated, serious thought should be given to save and reintroduce this scarce species as part of the rehabilitation plan and to give it a higher ranking in the weightings.**

Osisko did not assign species habitat weightings. A series of meetings regarding fish habitat compensation and no net loss planning have been taking place with government regulators over the past two years. Fish weightings were developed in cooperation with government regulators and all fish species are included in the weightings. In discussion with MNR, it was determined that Brassy Minnow was misidentified and is not found in the study area.

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n. **Another point that disturbs me is to imply that assistance with remediation of Steep Rock could substitute for remediation efforts on the mine site and adjacent habitats. I absolutely oppose this as a cop out- the duty of Osisko is to rehabilitate what they have impaired and not get caught up in the mess at Steep Rock- a totally separate disaster. Help us pay for treatment of toxic Steep Rock effluent and we will look the other way when it is your turn? Come on!**
Throughout our consultation, we heard that many people were concerned about the risks presented by Steep Rock. We included off site fish habitat compensation as an option in an effort to address these comments. However, as the Project planning proceeded, we heard from several groups that they would be opposed to this option. We have therefore refocused our fish habitat compensation plan to focus on on-site options and compensation of Steep Rock is no longer envisioned.

o. **Residual compensation by stocking is another dubious way to evade responsibility for correcting the damage resulting from this operation and does not substitute for rehabilitation.**
Osisko did not develop the compensation measures alone and is in no way trying to be "dubious". A series of meetings regarding fish habitat compensation and no net loss planning have been taking place with government regulators over the past two years. Fish habitat compensation measures were developed in cooperation with government regulators. Stocking fishless lakes is an acceptable compensation method.

p. **Also the claim that effluent would only be a problem in "wet years" with a statistical probability of 1 in 25 does not mean that a wet year can only occur in a 25 year period. This is another evasive maneuver. You could get three wet years in a row and then what? I would want to see a back-up plan should such an event occur.**
Table 6-18 shows no discharge in dry year return periods. It does show discharge in wet year return periods. While it is statistically possible to have several wet years in a row this is very unlikely and would be considered an upset condition. Based on the water quality predictions, excess water under these high flow conditions is expected to be better than existing discharge scenarios, however an operational monitoring program will be in effect and contingencies will be developed to deal with upset conditions that would account for overall water storage on site. Storage areas that could potentially be used under upset conditions may include use of the TMF and/or the open pit if necessary.

q. **Overall we do realize that hard rock mining is a very ecologically destructive process and is financially riskier than for example oil production by conventional means. The ecological baseline data that were collected and are used to evaluate detrimental effects and rehabilitation of such effects are the bare minimum and mostly qualitative rather than quantitative in nature. The latter are needed to measure rehabilitation. Furthermore, how can we be certain the proponent will be able to carry out all the proposed actions of the post-closure monitoring and mitigation projects if it becomes insolvent? Who then pays for this portion of the plan? We have only to look at some entrepreneurs in the forest industry to see examples of this.**
Osisko's approach is to be as pro-active as possible and plan for stable, long-term restoration of the area, in order to support a healthy ecosystem, include the values of the local community, and be an example for mining in the future. Changes to the Ontario Mining Act, made after the Steep Rock Iron mine closed, ensure that mining companies can no longer abandon mines and leave the clean-up to the

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public. The Mining Act now requires that a company develop a plan for the rehabilitation of a mine site, and set aside financial assurance that will guarantee the work is completed. Simply put, before Osisko receives a permit to develop a mine, we will have to provide the Ontario Ministry of Northern Development and Mines (MNDM) a Certified Closure Plan including setting aside the money for mine closure.

Notwithstanding the fact that we believe that the fish tissue sampling undertaken for the EA was sufficient for EA purposes, we have committed to providing capacity support to Seine River First Nation (SRFN) to collect additional fish tissue and benthic samples in the Spring of 2014 in conjunction with an environmental study being undertaken with their community. We would be pleased to share the workplan with you for review and comment. We envision utilizing SRFN personnel in the fieldwork and sharing the data with SRFN, OFAH and the Sportsmen's club.

We trust these responses are satisfactory, and welcome the opportunity to meet with you and further discuss your questions.

Sincerely,

<Original signed by>

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development8

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November 8, 2013

Shari Sokay, Land Use Specialist
Ontario Federation of Anglers and Hunters
PO Box 2800, 4601 Guthrie Drive
Peterborough, ON K9J 8L5

Dear Shari Sokay:

Thank you for your comments on April 4, 2013 regarding the Environmental Assessment (EA) submitted by Osisko for the Hammond Reef Gold Project. We are pleased to provide the following clarifications in response to your concerns (original questions marked in bold).

With respect to your specific concerns, we offer the following clarifications.

a. **Developments are often permitted under a blanket statement that there will be "no negative impacts" or "no net loss". However, the reality of post-construction and long-term monitoring often shows that compensation measures are not reflective of pre-construction conditions. Therefore, avoidance must take priority over compensation and mitigation measures.**We agree that avoidance should take priority over compensation and mitigation. We are proud of our efforts throughout the planning process to minimize environmental impacts through design and siting of Project facilities. We have worked extensively with the Department of Fisheries and Oceans (DFO) and the Ontario Ministry of Natural Resources (MNR) to develop compensation measures that will contribute to an overall improvement in fish habitat in Upper Marmion Lake and through ongoing monitoring and assessment activities, in particular, the future Environmental Effects Monitoring (EEM) Program, we will ensure that our project meets all regulatory requirements

b. **The OFAH is deeply concerned with the impacts associated with this development. The large scale and location of this development will most certainly result in a significant impact to fish and fish habitat within the region.**
We understand that fishing is an important land use in the Project area. We support recreational fishing through our sponsorship of the Atikokan Bass Classic and partnership with the local hatchery. We are confident in our ability to quantify and mitigate impacts to fish and fish habitat throughout the EA process and Not Net Loss Planning process. We anticipate ongoing work and support to enhance benefits to the local recreational fishery that can be realized should the Project move forward. While some fish habitats in waterbodies located within the mine site on the peninsula will be lost, these impacts have been limited to the mine site and valuable habitats within Upper Marmion Lake and Lizard Lake have been protected and enhanced through the off-set plan.

c. **The OFAH does not feel that sufficient pre-construction (baseline) information has been collected to accurately determine post-construction impacts to fish tissue contamination. Without a sound sampling methodology the "results" are essentially meaningless.**
The Project is not anticipated to result in an increase in fish tissue contamination. With respect to mercury contamination, the ore and waste rock does not contain mercury and we will not be adding any mercury during ore processing. We are confident that the fish tissue analysis is

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sufficient to meet the requirements of the EA process and this is further substantiated by the baseline water and sediment quality analyses that were completed. We are committed to ongoing monitoring throughout the Project phases as required by the Environmental Effects Monitoring study that will be initiated which will involve establishing additional baseline contaminant levels in biota, water and sediment, that will continue to be monitored during the operational stage of the mining.

Notwithstanding the fact that we believe that the fish tissue sampling undertaken for the EA was sufficient for EA purposes, we have committed to providing capacity support to Seine River First Nation (SRFN) to collect additional fish tissue and benthic samples in the Spring of 2014 in conjunction with an environmental study being undertaken with their community. We would be pleased to share the workplan with you for review and comment. We envision utilizing SRFN personnel in the fieldwork and sharing the data with SRFN, OFAH and the Sportsmen's club

d. **The Osisko Draft Environmental Impact Statement / Environmental Assessment Report falls well short of what is recommended in the MOE *"Protocol for the Collection of Sport Fish Samples for Inorganic and Organic Contaminant Analysis".***
The purpose of the MOE protocol differs from the purpose of the Hammond Reef Environmental Assessment. Osisko does not strive to develop recommendations for public consumption of fish. The study carried out by Osisko meets the criteria required for the EA and is focused on the specific potential effects of the Project. We are not relying on the information as the only basis of the specific effects of Project operations. The EEM is focused on locations and effects. There is also recent data (2010) from Upper Marmion Lake available through the provincial program and the lake is on the list for future sampling within that program.

e. **Protocol: Fish communities sampled a) within areas potentially impacted; and b) a reference area separated by a barrier to fish**.
Osisko did not choose a reference area because there is no impact area. This is only appropriate once the Project is operational. A reference location is not a specific requirement as part of evaluating project impact as part of the EA. By collecting baseline, pre-development data, we have a basis for comparisons of future conditions. The EEM Program, which will be established prior to mine operation will further establish a baseline condition in terms of water, sediment, benthic invertebrates and fish for both reference locations and areas around the mine. This program will operate during the operational life of the mine with regular reporting to regulatory agencies.

f. **Protocol: Requires the collection of large fish in addition to forage fish.**
Samples were collected from Lizard Lake and Upper Marmion. Individual analyses for all species were completed, except for blacknose shiner, where a composite sample of several individuals was analysed. This information provided sufficient evidence of background conditions, in concert with the water and sediment quality data to characterize the existing environment for the purposes of the EA. The EEM Program will collect additional baseline information that will be used to monitor any future effects of mine operations.

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g. **Protocol: Large fish protocol recommends the collection of 20 individuals (per species and per area impacted) of at least 25-55 cm in size.**
The fish collection guidelines identified are those recommended for assessing the suitability for fish to be consumed and are intended as a guideline to be met on a best effort basis. The areas sampled represent the primary waterbodies potentially impacted by the project, two of which are in Upper Marmion Reservoir. For the EA, we have collected sufficient information on fish tissue contaminant levels to allow for an assessment of any potential for mine related effects. The fish tissue information is used in concert with sediment and water quality results. Results confirmed that there are naturally elevated levels of mercury in fish tissue and further that the mine will not represent a source of mercury contamination to the environment. With respect to mercury contamination, the ore and waste rock does not contain mercury and we will not be adding any mercury during ore processing.

h. **We do not believe the proposed compensation and mitigation measures will be adequate for the protection of fish, fish habitat and other important recreational fishery values within this area. We are also very concerned that the data collected for fish tissue contaminant analysis is wholly inadequate and cannot be considered sufficient to use as a baseline for subsequent monitoring.**
Through our EA we have demonstrated that fish habitat losses and effects on fish populations are limited to headwater waterbodies within the mine site on the peninsula. These habitat losses will be compensated for by creating nursery habitat along the shore of Upper Marmion Lake, by creating several small headwater ponds and by stocking several fishless headwater ponds. The measures we propose to implement will protect the Upper Marmion Lake sports fishery. We will be implementing an EEM Program which will collect additional baseline data and operational data to ensure that mine operations meet environmental regulations and continue to protect fish and fish habitat.

We trust these responses are satisfactory, and welcome the opportunity to meet with you and further discuss your questions.

Sincerely,

<Original signed by>

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development

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Municipal

OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

MEETING NOTES
Atikokan Town Council Meeting
July 30, 2012

	Attendee	Organization
1	Alexandra Drapack	Osisko Hammond Reef Gold
2	Cathryn Moffett	Osisko Hammond Reef Gold
3	Hélène Cartier	Osisko Hammond Reef Gold
4	Erik Johansson	Osisko Hammond Reef Gold
5	Mayor Dennis Brown	Town of Atikokan
6	Marlene Davidson	Town of Atikokan
7	Mary Makarenko	Town of Atikokan
8	Marj Lambkin	Town of Atikokan
9	Jerry Duhamel	Town of Atikokan
10	Bud Dickson	Town of Atikokan/Osisko Hammond Reef Gold
11	Pat Halwachs	Town of Atikokan
12	Nicole Halasz	Town of Atikokan
13	Lonny Maunu	Town of Atikokan
14	Linda Braun	Atikokan Chamber of Commerce
15	Vic Prokopchuk	Atikokan Economic Development Corporation
16	Michael McKinnon	Atikokan Progress

Welcome and Introductions

- Mayor Brown opened the meeting.
- Alix introduced the Osisko Team, focusing on Hélène Cartier since it was her first opportunity to meet the Mayor and Council.
- Hélène thanked the Town for their support of the OHRG project.

Baseline Results

- Town was asked if they know of anyone that uses the wetlands in the area of the Project
- The Town responded that local trappers and hunters may use the wetlands

Q: Species of concern – why is this list different than the list from Steep Rock?
A: Osisko is not aware of the list published for Steep Rock.

Q: Have the baseline studies been completed?
A: No, we are continuing some studies this year (2012).

Q: Will the Project cause mercury levels to become higher during operations, then lowered?
A: What has been collected to date is data to characterize the existing environment. Predictions of different metal levels will be done during the environmental assessment. This step is when we use the existing environment, combined with the information from the engineering design to predict the affect of the Project on the environment. The exception is the results of the baseline geochemistry study, where potential changes are estimated based on laboratory testing.

Q: What is the timeline of the EA Report?
A: We plan to have a draft EA Report completed for internal (Osisko) review by December 2012. We are currently working with the government to coordinate review timelines.

Q: Are you getting cooperation from the government?
A: Yes. We just got approval for the Terms of Reference from the Provincial government. We are now working with our environmental consultant, Golder Associates to complete the EIS/EA Report.

Q: Is the watershed direction southwest?
A: Yes, the hydrology studies have shown that the water flows in a south west direction.

Socio- Economics

- Vic has contacted potential airlines that the Town of Atikokan is interested in developing the air service
- The airlines stated that they needed to forecast requirements
- Vic asked OPG and Osisko what type of services they would need
- Osisko hasn't provided any information to date
- Airport was completely re-surfaced 3 years ago

Project Alternatives

Q: How many people will be at camp?
A: The on-site camp will likely be designed for 1,000 people.

Q: Will this Project be bigger than Red Lake? Their bunkhouse holds 300 people.
A: I am not familiar with the Red Lake project, the current plan is to design the on-site camp for approximately 1,000 people.

Comment: People don't always work where they live. No need to apologize, this is a way of life now.

Comment: Thank you for your commitment to encourage people to live in Atikokan.

Project Layout

Q: Will the transmission line be under water across Sawbill Bay or an overhead line?
A: The line will be overhead.

Q: Is the transmission line 230kV? Most transmission lines in this area are 115kV
A: Yes, the current design plan is for a 230kV transmission line.

Q: Will both pits be excavated at the same time?
A: A full mining sequence (with development and production rates) for the pits will be finalized during the Feasibility Study. There is a possibility that waste rock from the first pit can be placed into the second pit, upon completion of mining in the first pit.

Q: Have you considered building a camp in town?
A: We did consider it but are currently considering the "combination" option of either living in Town and commuting daily or working a shift rotation while living in the on-site camp. We will work with Atikokan to provide housing solutions in town, however we anticipate it may be difficult to recruit the entire workforce without offering an on-site accommodation alternative. When workers are traveling from elsewhere in Canada, the concept of commuting to accommodation on a daily basis is likely to be considered onerous.

Answering Your Questions
Q: Who will pay for the installation of the transmission line?
A: Osisko will be responsible for the costs of building it and will likely have an agreement with Hydro One for maintenance. The transmission line will be built to Hydro One's specifications.

Q: Is 100MW the total electricity needed?
A: Yes, 100MW is the total electricity needed, including the on-site camp alternatives.

Q: Is the estimated operations life based on a certain gold price?
A: Yes, there are economic assumptions with the operations life. There is a cut-off grade that corresponds to an acceptable profit level. If the price of gold increases, the cut-off grade may decrease and more material could be characterized as "ore" rather than waste. Conversely, if the price of gold decreases, the cut-off grade may increase and less material would be characterized as "ore" which would lower the operations life. We can follow up with the engineering and feasibility team to provide further details on assumptions.

Q: The operations life of 11 years is shorter than what was predicted earlier. Will it increase?
A: It's possible that the operations life could be extended at some point, but 11years will likely be the time frame included in the EA/EIS Report for permitting purposes as it corresponds to our "best guest" of the resource according to our current NI43-101.

Q: If the project goes forward, could a worker be employed by Osisko for 15 years if you take into consideration the various phases including construction, operation and closing?
A: It is possible, as some skills are more specialized. The life of mine at this point is 2.5 years for construction, 11 years for operations, and 2 years for decommissioning = 15.5 years.

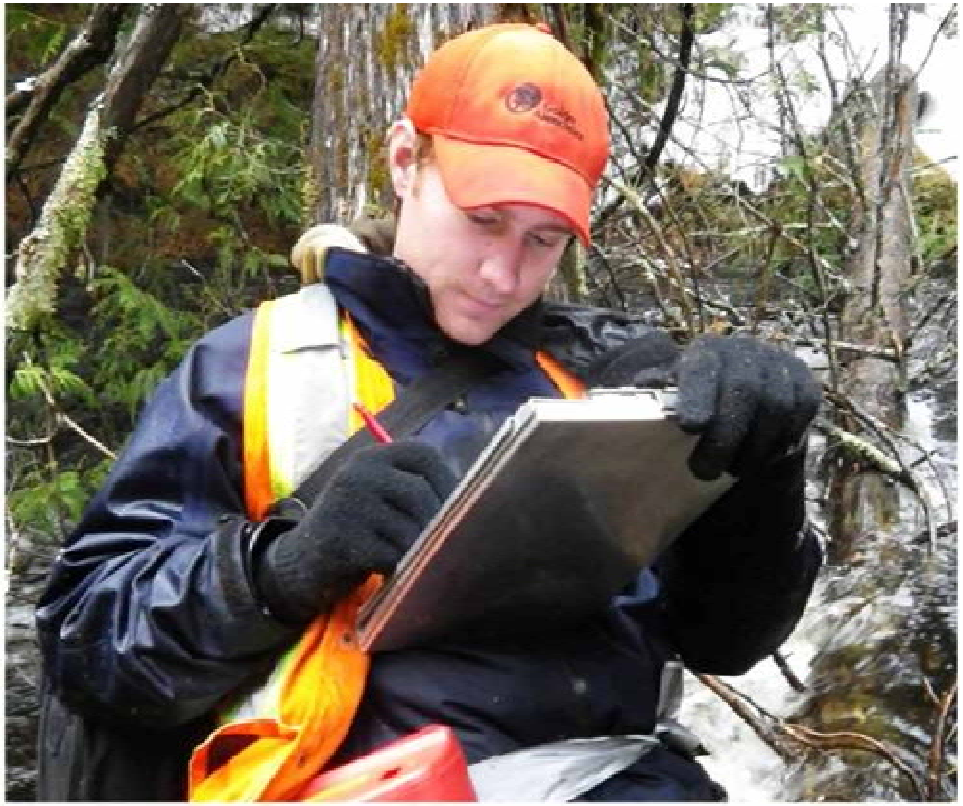
Comment: Osisko will continue to work with the Town on their plans for a new landfill. A second meeting on this topic will take place later this week with public works and interim CAO.

Comment: Osisko would like to offer the Town a site tour combined with a socio-economic workshop on September 17th.

Q: How long will the " Next Steps" take?
A: We expect the permitting stage to begin in 2013. The earliest construction could begin is 2014, with operations beginning in late 2016 or 2017.

Q: How many drillers are currently on site?
A: There are currently 18 drillers and 3 drills on site. The effort will likely be reduced to 2 drills next week.

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HAMMOND REEF GOLD





Golder Associates



HAMMOND REEF

EA Update & Baseline Study Summary

July 30, 2012

PRESENTATION OVERVIEW

- Baseline study results
- Updated Project alternatives
- Updated Project layout
- Questions from last meeting



BASELINE STUDIES

- Water quality
- Hydrology
- Ground water
- Geochemistry
- Air and noise
- Fish and fish habitat
- Vegetation and wildlife
- Socio-economics



WATER QUALITY

- 30 sampling locations, 8 water bodies
- Sampled five times since fall of 2010
- Acidic to near-neutral pH values
- Aluminum and iron concentrations were greater than the criteria
- Sporadic concentrations of total cadmium, chromium, cobalt, copper, lead, nickel, silver and zinc greater than the criteria
- Four total mercury concentrations greater than the criteria
- 20% or less of the observed phenol concentrations were greater than the criteria

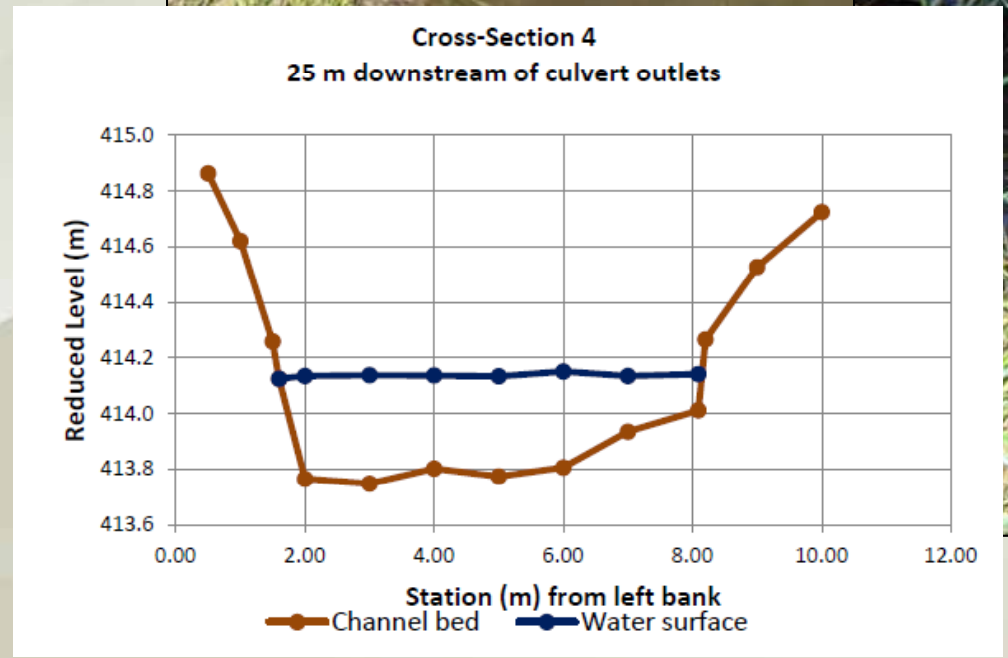




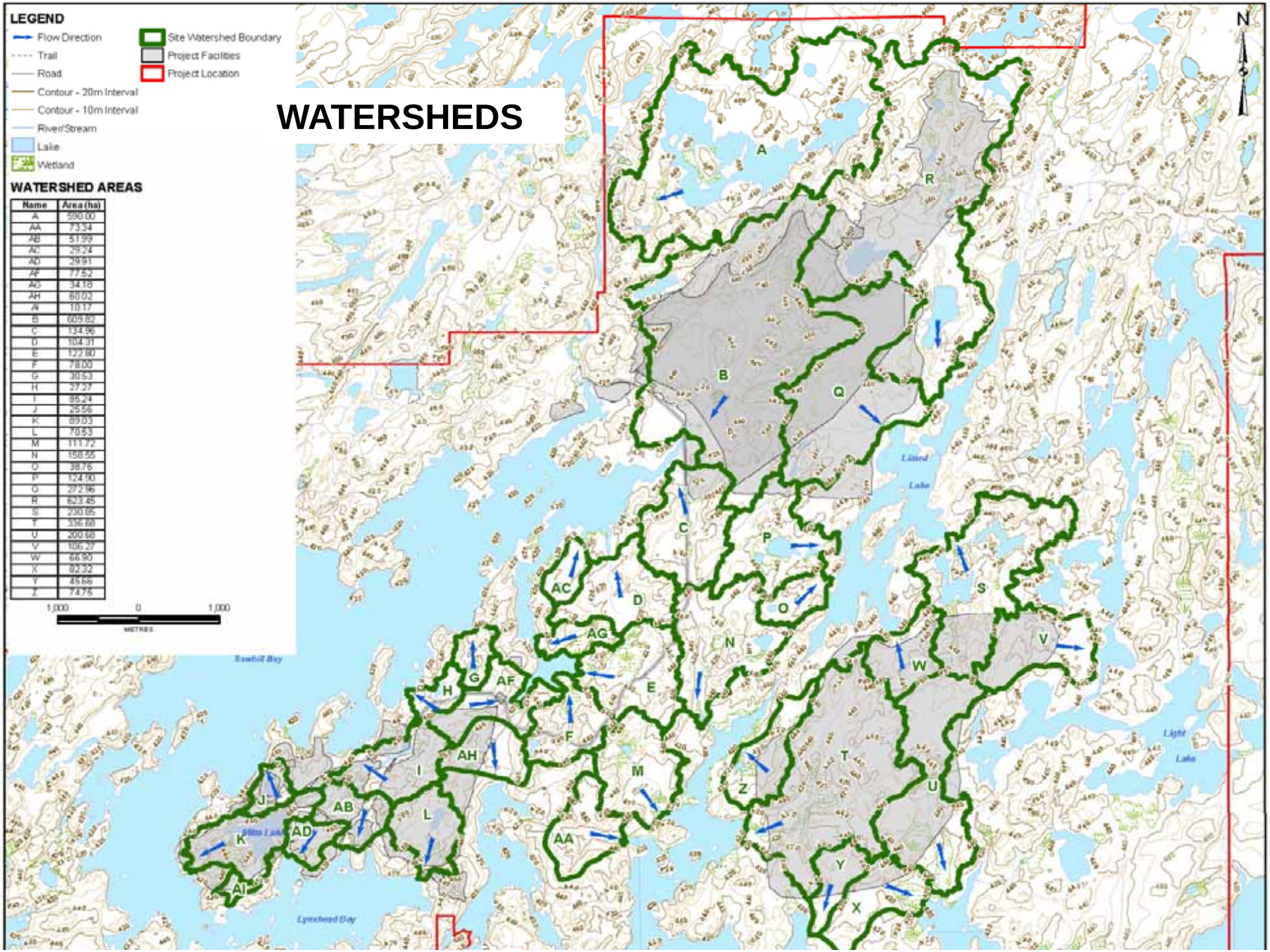
HYDROLOGY


Staff gauge


Measuring cross-section

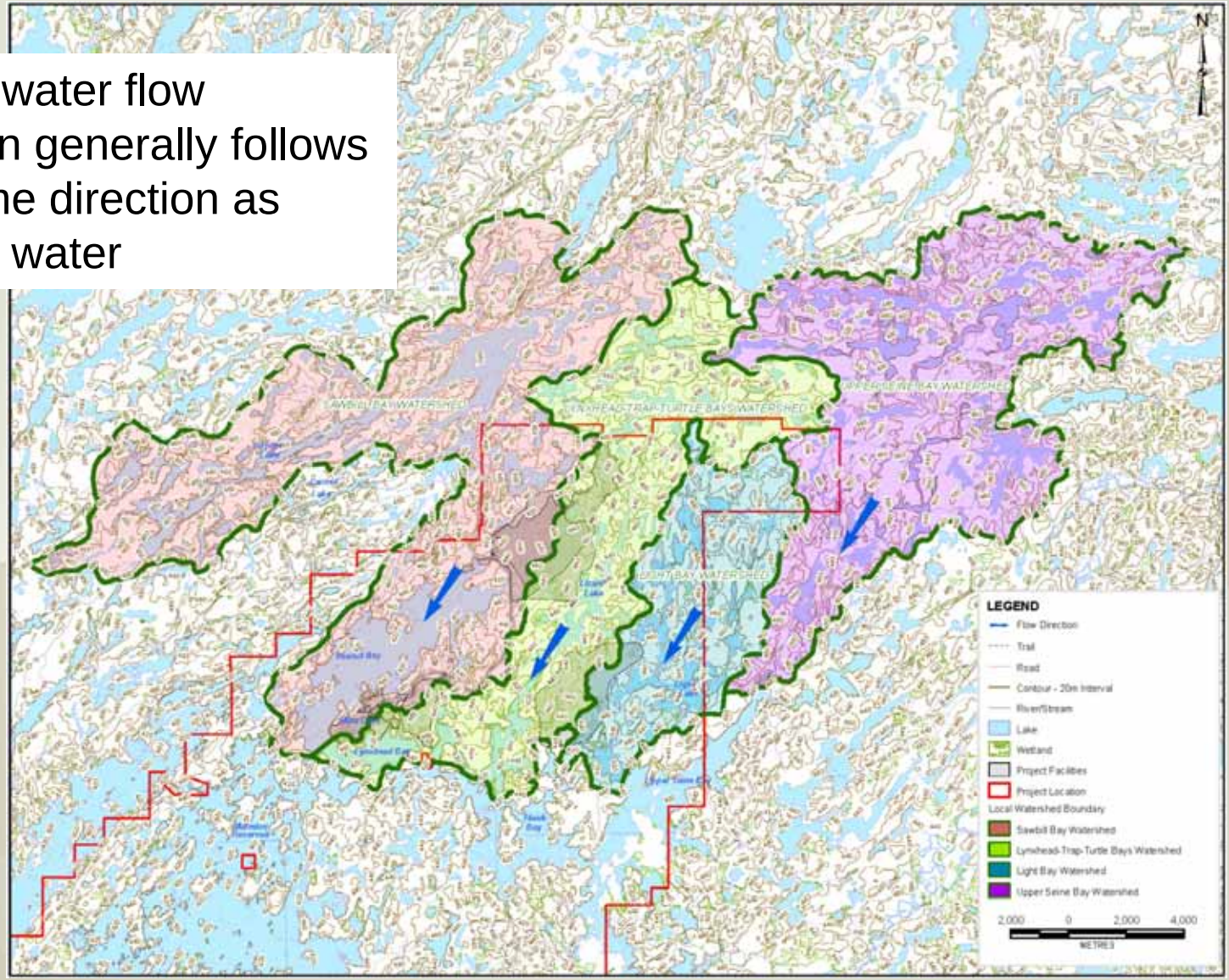


WATERSHEDS


LEGEND
Flow Direction
Trail
Road
Contour - 20m Interval
Contour - 10m Interval
River/Stream
Lake
Wetland
Site Watershed Boundary
Project Facilities
Project Location
WATERSHED AREAS
Name | Area (ha)
A 590.00
AA 73.34
AB 51.99
AC 29.24
AD 29.91
AF 77.52
AG 34.18
AH 60.02
AI 10.17
B 609.82
C 134.96
D 104.31
E 122.80
F 78.00
G 30.53
H 37.27
I 85.24
J 25.56
K 89.03
L 70.53
M 111.72
N 158.55
O 38.76
P 124.90
Q 272.96
R 823.45
S 230.85
T 336.68
U 200.68
V 106.27
W 66.90
X 82.32
Y 45.86
Z 74.75
1,000 0 1,000
METRES
N
Rawhill Bay
Lynxhead Bay
Lake
Light
Lake

GROUNDWATER

Groundwater flow direction generally follows the same direction as surface water



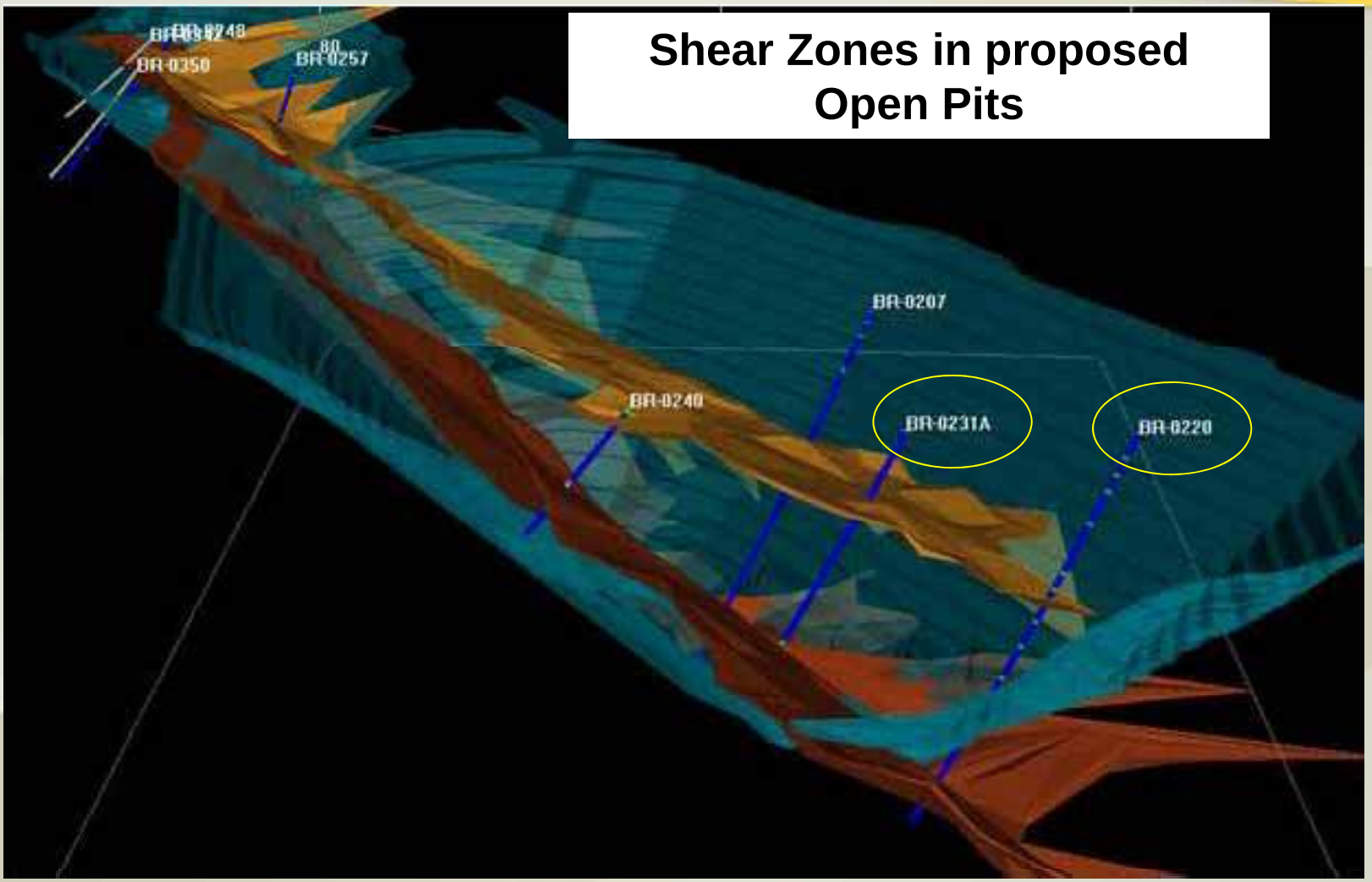
GROUNDWATER

- 13 stations, 9 sampling events since 2010
- Overburden is generally thin and discontinuous
- Bedrock is generally tight and massive indicating limited flow
- Two zones for movement in the bedrock
  - Upper weathered zone = surface to 10 metres below ground
  - Sheer zones = at depth

Groundwater Quality

- Some parameters in the shallow groundwater have levels above criteria
- Deep groundwater generally meets criteria and is similar to shallow and surface water





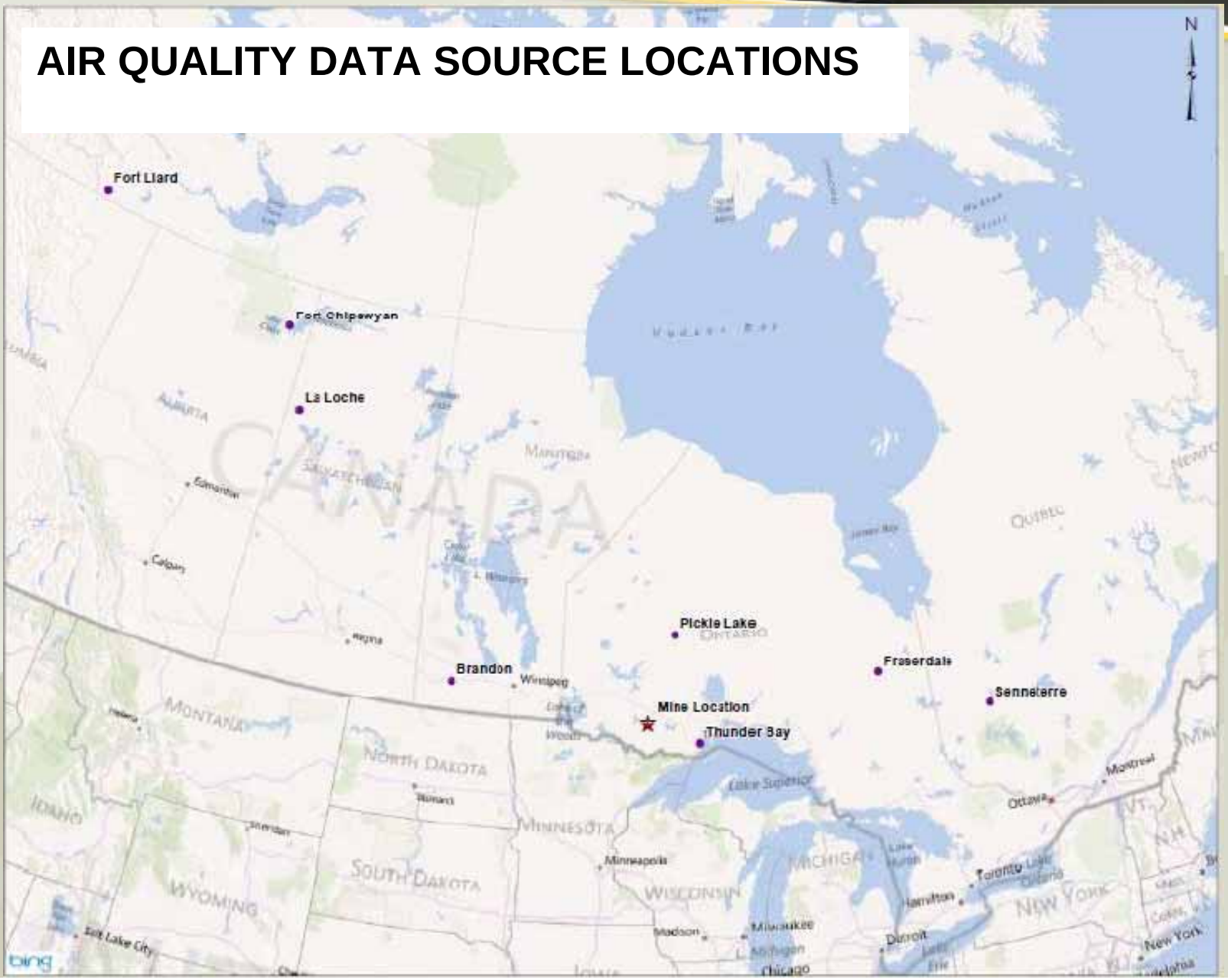
PQ boreholes BR-0220 and BR-0231A intersect upper/lower shears

GEOCHEMISTRY

- Sulphide contents are low and acid generation is not expected
- Metal leaching
  - pH values are neutral to alkaline and higher than the CCME/PWQO/MMER criteria range in short term tests
  - Aluminum concentrations can be greater than criteria in the short-term
  - Copper can be higher than the criteria in the short-term but decreases
  - Cadmium, silver and uranium concentrations can be marginally greater than the criteria



AIR QUALITY DATA SOURCE LOCATIONS

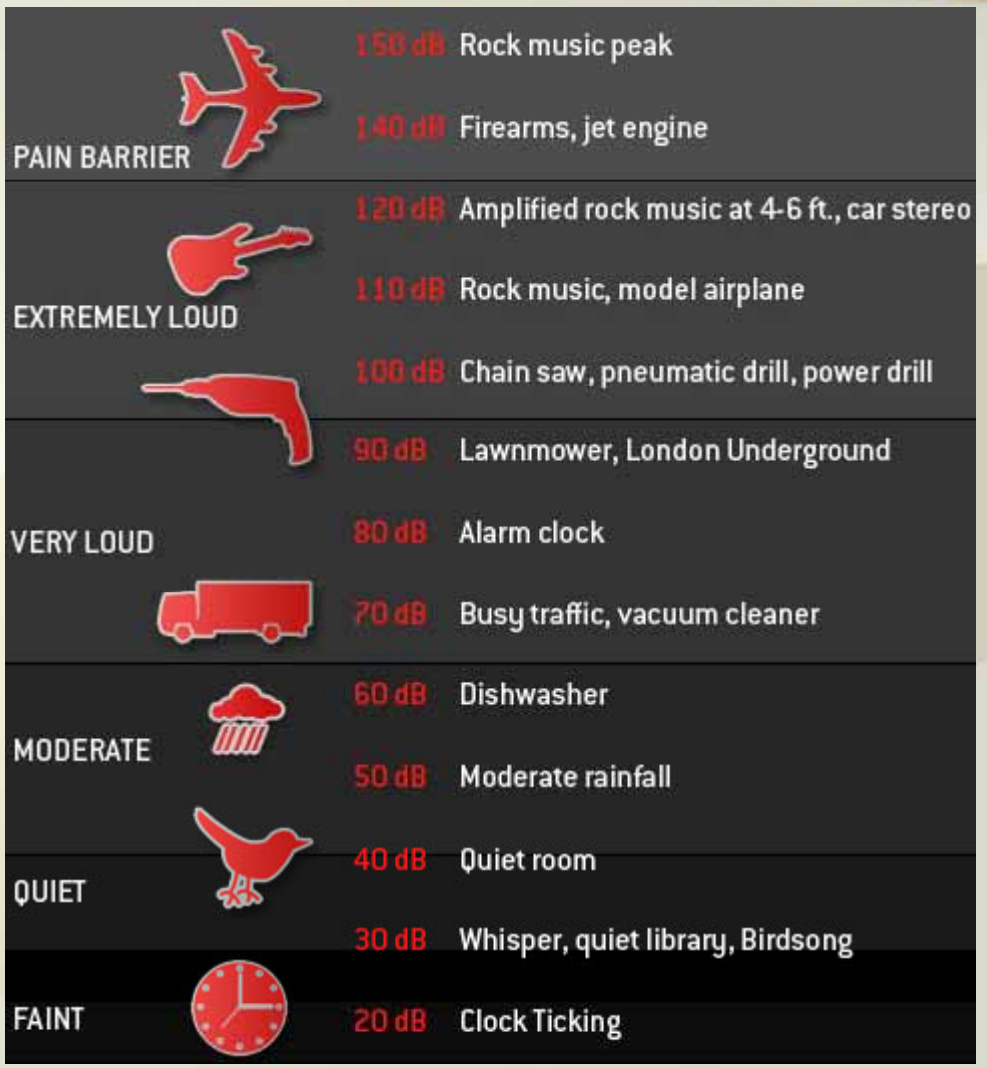


AIR QUALITY

- The air quality assessment will include modelling of the following parameters:
  - Particulate matter (PM);
  - Oxides of nitrogen (NOX) and nitrogen dioxide (NO2);
  - Sulphur dioxide (SO2);
  - Carbon monoxide (CO); and
  - Metals, including antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, tellurium, tin and vanadium.

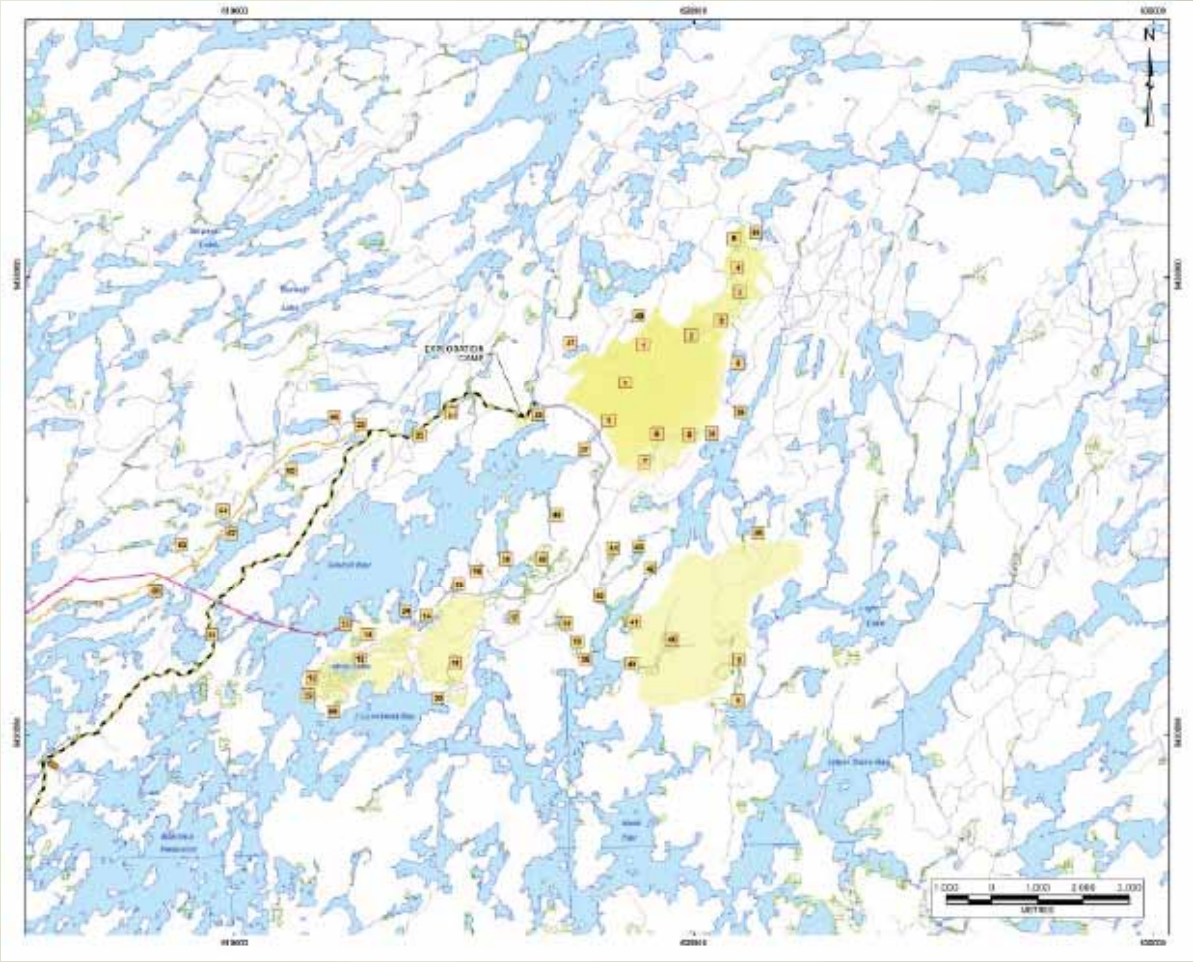
NOISE

- Existing noise levels are assumed to be quiet
  - 40 dBA during daytime hours and 35 dBA during night time hours
- Specific locations such as cabins will be identified as noise receptors
- Noise modelling will include predictions of acoustic levels at receptors



FISH AND FISH HABITAT

- Key potential aquatic receivers were identified as:
  - Sawbill Bay
  - Lynxhead Bay
  - Lizard Lake
  - Turtle Bay
- 55 sample locations called “Areas of Potential Impact” (APIs)
- Includes ponds, streams and small lakes



- Field trips in August and October of 2010 and May, June, August and September of 2011.

FISH SPECIES

- 23 different fish species were captured from the different APIs, including whitefish, mudminnow, northern pike, longnose dace, burbot, stickleback, suckers, sculpins, walleye and perch.



CONCLUSIONS

- No coldwater fish species or waterbodies
- Watercourses are generally low gradient, highly influenced by beaver dams
- Flow in sections of many water courses is seasonal or subsurface and highly variable
- Lower portions of some tributaries are accessible to fish from major receivers



VEGETATION AND WILDLIFE

Terrestrial biology field work has included:

- Bird surveys
- Amphibian habitat inventory
- Turtle basking and nesting surveys
- Vegetation community surveys
- Wild rice surveys



- Vegetation communities are coniferous and mixed forest communities interspersed with fens, marshes, swamps, small lakes and watercourses
- The bird community survey results are typical for the habitats that occur in the region
- All mammal species are considered to be typical in the region



VEGETATION AND WILDLIFE

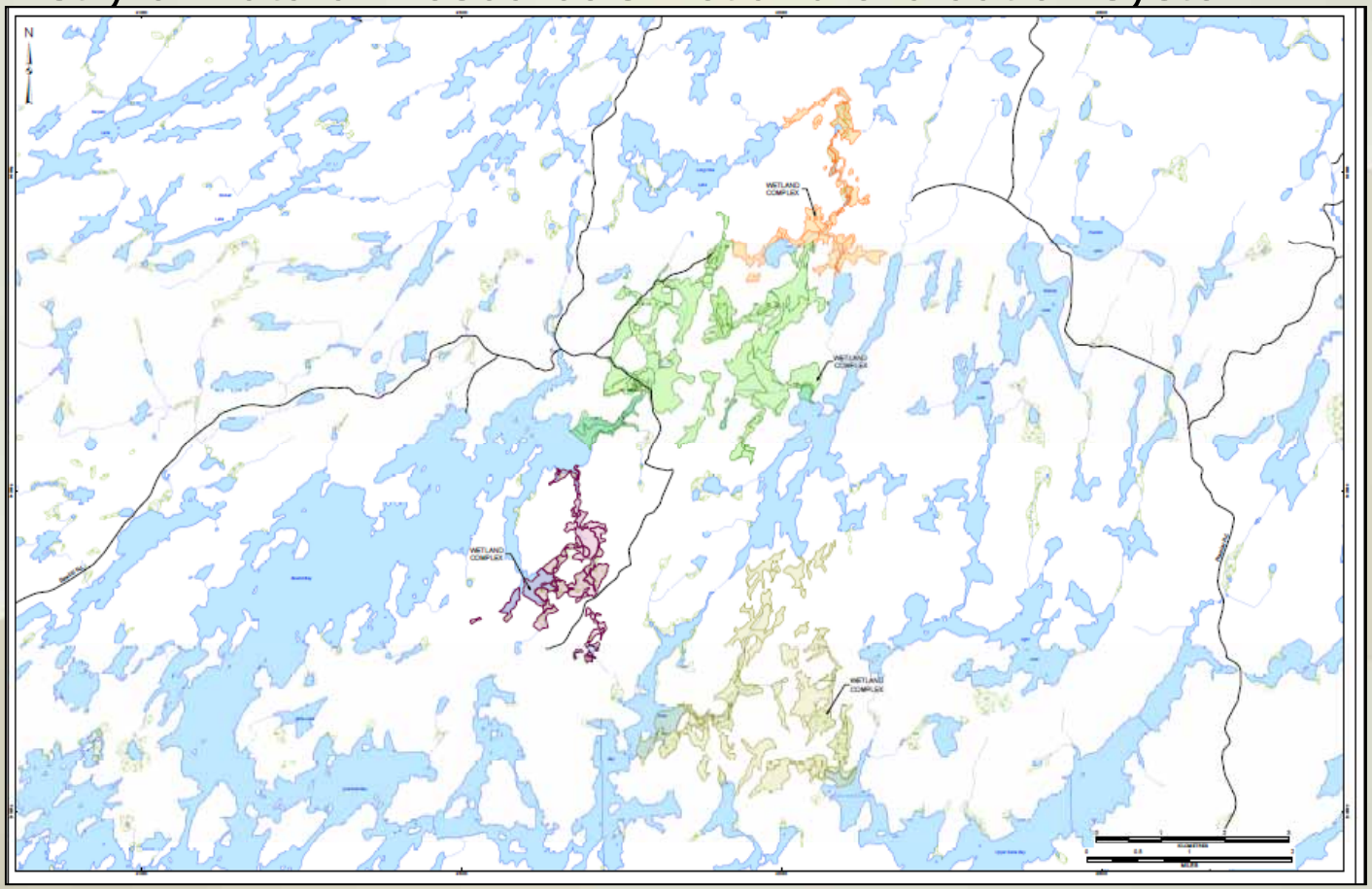
- Three bird and one reptile species of special concern are found in the Project area (Canada warbler, Common nighthawk, Bald eagle, and Common Snapping turtle)
- One provincially rare plant species is found in the Project area (Assiniboin sedge)
- One culturally important plant is found in the Project area (Wild rice)





WETLAND EVALUATION

Four wetland complexes have been evaluated using the Ministry of Natural Resource's wetland evaluation system.



Do you know of anyone who uses these wetlands?

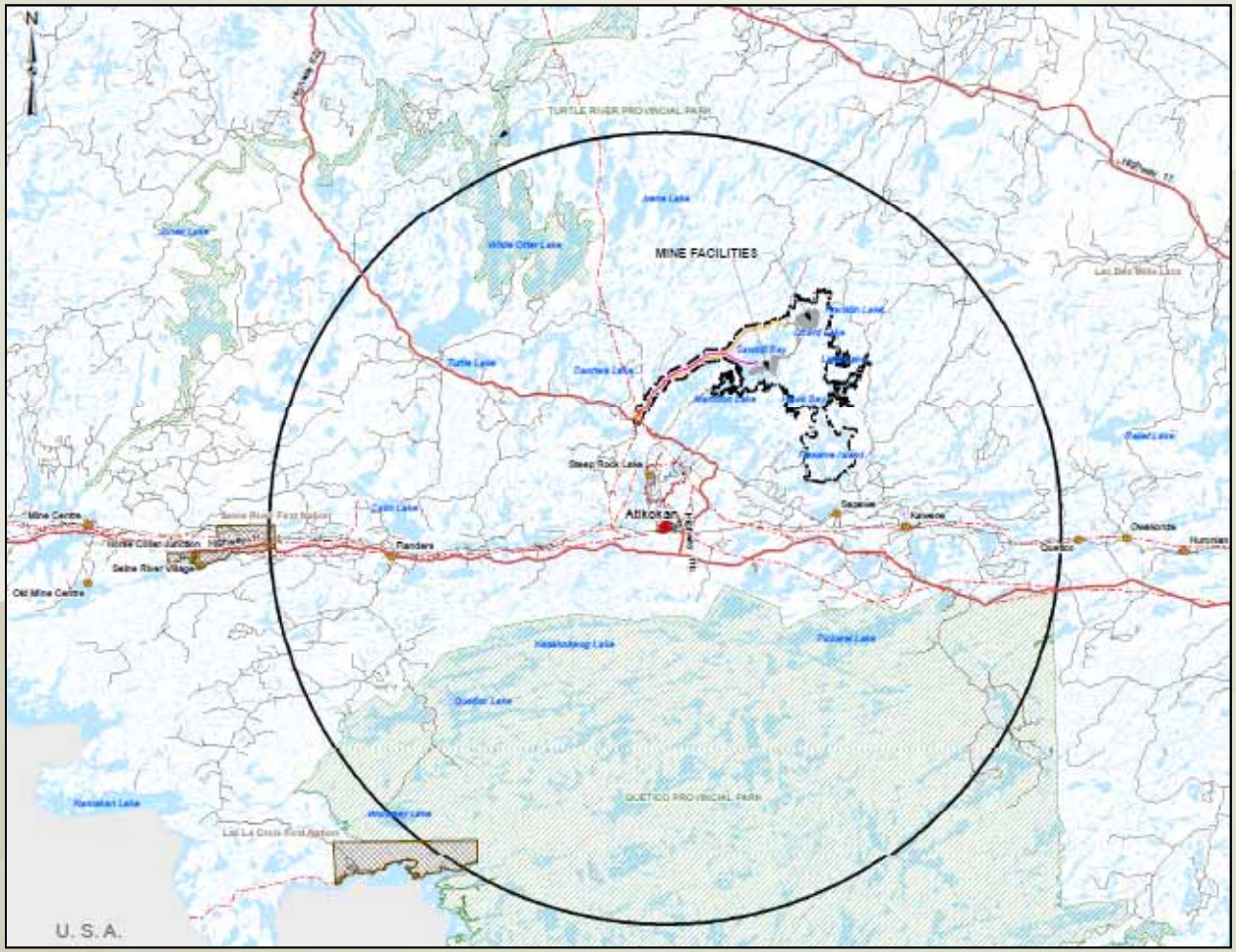
Socio-Economics

Regional Study Area



Socio-Economics

Local Study Area



Population and Demographics

- Declining population in Atikokan and Region
- Low mobility in Atikokan
- Percentage of children and 20-49 cohort lower than provincial average
- 25-34 year olds predominantly female; 50-59 cohort predominately male
- High dependency ratio



Economics

- Higher proportion of employment in services compared with decline in manufacturing, construction and resource based industries
- Non-service employment dominated by males
- High unemployment rate
- Median income marginally lower than provincial average
- Below provincial average levels of post-secondary education
- Potential for resource based projects to stabilize regional and local economies
- Thunder Bay anticipated to be major regional beneficiary of development
- Few businesses in Atikokan currently equipped to support mining development

Public Services and Infrastructure

- Protection and Emergency Services may have additional capacity
- Atikokan is designated as underserviced for doctors
- Hospital is scheduled for expansion and improvements
- Day care and social housing currently have additional capacity
- Schools have additional capacity
- Limited post-secondary education available in Atikokan through Contact North
- Existing population may not support cost of maintaining and improving recreational facilities
- Existing population may not support cost of maintaining and improving water and wastewater facilities
- New landfill site planned
- Existing electricity and natural gas has additional capacity

Housing and Transportation

- High home ownership and occupancy
- Shortage of rental and apartment units
- Low housing prices compared with region and province
- Existing housing stock is old
- Building lots are available for new housing

- Atikokan is well connected to provincial highway and rail networks; traffic study will assess adequacy of local road network
- Thunder Bay is the hub for air transport: the local air network is poorly developed

PROJECT ALTERNATIVES

Project Alternatives

The federal & provincial permitting processes require the consideration and evaluation of alternatives:

1. Alternatives to the Project
   - o The Project vs. “Do Nothing”
2. Alternative Methods for the Project
   - o Evaluation of benefits and drawbacks
   - o Some methods have been screened out (shown in red)
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Project Alternatives

Alternatives to the Project

The "do nothing" alternative will be used as a benchmark to help determine:

- The extent to which the alternatives address the opportunity
- The benefits of proceeding with the Project

Alternative Methods for the Project

- **Mine development**
  - Open pit mining – drain Mitta Lake
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  - Use of a synthetic cyanide destruction circuit
  - Use of natural cyanide destruction
  - Off site processing facility
  - Non-cyanide processing methods

Project Alternatives

Alternative Methods for the Project (continued)

- **Tailings Management**
  - Thickened tailings
  - Conventional tailings
  - Tailings location
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  - No installation of liner
  - Hogarth Pit
  - Lizard Lake
  - Northeast location
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  - Align transmission line wtih existing road (Raft Lake or Sawbill Hardtack)
  - New transmission line alignment for shorter distance
  - Buy power from provincial grid
  - Use of natural gas
  - On site diesel generators
  - On site power generation

Project Alternatives

Alternative Methods for the Project (continued)

- **Water Supply**
  - Discharge to Sawbill Bay
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  - Source from Turtle Bay
  - Source from Hogarth Pit
  - Source from Marmion Basin
  - No recycling of water
  - Recycle as much waster as possible
- **Waste Rock**
  - Waste rock location
  - Recycling and/or re-purposing of waste rock by third party

Project Alternatives

Alternative Methods for the Project (continued)

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  - On site landfill
  - Off site landfill
- **Sewage treatment**
  - On site treatment
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- **Support facilities**
  - On site worker camp
  - Worker accommodation in Town
  - Combination --- on-site worker camp and commuters from Town
- **Access road**
  - Widening of Sawbill road
  - Widening of Raft Lake road

Why consider an on site camp?

- Estimated operations workforce of 500 people
- Small local population to draw from
- Skilled workforce will likely require recruiting workers from across Canada
  - Numerous mining projects starting and will require workers at the same time (demand for skilled workers is high)
- Commuting time may be considered a draw back to potential employees
- Paid food and accommodation is a benefit to young workers

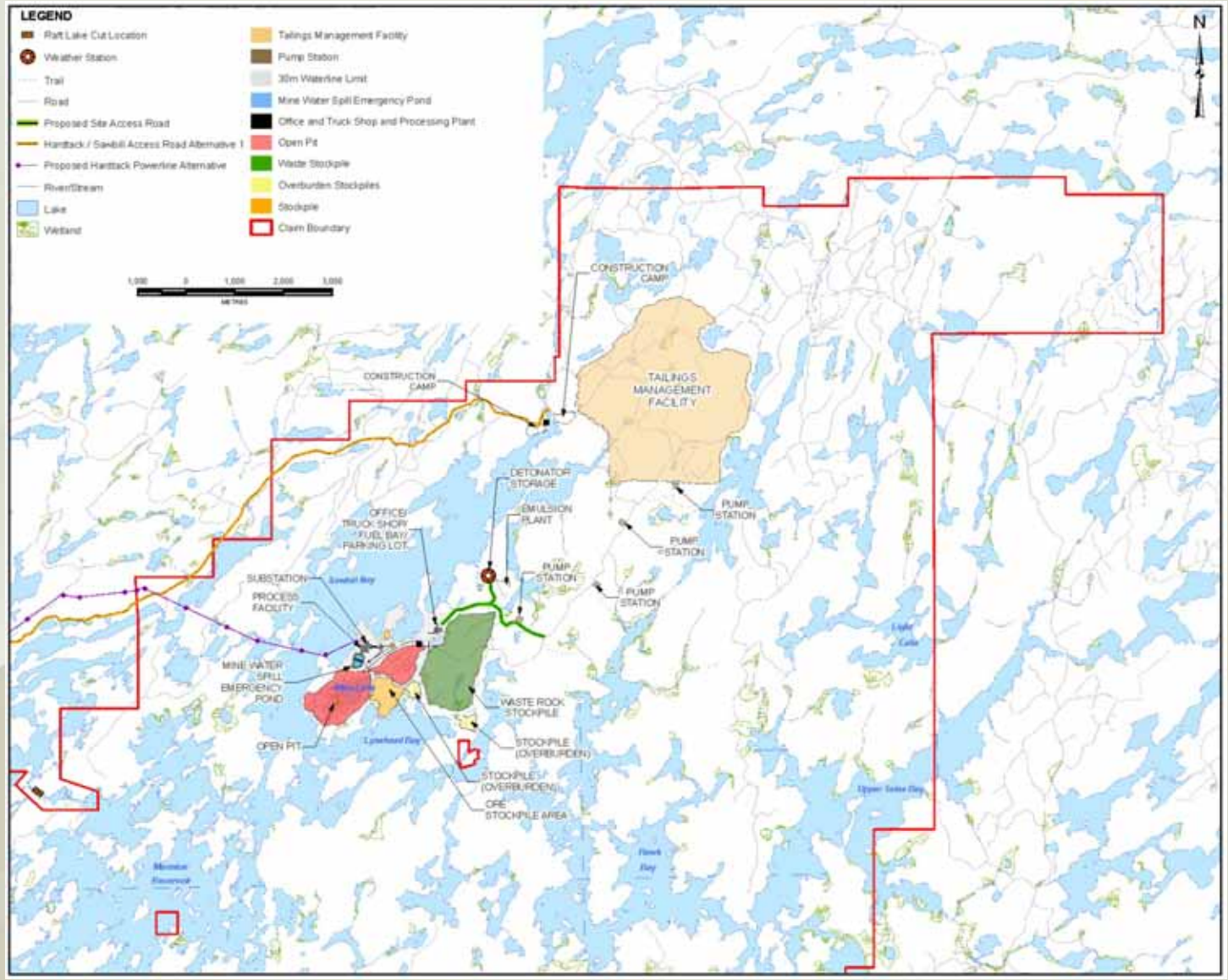
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Osisko's commitment

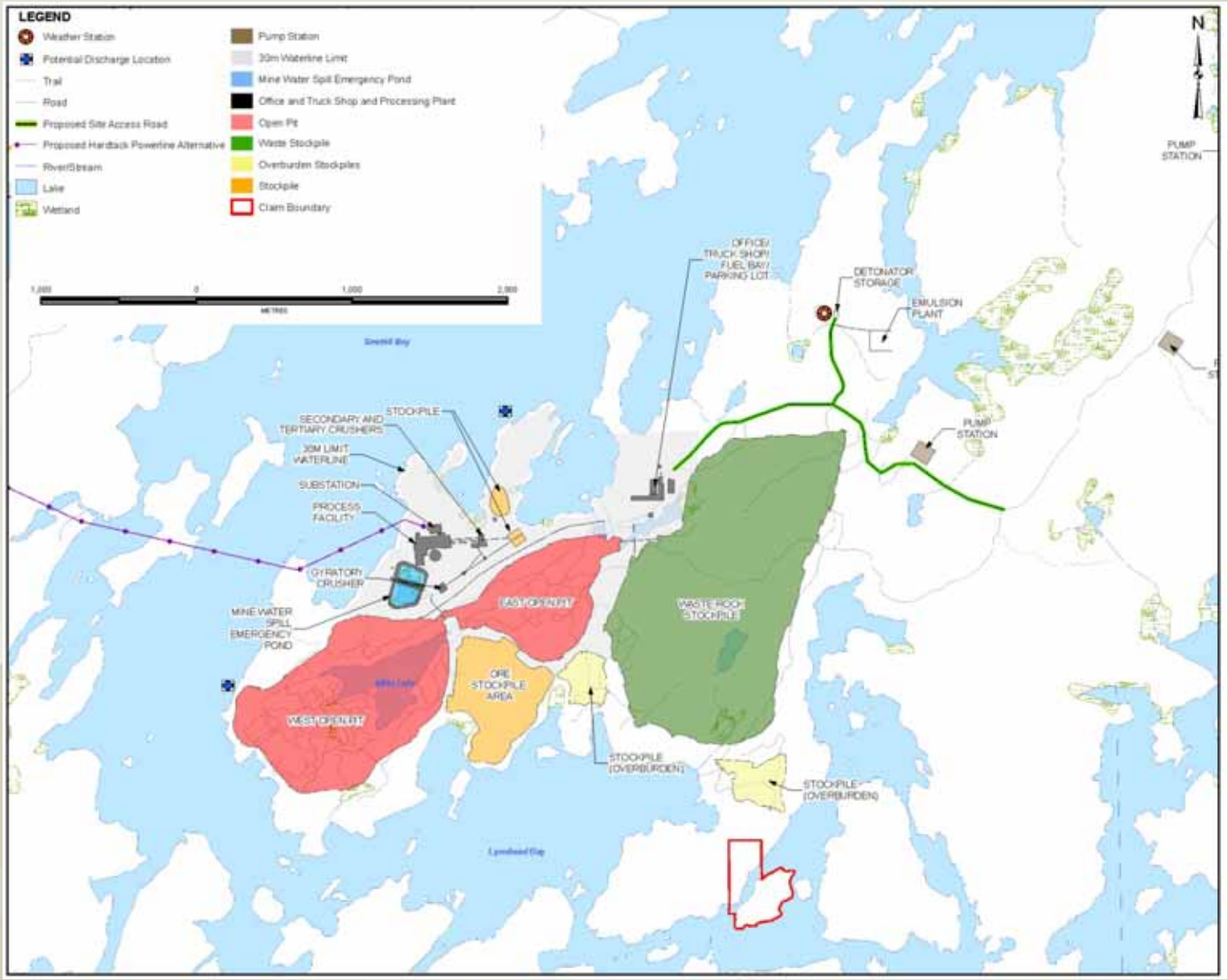
- We understand the importance of encouraging employees to reside in Atikokan.
- In Malartic, 50% of the workforce is comprised of residents of Malartic.
- Osisko policies will favour hiring of local residents, providing they meet the qualifications for the role.
- Osisko will encourage employees to reside in Atikokan.

REVISED PROJECT LAYOUT

Site Layout (2012)

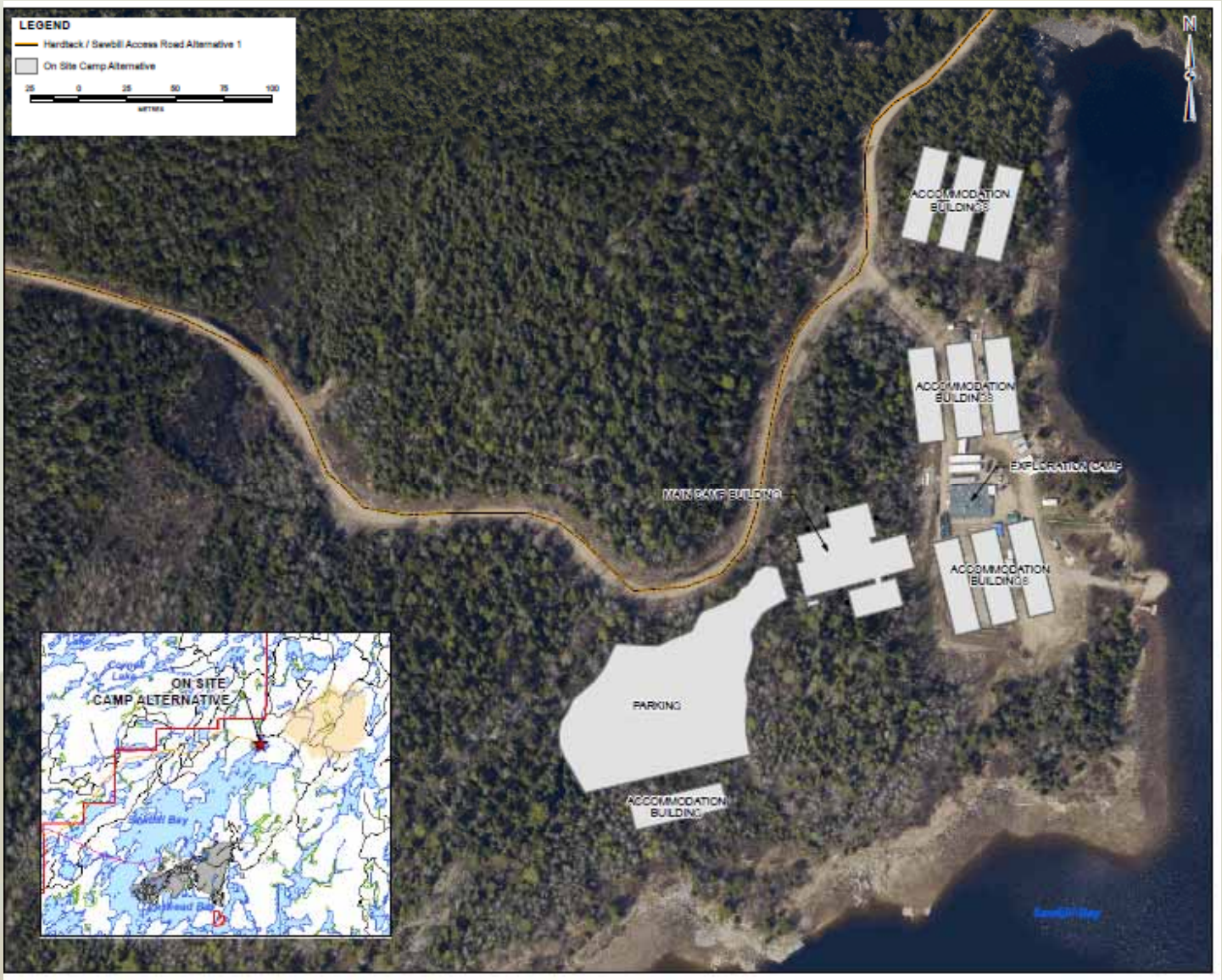


Close-up – Site Layout (2012)



OSISKO
A Fresh Outlook on Mining

Camp Layout (2012)



ANSWERING YOUR QUESTIONS

Questions from last meeting

- Electrical use
- Setbacks from Marmion Reservoir
- Project Details
- Closure Planning
- Hammond Reef site tour



Electricity at Hammond Reef

What is the price point for power?

We are currently using $0.062 / kWh in our Feasibility study. We are working with the Ontario Mining Association to determine our eligibility for the Province's Industrial Electricity Incentive. Further discussions will happen when the Feasibility study has been completed.

Will Osisko consider natural gas?

Yes, we have begun discussions with Union Gas to understand if this is a viable alternative to use for PART of the energy required (specifically heating - potentially approx. 15 MW of 100 MW).

Setback from Marmion Reservoir

- Initial work to establish appropriate setback distances is underway

- The setback distance has been set at 30m and will be measured from the maximum water level from the licence of occupation for the Raft Lake Dam (i.e., 416.05 masl).

- Setback distances will consider:
  - Protection of fish habitat
  - Protection of natural shoreline features

- The edge of the open pit will at a minimum observe this setback and will often be greater where necessary due to pit geometry or pit slope stability considerations.

Project Details

- **What will the life of the mine be?**
  - Construction: 30 months
  - Operations: 11 years
  - Closure: 2 years

- **What are Osisko's plans for a landfill?**
  - Osisko plans to use the Atikokan landfill
  - We will work with the Town to help new landfill move forward
  - How can we help?

Closure Planning

- **What is the amount of money that OHRG will have to put down?**
  - The amount of money depends on the closure plan
  - Closure planning has not yet officially begun at Hammond Reef

- **What did Malartic deposit for closure?**
  - Quebec law requires a 70% financial guarantee
  - Osisko has agreed to cover 100% of the estimated costs
  - Total estimated cost is $46.4 million for rehabilitating the Canadian Malartic
  - On October 12, 2011, Osisko deposited the amount of $22.1 million
  - Two additional payments of $11.61 million each June 2012 and 2013
  - Closure plan and closure cost estimates are regularly updated

Next Steps: Hammond Reef Site Tour

- Combine site tour with socio-economic workshop
- Date to be determined:
  - August 17?
  - Week of September 17?



NEXT STEPS

- Finalize Engineering and Feasibility Study
- Assessment of potential effects
- Publish Environmental Assessment (EA) Report
- Obtain permitting
- On-going consultation and information sharing with:
  - Aboriginal partners;
  - Government; and
  - Public



Thank you for your time and for sharing your thoughts!

OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

MEETING NOTES
TOWN OF IGNACE MEETING
SEPTEMBER 19 2012

Attendees:

	Attendee	Organization
1	Lee Kenard	Mayor, Town of Ignace
2	Chicki Pesola	Councillor, Town of Ignace
3	Doug Pronger	Economic Development Officer, Town of Ignace
4	Erik Johansson	Osisko Hammond Reef Gold
5	Alexandra Drapack	Osisko Hammond Reef Gold
6	Cathryn Moffett	Osisko Hammond Reef Gold

Meeting Purpose:
The Town of Ignace contacted Osisko and requested a meeting to learn more about the Hammond Reef Gold Project. Osisko met with the Town of Ignace to provide a Project overview presentation and answer questions from the Town of Ignace.

1. Project Overview Video
Q: Don't you have to decide where the tailings go before you do the Environmental Assessment?
A: No, the environmental assessment is planning process that will help Osisko determine the best alternative methods to carry out the Project. The Project Description and Terms of Reference proposed 3 alternative locations for the Tailings Management Facility.

2. Project Details Presentation (attached)
Q: Will Osisko be using the Atikokan airport to fly workers in and out?
A: Osisko is currently working with the Town of Atikokan to determine the capacity of the local airport and what level of service Osisko will require. The Human Resources group at Osisko will need to determine the shift rotation schedule and whether they plan to fly the workers to the area or bus them from a nearby hub like Thunder Bay.

Q: What's the timeline for the feasibility study?
A: Osisko plans to complete a draft feasibility study by the end of 2012.

- Our main reason for being here is to see what we can do to benefit both of us.
- We can be a bedroom community for the Project
- We have affordable housing, we want potential workers to know about Ignace.

Q: Can we look at the stats that you have gathered for Atikokan? That could be beneficial to us.

A: Yes, the socio-economic baseline report for the Project will be made publicly available at the beginning of 2013 as part of the EA/EIS report submission. You are on the community distribution list and will hear about the submission of the EA/EIS report.

Q: Your EA started in 2011 and it's a two year process. Are you winding that up now?
A: We have completed the majority of our field studies and are currently in the reporting and assessment stage. We plan to have a draft EA Report for internal review complete in December 2012.

Q: Are you involved in any initiatives to help First Nations upgrade their skills?
A: We are working closely with our Aboriginal partners to determine potential jobs and economic opportunities, however we are not actively participating in any job training programs at this time since the Project is still in the early planning stages.

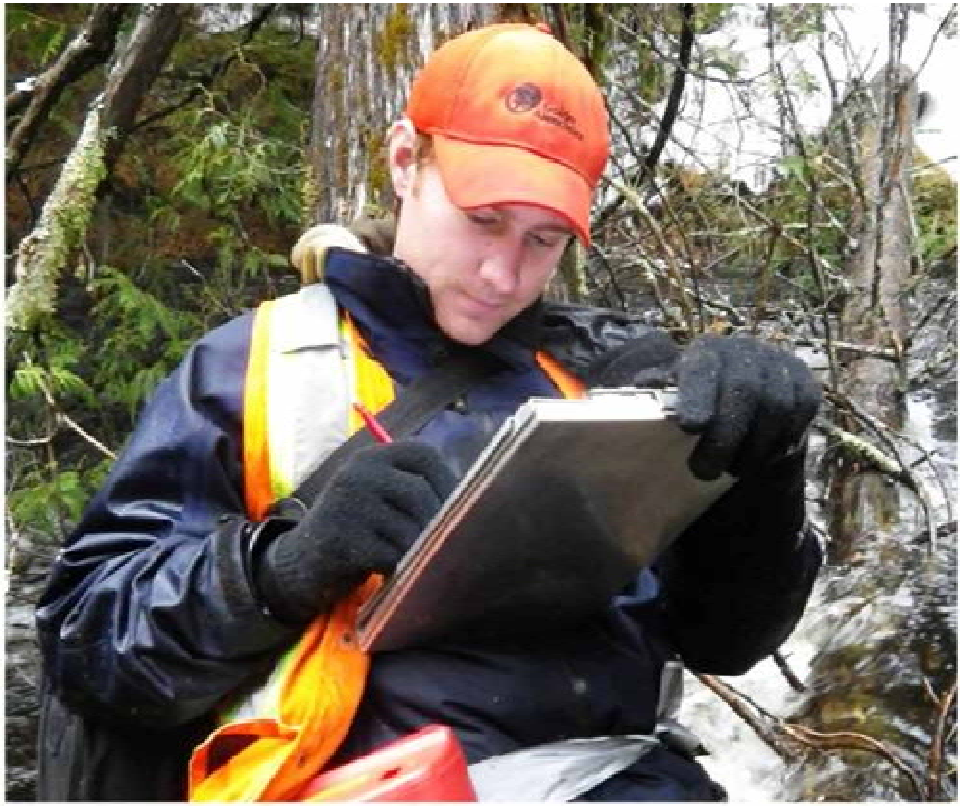
Q: Is the grade at Malartic the same as Hammond Reef?
A: The grade at Malartic is approximately one gram per tonne, whereas the grade at Hammond Reef is a bit lower at 0.62 grams per tonne.

Q: How far is Hammond from Atikokan?
A: The Hammond Reef exploration camp is approximately 23km from Atikokan "as the crow flies" and approximately 40km away by road.

Q: Can you provide us with a list of goods and services that will be required for the Project?
A: Yes, we are currently working on developing such a list and will provide you with the information when it becomes available.

Q: Does Atikokan have existing services that they provide to mining companies?
A: Our understanding is that the existing services available in Atikokan are minimal and include welding and some heavy equipment distribution.

OSISKO
HAMMOND REEF GOLD







HAMMOND REEF

EA Update & Baseline Study Summary

September 2012

PRESENTATION OVERVIEW

- Project Components and Updated Project layout
- Updated Project alternatives
- Baseline study results
- Next Steps



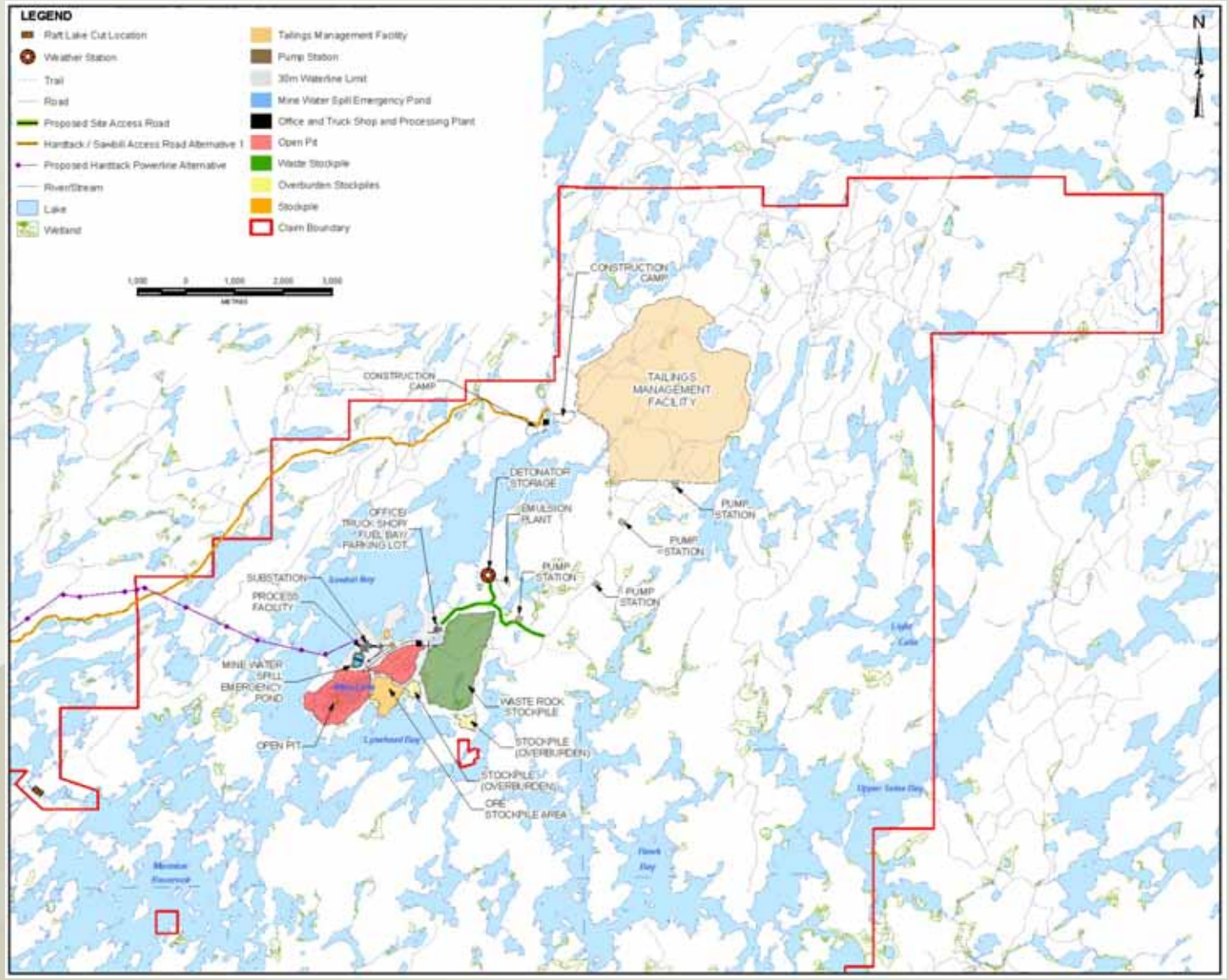
PROJECT COMPONENTS AND PROJECT LAYOUT

Project Components

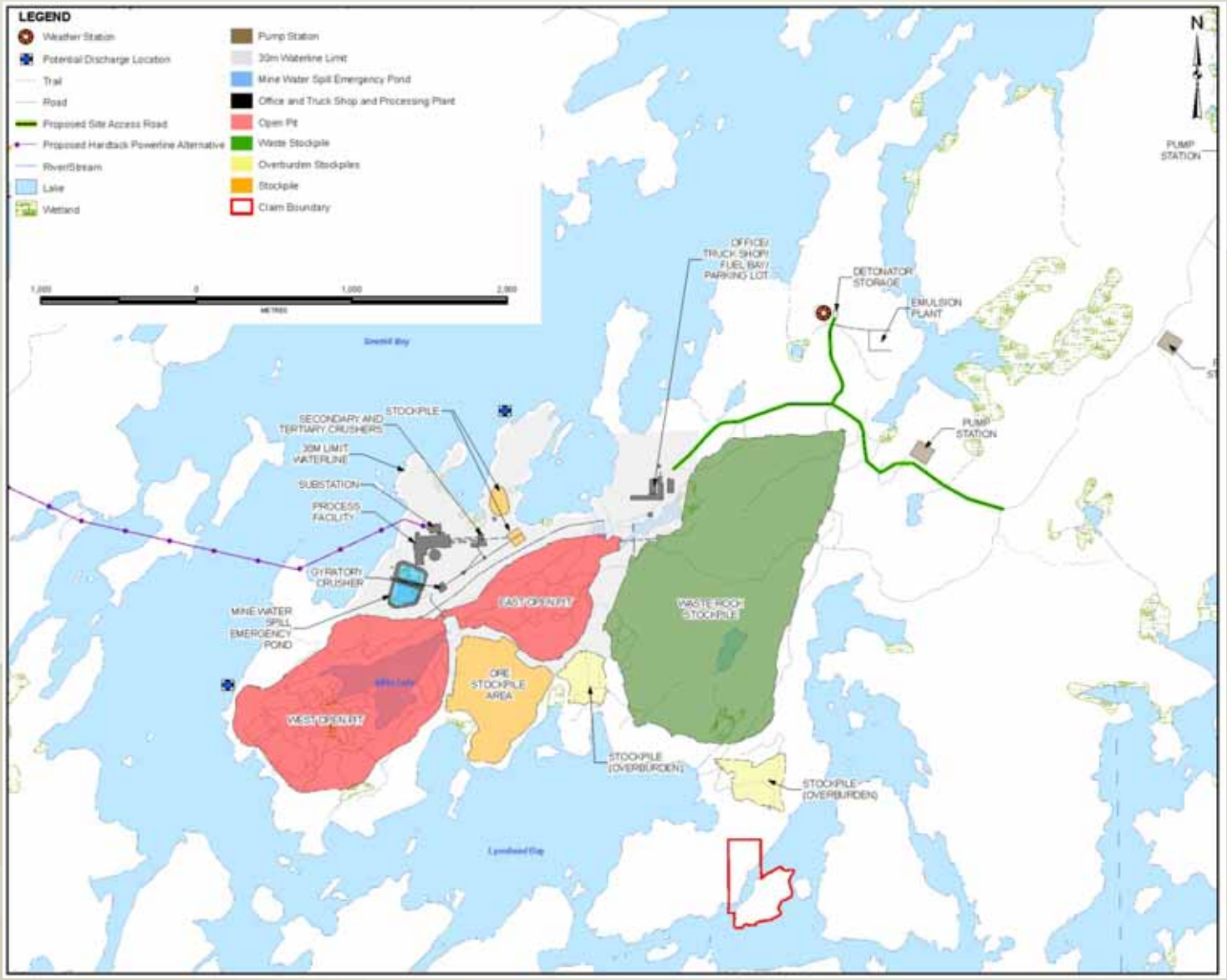
The Project consists of several major components that are associated with open pit gold mining including:

- An open pit mine with 2 pits, a waste rock stockpile and overburden stockpiles;
- An Ore Processing Facility and ore stockpiles;
- A Tailings Management Facility;
- An Access Road;.
- A Transmission Line; and
- On-site worker accommodations.

Site Layout (2012)



Close-up – Site Layout (2012)



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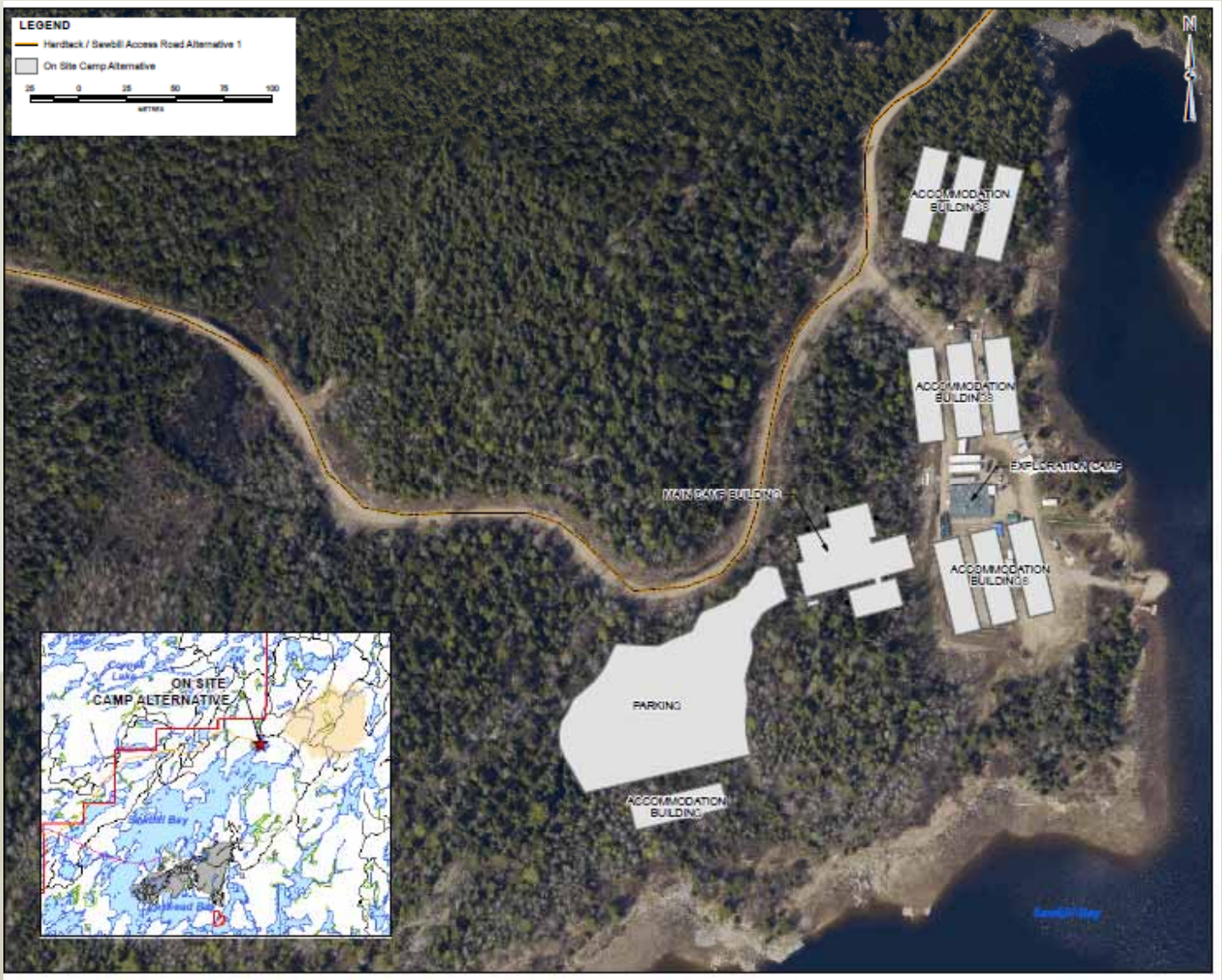
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Camp Layout (2012)



BASELINE STUDIES

BASELINE STUDIES

- Water quality
- Hydrology
- Ground water
- Geochemistry
- Air and noise
- Fish and fish habitat
- Vegetation and wildlife
- Socio-economics



WATER QUALITY

- 30 sampling locations, 8 water bodies
- Sampled five times since fall of 2010
- Acidic to near-neutral pH values
- Aluminum and iron concentrations were greater than the criteria
- Sporadic concentrations of total cadmium, chromium, cobalt, copper, lead, nickel, silver and zinc greater than the criteria
- Four total mercury concentrations greater than the criteria
- 20% or less of the observed phenol concentrations were greater than the criteria

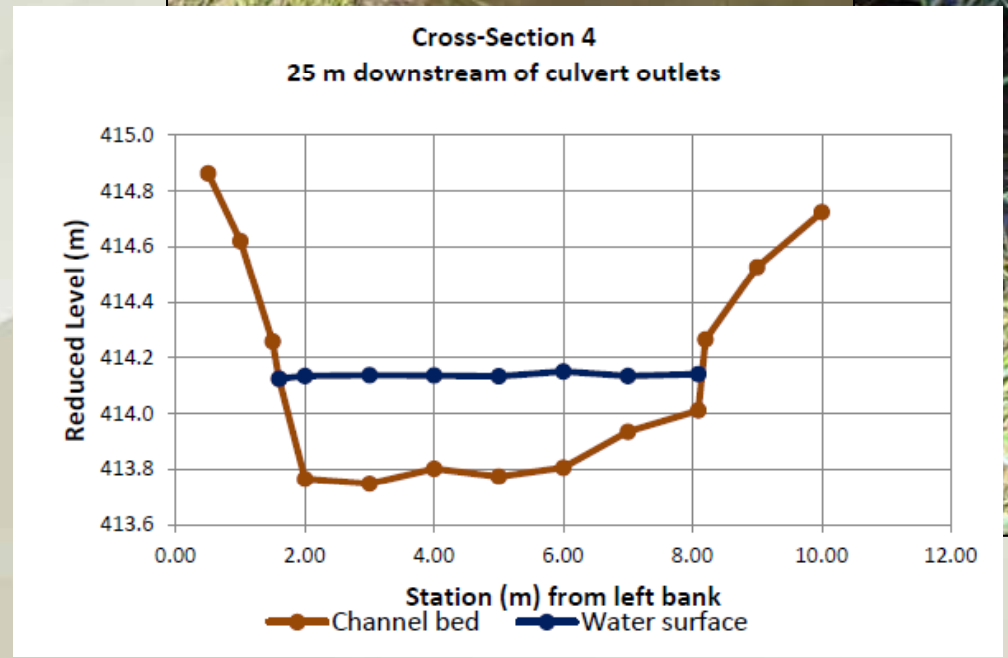




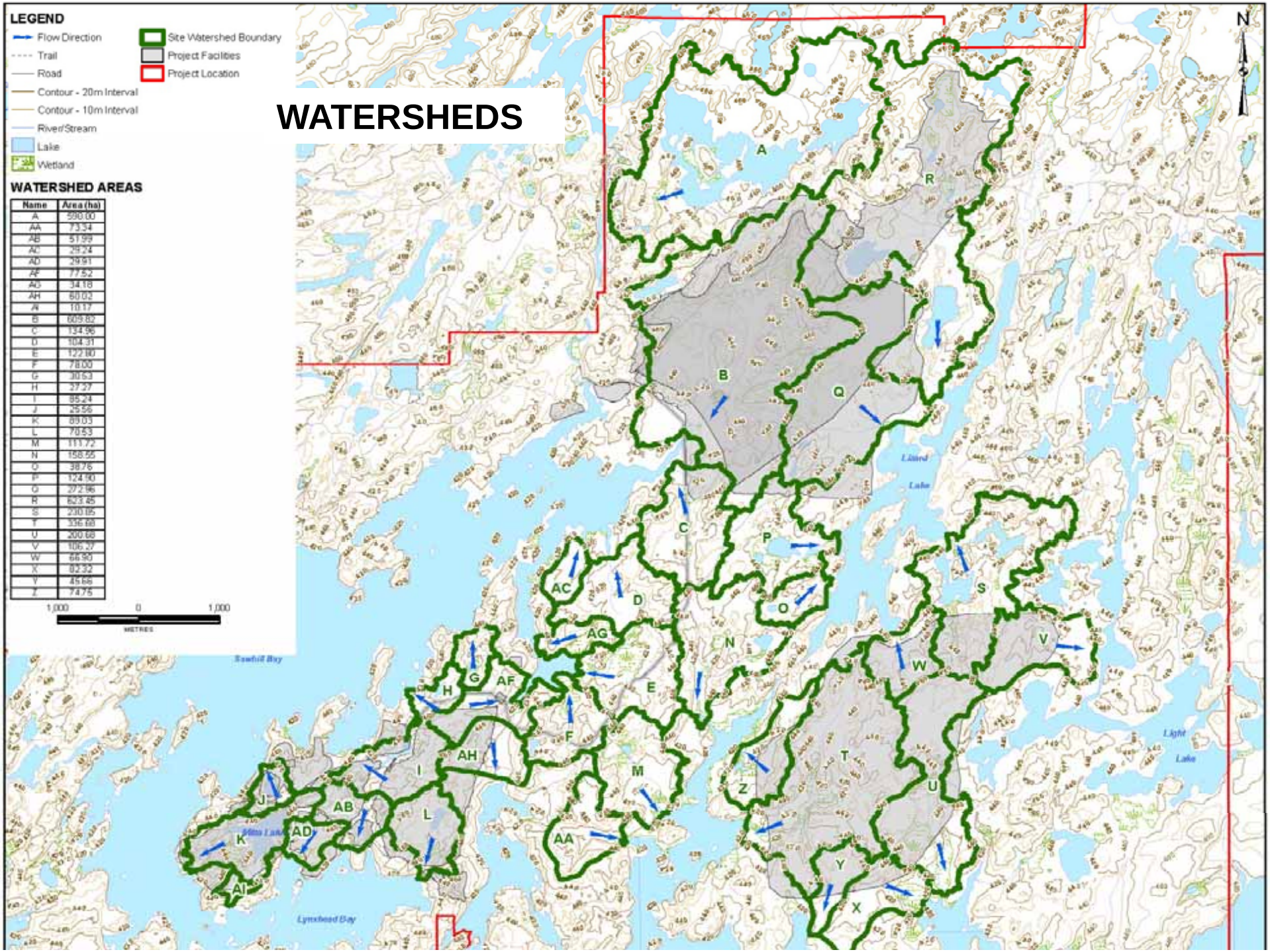
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Staff gauge


Measuring cross-section

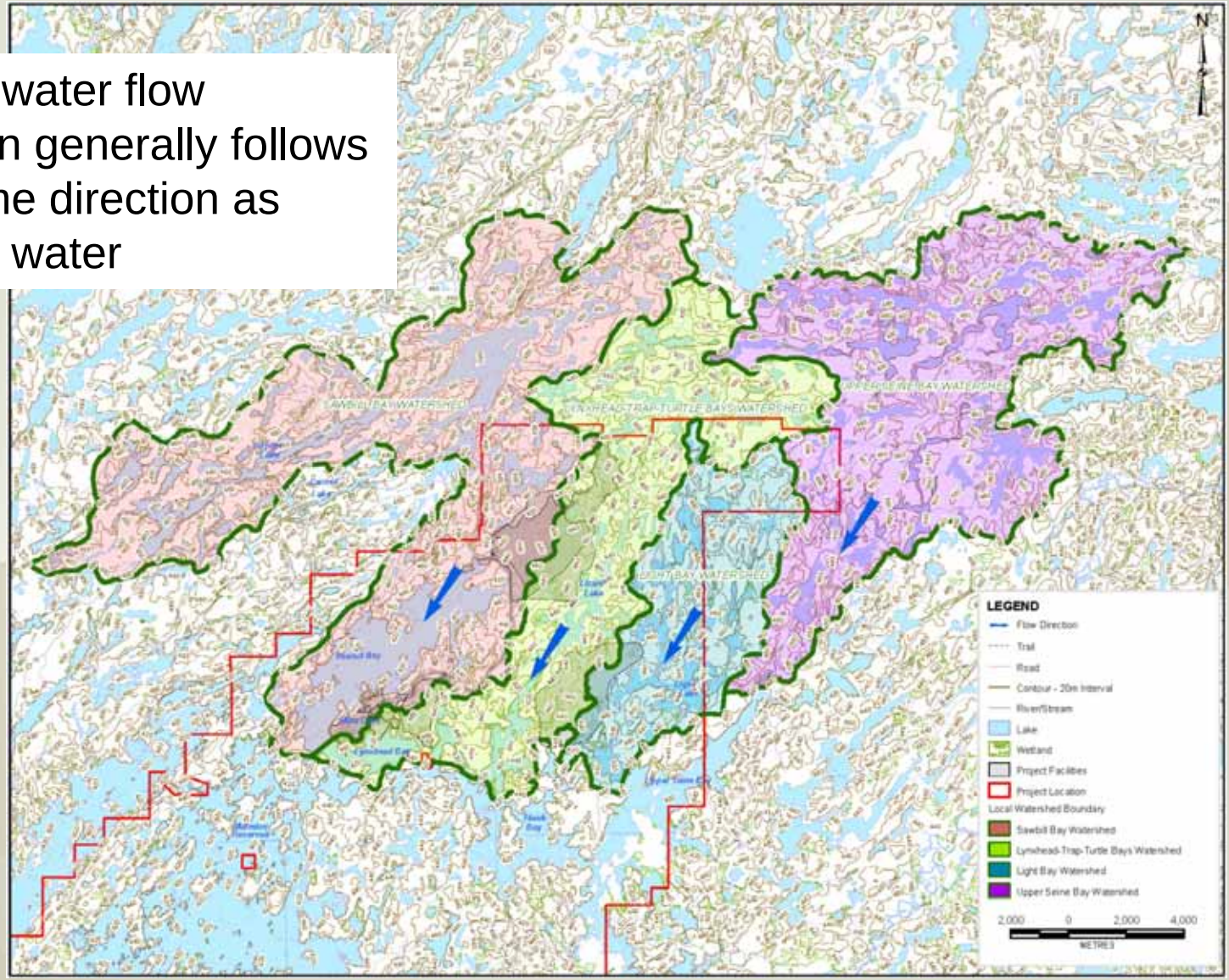


WATERSHEDS


LEGEND
Flow Direction
Trail
Road
Contour - 20m Interval
Contour - 10m Interval
River/Stream
Lake
Wetland
Site Watershed Boundary
Project Facilities
Project Location
WATERSHED AREAS
Name | Area (ha)
A 590.00
AA 73.34
AB 51.99
AC 29.24
AD 29.91
AF 77.52
AG 34.18
AH 60.02
AI 10.17
B 609.82
C 134.96
D 104.31
E 122.80
F 78.00
G 30.53
H 37.27
I 85.24
J 25.56
K 89.03
L 70.53
M 111.72
N 158.55
O 38.76
P 124.90
Q 272.96
R 823.45
S 230.85
T 336.68
U 200.68
V 106.27
W 66.90
X 82.32
Y 45.86
Z 74.75
1,000 0 1,000
METRES
N
Rawhill Bay
Lynxhead Bay
Lake
Light
Lake

GROUNDWATER

Groundwater flow direction generally follows the same direction as surface water



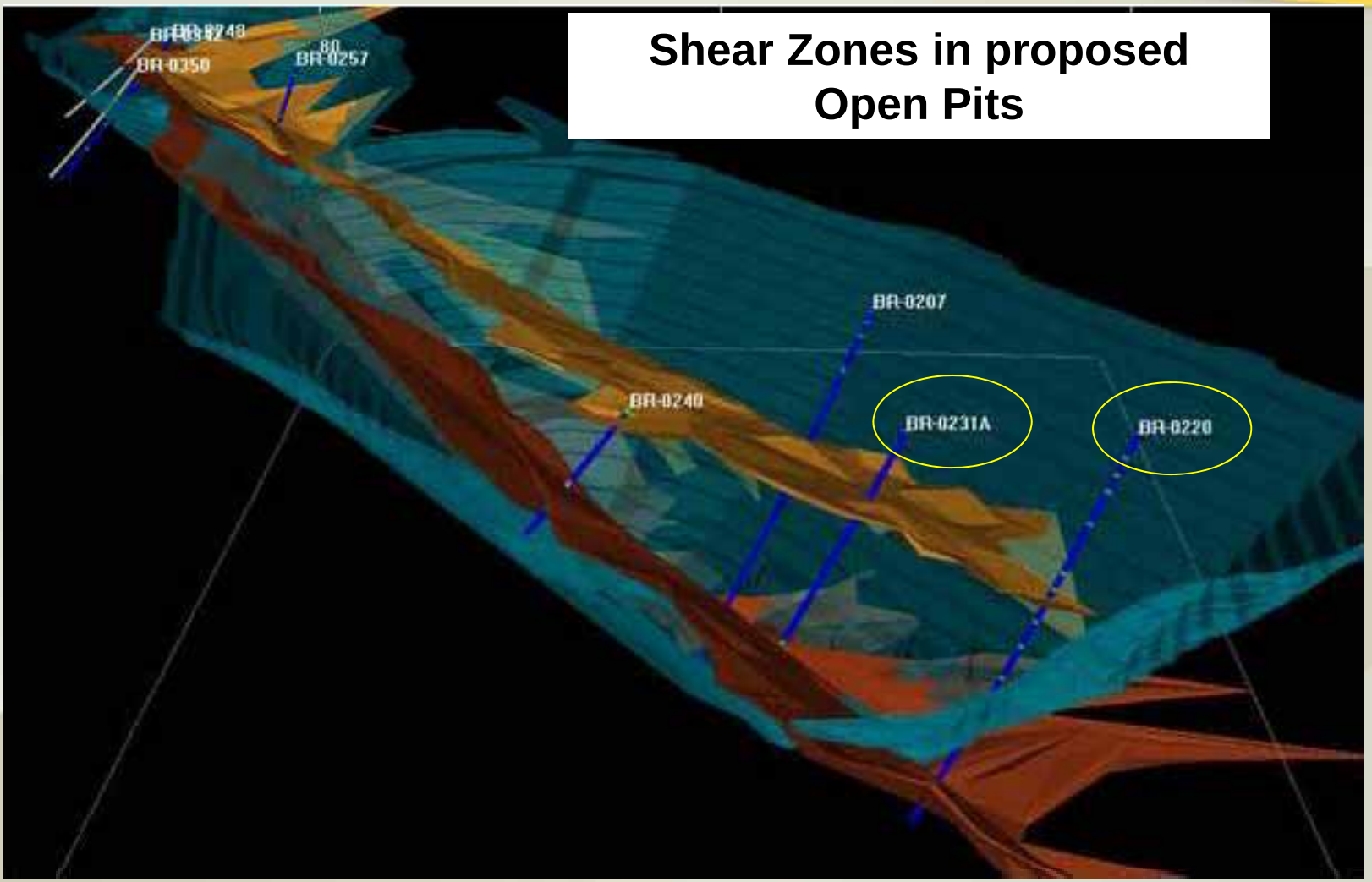
GROUNDWATER

- 13 stations, 9 sampling events since 2010
- Overburden is generally thin and discontinuous
- Bedrock is generally tight and massive indicating limited flow
- Two zones for movement in the bedrock
  - Upper weathered zone = surface to 10 metres below ground
  - Sheer zones = at depth

Groundwater Quality

- Some parameters in the shallow groundwater have levels above criteria
- Deep groundwater generally meets criteria and is similar to shallow and surface water





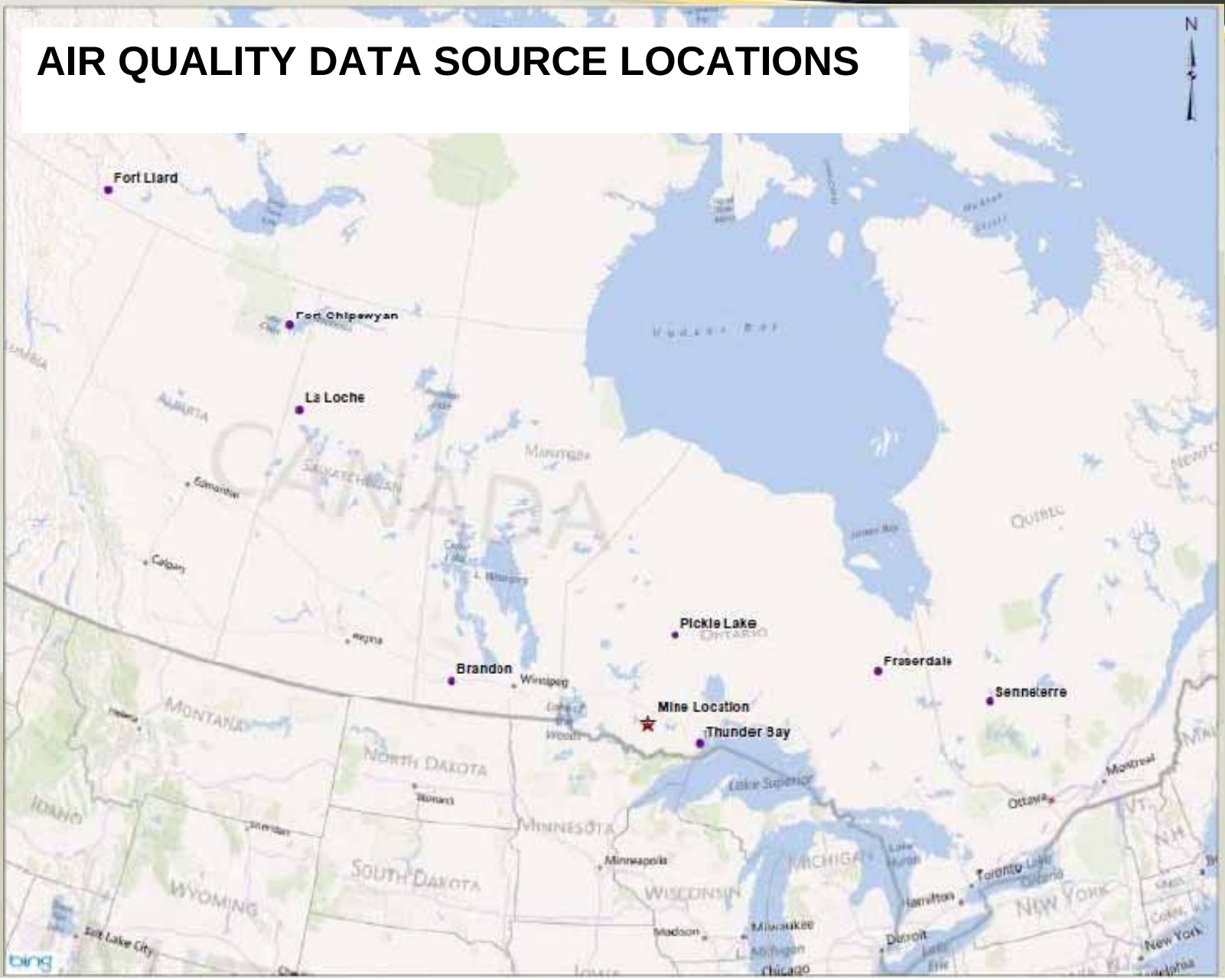
PQ boreholes BR-0220 and BR-0231A intersect upper/lower shears

GEOCHEMISTRY

- Sulphide contents are low and acid generation is not expected
- Metal leaching
  - pH values are neutral to alkaline and higher than the CCME/PWQO/MMER criteria range in short term tests
  - Aluminum concentrations can be greater than criteria in the short-term
  - Copper can be higher than the criteria in the short-term but decreases
  - Cadmium, silver and uranium concentrations can be marginally greater than the criteria



AIR QUALITY DATA SOURCE LOCATIONS

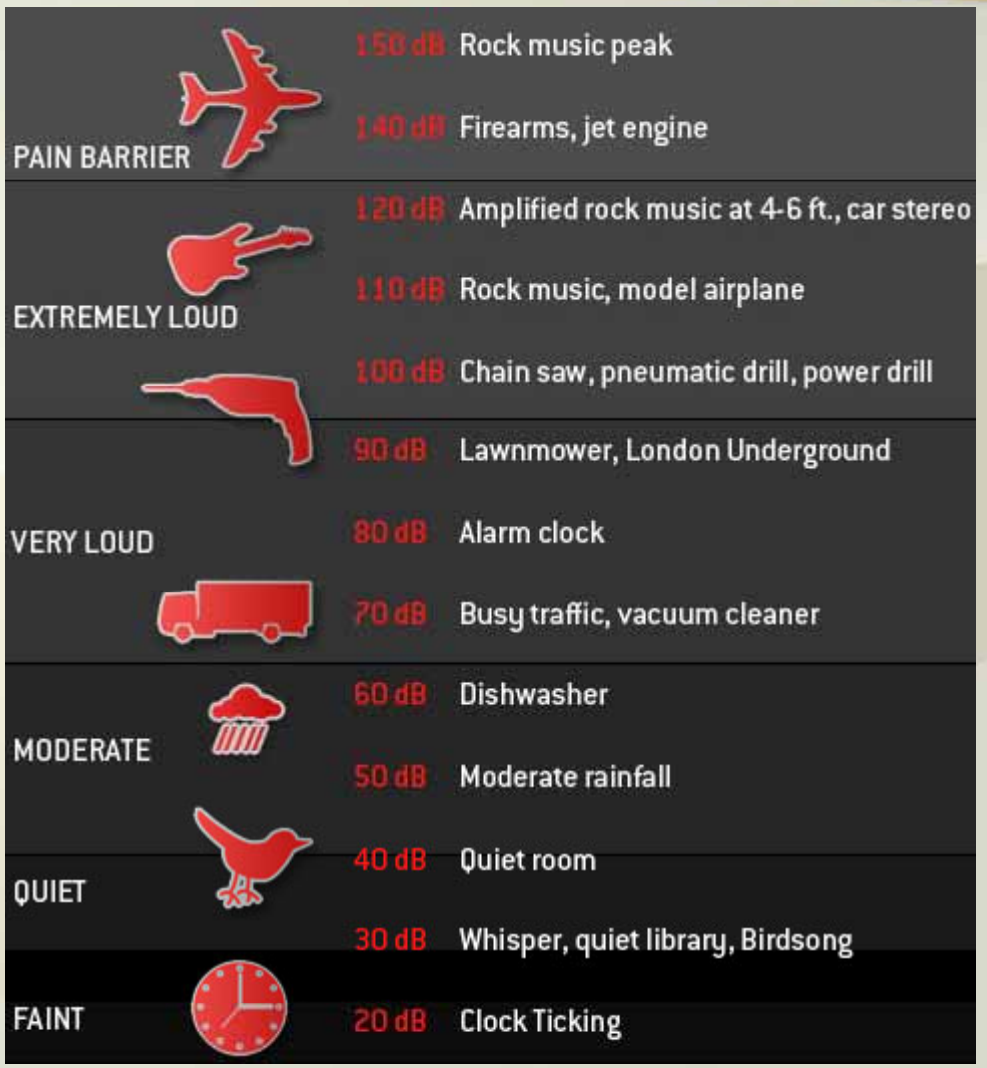


AIR QUALITY

- The air quality assessment will include modelling of the following parameters:
  - Particulate matter (PM);
  - Oxides of nitrogen (NOX) and nitrogen dioxide (NO2);
  - Sulphur dioxide (SO2);
  - Carbon monoxide (CO); and
  - Metals, including antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, tellurium, tin and vanadium.

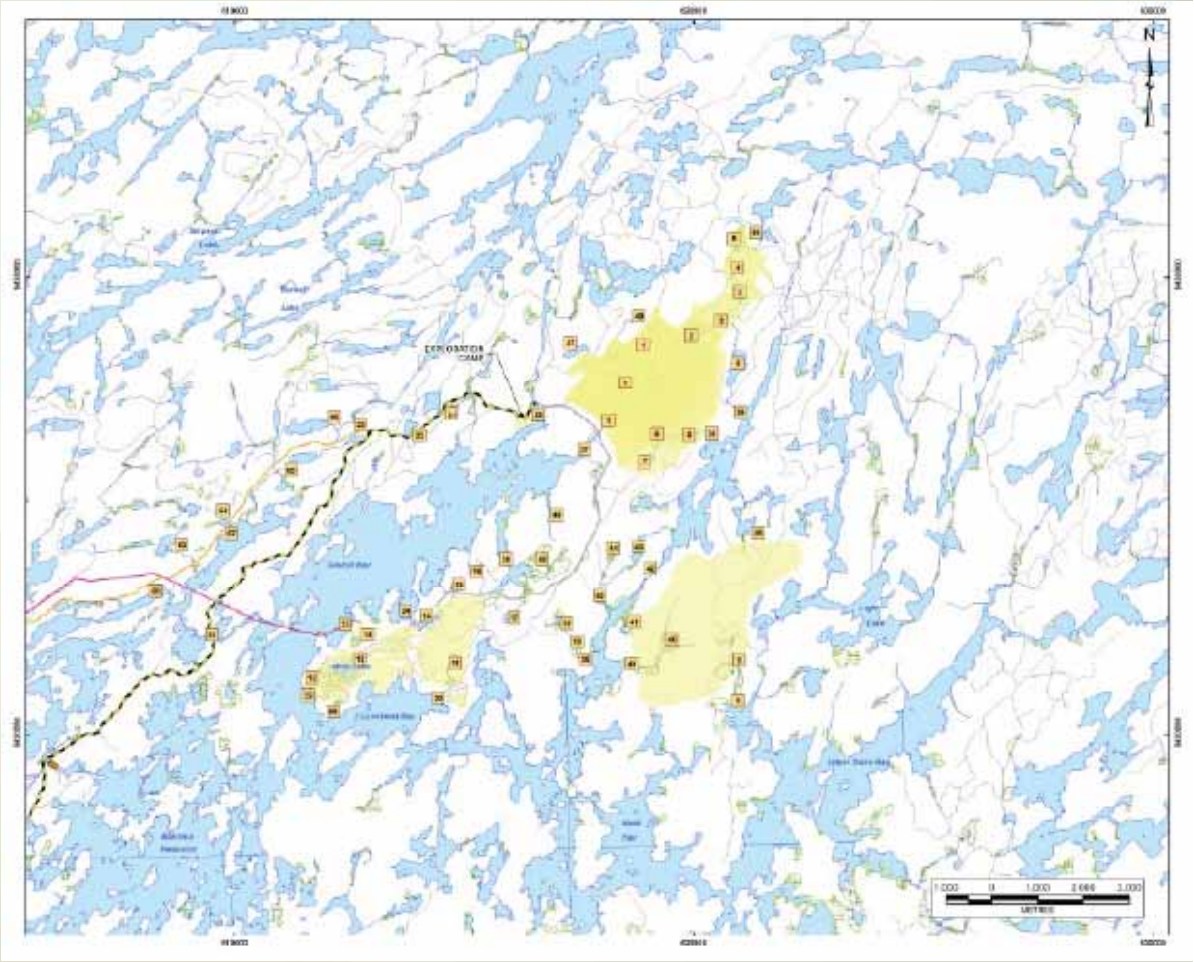
NOISE

- Existing noise levels are assumed to be quiet
  - 40 dBA during daytime hours and 35 dBA during night time hours
- Specific locations such as cabins will be identified as noise receptors
- Noise modelling will include predictions of acoustic levels at receptors



FISH AND FISH HABITAT

- Key potential aquatic receivers were identified as:
  - Sawbill Bay
  - Lynxhead Bay
  - Lizard Lake
  - Turtle Bay
- 55 sample locations called “Areas of Potential Impact” (APIs)
- Includes ponds, streams and small lakes



- Field trips in August and October of 2010 and May, June, August and September of 2011.

FISH SPECIES

- 23 different fish species were captured from the different APIs, including whitefish, mudminnow, northern pike, longnose dace, burbot, stickleback, suckers, sculpins, walleye and perch.



CONCLUSIONS

- No coldwater fish species or waterbodies
- Watercourses are generally low gradient, highly influenced by beaver dams
- Flow in sections of many water courses is seasonal or subsurface and highly variable
- Lower portions of some tributaries are accessible to fish from major receivers



VEGETATION AND WILDLIFE

Terrestrial biology field work has included:

- Bird surveys
- Amphibian habitat inventory
- Turtle basking and nesting surveys
- Vegetation community surveys
- Wild rice surveys



- Vegetation communities are coniferous and mixed forest communities interspersed with fens, marshes, swamps, small lakes and watercourses
- The bird community survey results are typical for the habitats that occur in the region
- All mammal species are considered to be typical in the region



VEGETATION AND WILDLIFE

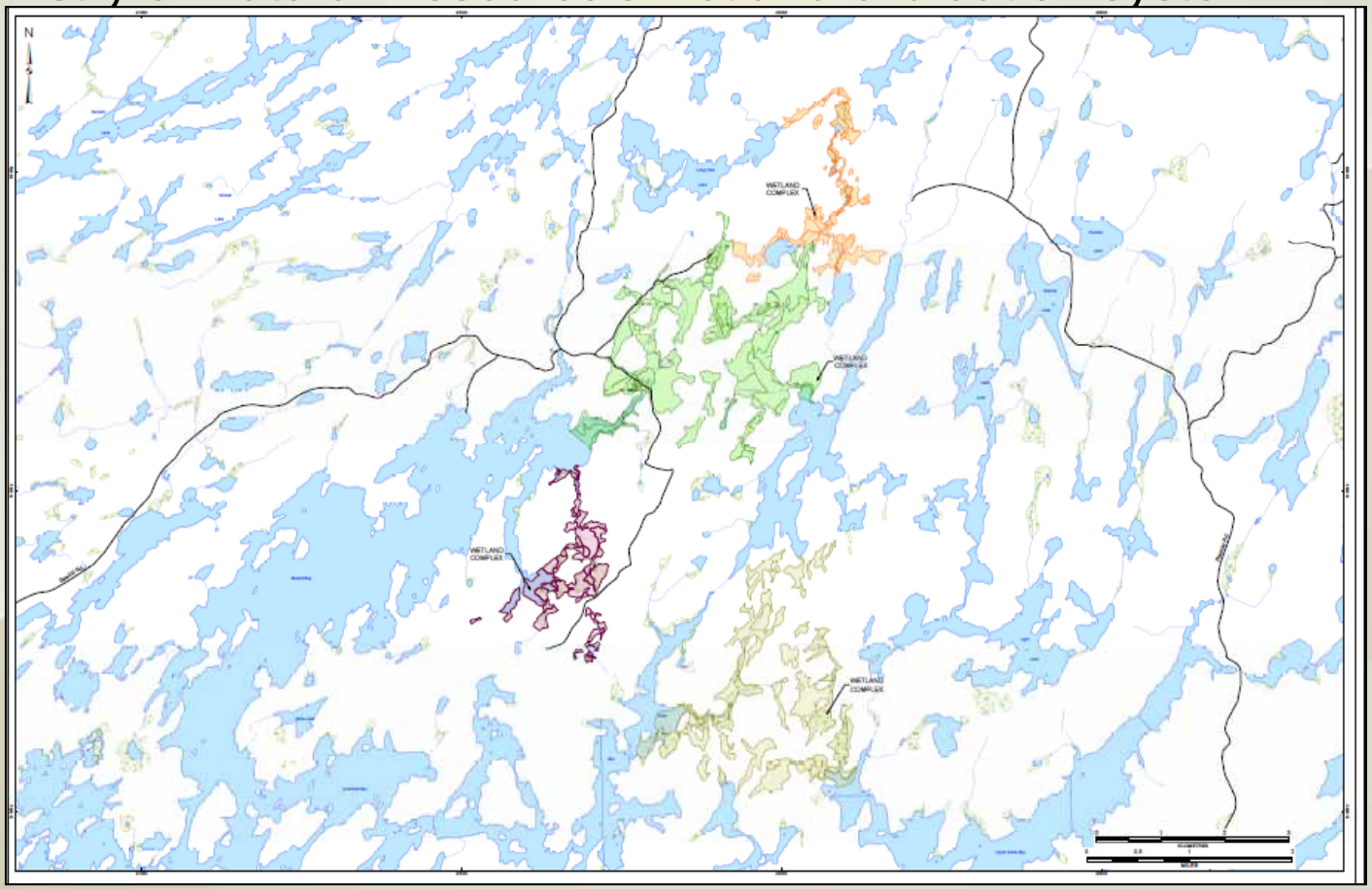
- Three bird and one reptile species of special concern are found in the Project area (Canada warbler, Common nighthawk, Bald eagle, and Common Snapping turtle)
- One provincially rare plant species is found in the Project area (Assiniboin sedge)
- One culturally important plant is found in the Project area (Wild rice)





WETLAND EVALUATION

Four wetland complexes have been evaluated using the Ministry of Natural Resource's wetland evaluation system.



Do you know of anyone who uses these wetlands?

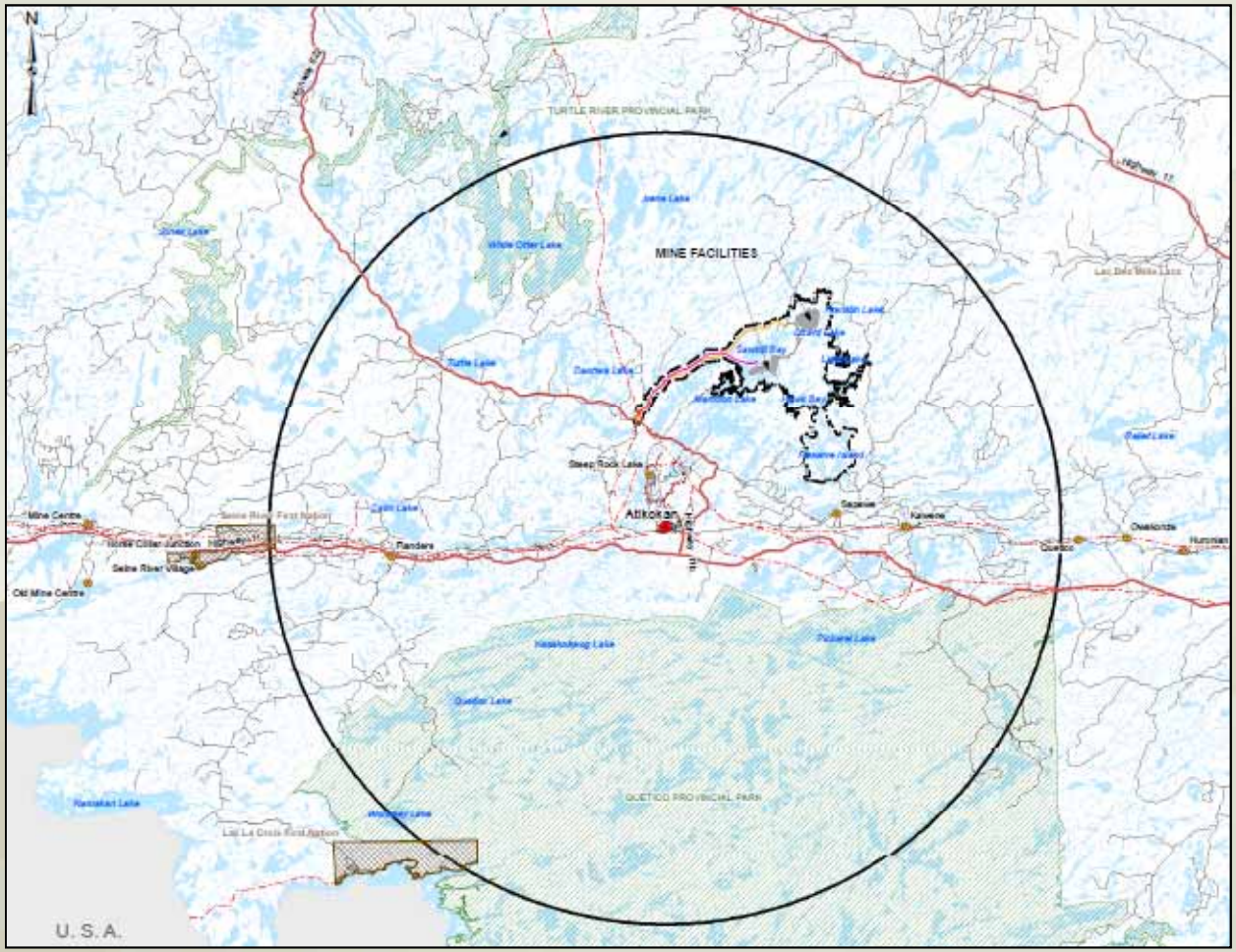
Socio-Economics

Regional Study Area



Socio-Economics

Local Study Area



Population and Demographics

- Declining population in Atikokan and Region
- Low mobility in Atikokan
- Percentage of children and 20-49 cohort lower than provincial average
- 25-34 year olds predominantly female; 50-59 cohort predominately male
- High dependency ratio



Economics

- Higher proportion of employment in services compared with decline in manufacturing, construction and resource based industries
- Non-service employment dominated by males
- High unemployment rate
- Median income marginally lower than provincial average
- Below provincial average levels of post-secondary education
- Potential for resource based projects to stabilize regional and local economies
- Thunder Bay anticipated to be major regional beneficiary of development
- Few businesses in Atikokan currently equipped to support mining development

Public Services and Infrastructure

- Protection and Emergency Services may have additional capacity
- Atikokan is designated as underserviced for doctors
- Hospital is scheduled for expansion and improvements
- Day care and social housing currently have additional capacity
- Schools have additional capacity
- Limited post-secondary education available in Atikokan through Contact North
- Existing population may not support cost of maintaining and improving recreational facilities
- Existing population may not support cost of maintaining and improving water and wastewater facilities
- New landfill site planned
- Existing electricity and natural gas has additional capacity

Housing and Transportation

- High home ownership and occupancy
- Shortage of rental and apartment units
- Low housing prices compared with region and province
- Existing housing stock is old
- Building lots are available for new housing

- Atikokan is well connected to provincial highway and rail networks; traffic study will assess adequacy of local road network
- Thunder Bay is the hub for air transport: the local air network is poorly developed

NEXT STEPS

- Finalize Engineering and Feasibility Study
- Assessment of potential effects
- Publish Environmental Assessment (EA) Report
- Obtain permitting
- On-going consultation and information sharing with:
  - Aboriginal partners;
  - Government; and
  - Public



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MEETING NOTES
MEETING WITH THE TOWN OF ATIKOKAN
SEPTEMBER 20 2012

Attendees:

	Attendee	Organization
1	Marlene Davidson	Town of Atikokan
2	Mary Makarenko	Town of Atikokan
3	Marg Lambkin	Town of Atikokan
4	Jerry Duhamel	Town of Atikokan
5	Bob Gosselin	Town of Atikokan
6	Mayor Dennis Brown	Town of Atikokan
7	Angela Sharbot	Town of Atikokan
8	Vic Prokopchuk	Atikokan Economic Development Corporation
9	Scott Manford	Osisko Hammond Reef Gold
10	Darren Skrenski	Osisko Hammond Reef Gold
11	Erik Johansson	Osisko Hammond Reef Gold
12	Alexandra Drapack	Osisko Hammond Reef Gold
13	Martin Griffin	Osisko Hammond Reef Gold
14	Cathryn Moffett	Osisko Hammond Reef Gold

Meeting Purpose:

- Present the socio-economic baseline results
- Confirm with the Town that the baseline results are correct
- Share Osisko's initial economic modelling assumptions
- Present Osisko's initial strategy for social management planning
- Initiate discussion with the Town and receive feedback on Osisko's approach
- Provide a Project update and answer questions about Project details

Socio-economic Baseline Results

- General consensus between all attendees of socio-economic information presented.

Q: What if the HRDC standard changes to 200km? Will the study area for socio-economics change?
A: We will work with the current standard of 80km as a reasonable way of moving forward.

Q: What is meant by services?
A: Services include retail, health care, teachers – not manufacturing or industry.

- 2011 Statistics Canada report Atikokan's population as 2700, but we feel this is unrealistic and too low
- We need to focus on economic development. Providing a multi-skills program is important because it brings people to Atikokan.

- Being prepared for the Project is a double edged sword because you don't know if it will go forward so we don't want to create an expectation but we want the Town to have the ability to start planning if the project goes ahead.

Q: Can Osisko sharing information about what types of goods and services they may need?
A: Yes, we are currently developing a list of goods and services based on our experience at Malartic. We will provide this information to the Town once it becomes available.

- We are currently going through our official planning and zoning, so a list of goods and services would be very beneficial.
- The presentation states that funding from the Town might be insufficient for water and waste water services to be maintained. This is incorrect, as we are legally required to maintain these services so we will need to find the money.

Q: With regards to the landfill, is Osisko satisfied with the discussions you are having with the Town?
A: Yes, we are working together with the Town to determine how the landfill can meet both of our needs. We have provided estimated waste volumes and anticipate ongoing discussions on a path forward.

Q: With regards to social services, I'm not sure that the capacity will be sufficient if the Project moves forward. For example, doesn't Osisko anticipate that addiction counseling services and family and children services may struggle with an increased population?
A: Although Osisko understands that addiction levels may increase, our studies have shown that the capacity is there to meet potential increased needs.

- The Council agrees that the assumption that the capacity is sufficient is correct.
- With regards to housing , there are currently 35 people on the waiting list for seniors housing. There are several seniors who would like to sell their homes if there were rentals available.
- The presentation states that the quality of the local airstrip may be unsuitable. The airstrip is suitable for appropriate services. What we need is a regional carrier. We also need Osisko to determine what their needs will be related to air transport.
- The Town invested $1 million into the airstrip recently. It is suitable and meets regulated standards

Modelling Assumptions

- Discussion regarding the accuracy of human health receptors. Some knowledge of local camping sites and trappers cabins was shared.
- Discussion regarding economic modelling assumptions. General agreement that the labour force assumptions are reasonable, however the Town expressed an interest in increasing the percentage of workers that live in Town.

Socio-Economic Benefits

- General agreement that the summary of socio-economic benefits is accurate.
- Suggested additional benefits include:
    - Exposure to different cultures, ideas and skills (especially for youth)
    - New construction
    - Increase median income

Socio-Economic Impacts

- General agreement that the summary of socio-economic impacts is accurate.
- Suggested additional impacts include:
    - Increased traffic and highway accidents

Social Management Planning

Comment from the Town: The Town had envisioned an impact benefit agreement between Osisko and the Town of Atikokan, the proposed approach of a beneficiary fund is a different than we were expecting.

Q: Why isn't Osisko considering recreational facilities as a viable infrastructure investment?
A: Osisko will focus our efforts on infrastructure that is directly related to the construction and operation of the Project, such as transportation and waste management.
Q: Where does health fit in?
A: Our studies have shown that the health care system has some additional capacity and will not likely be negatively impacted by the Project. Investments in health will likely be carried out through the proposed beneficiary funding committee, if it is deemed a priority by the committee.

Q: Who would be on the beneficiary committee? How would they be selected? Council should be directly involved in administering the beneficiary fund.
A: We will talk further internally about the details of the planned beneficiary committee and bring information to the Town as it becomes available.

Project Details

Q: Why are you using the phrase "if the Project goes ahead?"
A: We are very hopeful that the Project will move forward, however it remains uncertain until the feasibility study is complete.

Q: What's the margin for profit?
A: The profit margin has not been defined at this time, however for comparison we know that Malartic is currently selling gold at approximately $1600 per ounce and reporting operations costs of approximately $1000 per ounce. This is a cash margin of approximately $600 per ounce.

Q: What is the timeline for reporting?
A: We plan to have a draft EA/EIS Report for internal review ready by the end of 2012.

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Socio-economic Workshop
Town of Atikokan
September 20, 2012



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Presentation Overview

- What is Socio-economic Impact Assessment?
- Summary of Methods
- Preliminary Findings and Predicted Changes
- Employment Assumptions
- Summary of Benefits and Potential Effects
- Social Management Planning

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Socio-Economic Impact Assessment

A Socio-Economic Impact Assessment (SEIA) provides three types of information:

1.Background information on the socio-economics of the local area as well as an inventory of lands and resources which are important to the local and regional area.

2.A description of the key socio-economic parameters that may be affected by the project.

3.An assessment of the expected socio-economic effects of the mine development and alternate management scenarios along with an assessment of the uncertainties involved.

The SEIA helps Osisko, community members and planners, and government regulators understand social implications of the potential mine development.



Summary of Methods

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Community Involvement

- An important aspect of any socio-economic assessment is to identify and respond to issues and concerns raised during public consultation events
- Osisko has held four Open House events and numerous meetings
- Golder conducted a literature review and informant interviews
- Osisko would like to confirm our understanding of existing socio-economic conditions



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Study Areas

Regional Study Area (RSA)

- This is the broadest area over which socio-economic effects may occur
- The RSA provides context and background for the Local Study Area
- The RSA is used in the assessment of any cumulative effects of the Project

Local Study Area (LSA)

- This is the area that is likely to experience measurable Project effects in relation to population and employment, economics, services and infrastructure
- The LSA includes the Town of Atikokan and an area centred on Atikokan with a radius of 50 km
- Based on 80 km maximum commuting distance

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Regional Study Area

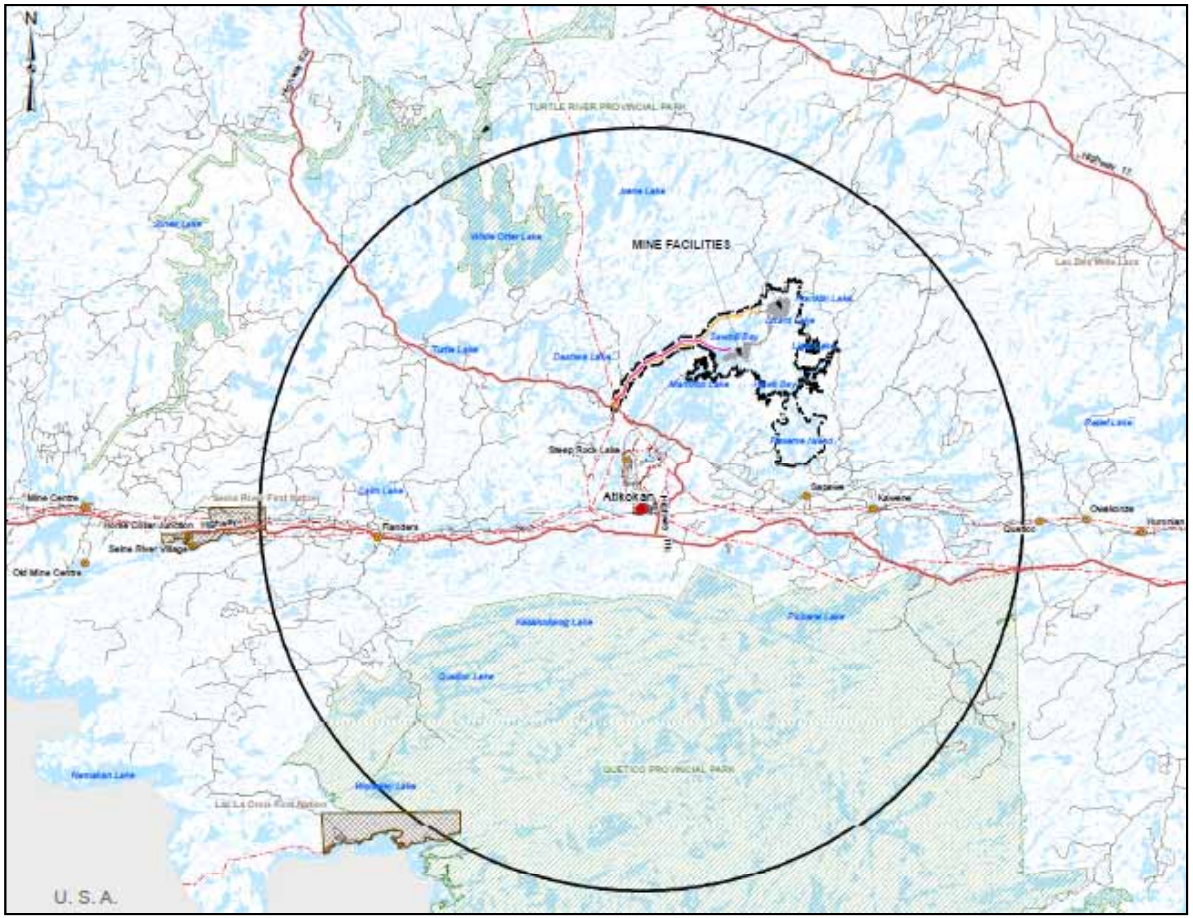


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Local Study Area



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Valued Ecosystem Components

- VECs enable focused description of existing environment and allow prediction of likely effects of the Project
- VECs include indicators which are measures that are known or can be estimated

Category	VEC
Population and Demographics	• Population and Demographics
Economics	• Labour Market (Employment, Income & Education/Training) • Economic Development • Government Finances
Services and Infrastructure	• Public Services and Infrastructure • Housing • Transportation



Preliminary Findings and Predicted Changes

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Population and Demographics

What We Found

- Declining population in Atikokan and Region
- Low mobility in Atikokan
- Percentage of children and 20-49 cohort lower than provincial average
- 25-34 year olds predominantly female; 50-59 cohort predominately male
- High dependency ratio

What We Anticipate

- Population decline in Atikokan may stabilize with Project
- Inward migration of Project workers will influence community vibrancy
- Without Project older cohort will continue to dominate
- Without Project there will be increasing strain on income earners and social services

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Economics: Labour Market

What We Found

- Higher proportion of employment in services compared with decline in manufacturing, construction and resource based industries
- Non-service employment dominated by males
- High unemployment rate (mitigated by population decline)
- Median income marginally lower than provincial average
- Below provincial average levels of post-secondary education

What We Anticipate

- Project workforce needs unlikely to be met fully by local workers
- Influx of skilled and qualified workers to community likely
- Project would likely increase median income
- Local education and skills will need to be upgraded for Project needs

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Economics: Economic Development

What We Found

- Economic base declining
- Potential for resource based projects to stabilize regional and local economies
- Thunder Bay anticipated to be major regional beneficiary of development
- Few businesses in Atikokan currently equipped to support mining development

What We Anticipate

- Project offers major opportunity for local economic base
- Local business base needs to be expanded to meet Project needs



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Economics: Government Finances

What We Found

- Municipal revenue equally split between taxation and grants from upper levels of government
- Taxation insufficient to maintain infrastructure

What We Anticipate

- Although not part of the municipal tax base itself, the Project will increase tax revenues through associated residences and businesses
- Because most services are underutilized, municipal expenditures should not increase proportionally

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Public Services and Infrastructure

What We Found

- Protection and Emergency Services may have some additional capacity
- Atikokan is designated as underserviced for doctors
- Hospital is scheduled for expansion and improvements
- Social services generally administered by district board
- Day care and social housing currently have additional capacity
- Decline in public and secondary school enrollment. Overall capacity 39%.
- Limited post-secondary education available in Atikokan through Contact North
- New landfill site planned
- Existing electricity and natural gas has additional capacity
- Existing population may not support cost of maintaining and improving:
  - Recreational facilities
  - Water and wastewater facilities

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Public Services and Infrastructure

What we Anticipate

- Other than ambulance service, no capacity challenges as a result of Project
- Health services will continue to face challenges typical of northern communities
- Project should not present additional burden on social services
- Project may have beneficial effect on school enrollment
- Absence of local post-secondary and training opportunities will present challenge to Project
- Project may have beneficial effect through increased population and/or direct contribution to new or improved facilities

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Housing

What We Found

- High home ownership and occupancy with shortage of rental and apartment units
- Low housing prices compared with region and province: existing housing stock is old
- Building lots are available for new housing

What We Anticipate

- Absence of rental housing may present challenge for Project
- Limited supply of existing housing for purchase: demand will increase house prices



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Transportation

What We Found

- Atikokan is well connected to provincial highway and rail networks; traffic study will assess adequacy of local road network
- Thunder Bay is the hub for air transport: the local air network is poorly developed

What We Anticipate

- Suitability of local airstrip for Project needs is uncertain
- Traffic study will assess adequacy of local road network



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Assessment Modeling Assumptions

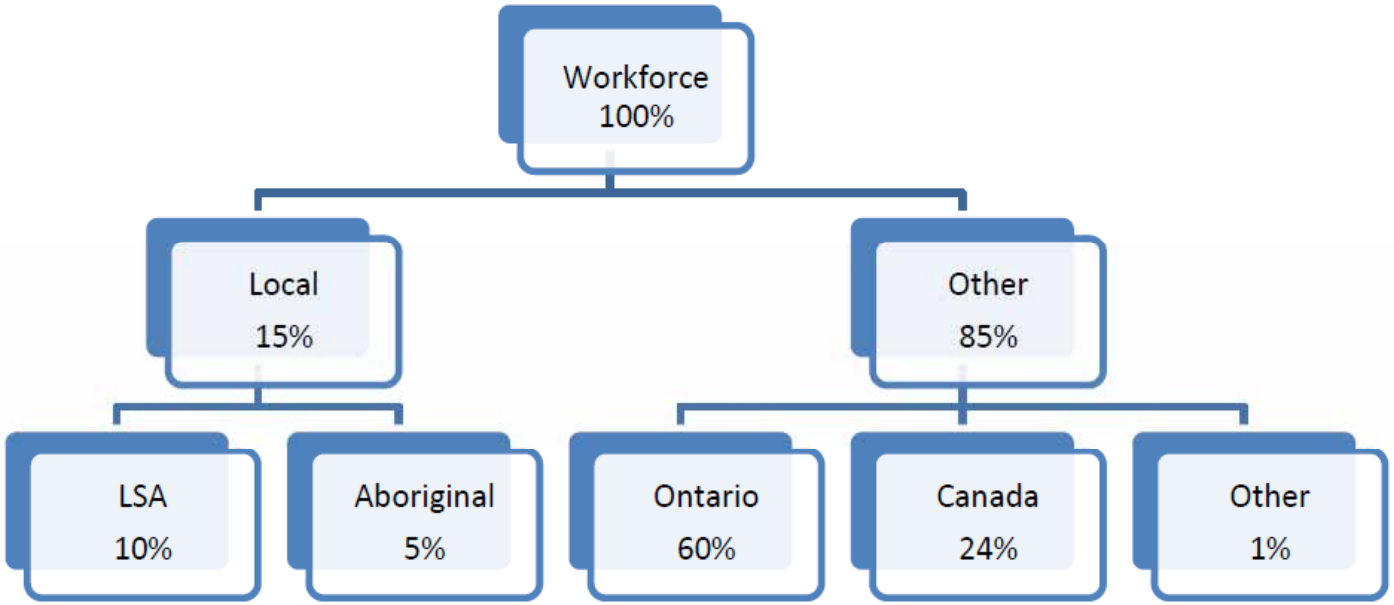
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How many construction employees will live in Atikokan?

Table 7: Place-of-Residence Distribution of Construction Workforce



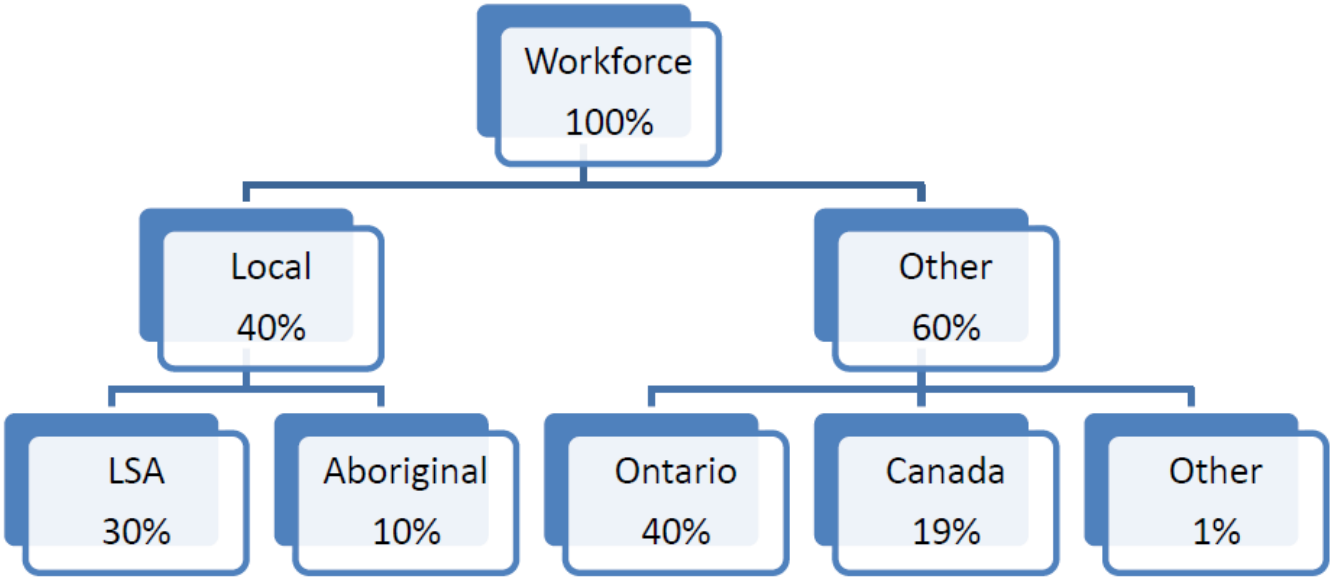
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How many operations employees will live in Atikokan?

Table 3: Place-of-Residence Distribution of Operations Workforce



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What types of jobs may be available?

Table 6: Construction Workforce Breakdown

Occupation	Percentage of Workforce
Welders, metalworkers, installers	25%
Professionals (engineers, architects, etc.)	15%
Mechanics and boilermakers	15%
Electricians	15%
Crane operators, drillers, blasters	15%
Heavy machinery operators, carpenters, pavers	10%
Management	5%

Table 5: Operations Workforce Breakdown

Component	Percentage of Workforce
Mining	50%
Processing	25%
Maintenance	10%
Technical	5%
Services and Administration	5%
Management	5%

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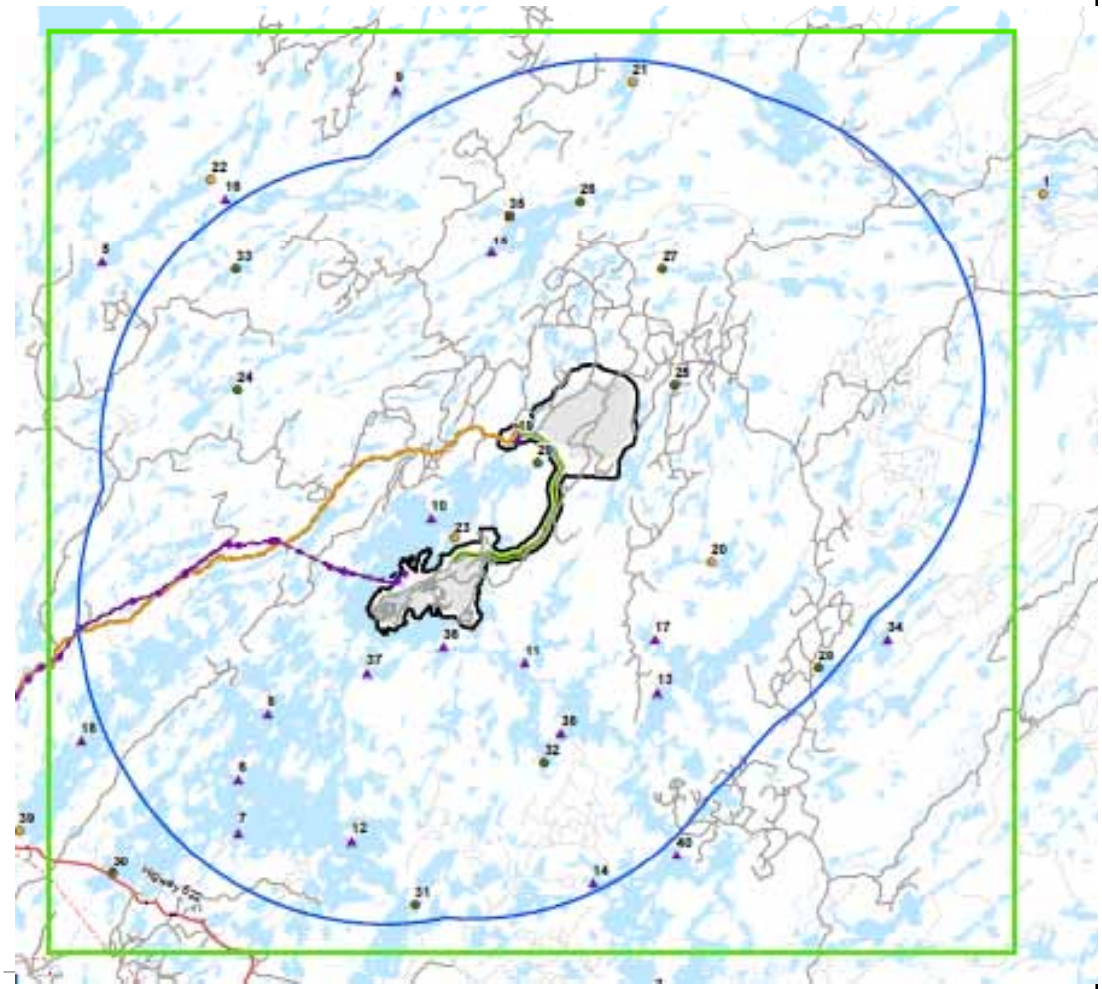
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Human health assessment and air emission modeling is directly related to the socio-economic assessment

Seven air receptors will likely need to be considered for mitigation measures:

10 – Sawbill Bay access point
19 – Designated camp site
23 – Canoe Canada
25 – Trapper cabin
29 – Trapper cabin
36 – Designated camp site
37 – Designated camp site





Summary of Benefits and Potential Effects



Summary of Likely Benefits: LSA

- Economic benefits are:
  - Direct, indirect and induced employment
  - Direct and indirect economic activity
  - Government revenues
- Although not part of the municipal tax base itself, the Project will increase tax revenues through associated residences and businesses
- Population stability





Summary of Likely Adverse Effects: LSA

- Based on the preliminary review, adverse effects on the Town are likely small or insignificant
- Atikokan generally has sufficient infrastructure and services to accommodate additional residents and transient workers
- The single exception is the lack of rental or short-term accommodation
- Community character is unlikely to be adversely affected by any influx of new residents and workers
- Likely additional pressures/disturbance on tourism and recreation, hunting, trapping, fishing and forestry in the immediate Project area

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Summary of Likely Benefits: RSA

- Cumulative beneficial effects on Region:
  - Direct, indirect and induced employment
  - Direct and indirect economic activity
  - Government revenues

- No regional adverse effects anticipated





Social Management Planning

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Social Management Planning

Throughout the environmental assessment and permitting process, Osisko will continue to work directly with:

- Town of Atikokan
- Atikokan Economic Development Corporation
- Fort Frances Chiefs Secretariat
- Lac des Mille Lacs First Nation
- Naicatchewenin Development Corporation

Work together to:

- Understand community needs
- Clarify community expectations
- Communicate Osisko's development plans
- Identify mutually beneficial business opportunities
- Identify potential independent business opportunities within the LSA



Potential Mitigation Measures

Should the Project move forward to the construction phase, Osisko will develop and implement specific measures that avoid effects, such as:

- Construct new access point/ boat launch
- Create new campsites
- Fish habitat compensation activities
- Provide funding for Atikokan tourism website
- Ongoing monitoring and consultation





Benefit Enhancement Opportunities

Should the Project move forward to construction, Osisko will develop broad measures that contribute to the quality of life of the affected populations, including improvements to the following local infrastructure:

- Housing
- Transportation
- Municipal Waste Management

Should the Project move forward, Osisko will also continue to provide **community sponsorships and support**. Osisko will follow the same model developed at Malartic, where a long term beneficiary fund (FEMO) was created and is administered by Malartic residents.

Projects supported by FEMO are selected for their capacity to improve the cultural, social, physical, educational and environmental components of life for as many Malartic residents as possible.

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Osisko Policy Development

Osisko is committed to developing Project practices and procedures that reduce effects and enhance benefits, such as:

- Implement hiring/training policies that favour local and Aboriginal workers
- Work with school boards to develop on site heavy equipment operator training
- Implement procurement policies that favour local businesses
- Provide relocation incentives to employees willing to move to Atikokan
- Develop firearms and fishing policy for workers while at camp
- Develop hunting and harvesting policy with Aboriginal communities
- Develop measures to reduce impacts of job loss at closure



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HAMMOND REEF GOLD PROJECT LTD.

MEETING NOTES
OSISKO HAMMOND REEF GOLD LTD.
REVIEW OF DRAFT EIS/EA REPORT
FEBRUARY 20, 2013 – 2:30PM – 5:15PM
TOWN OF ATIKOKAN

Attendees:

Dennis Brown	Mayor
Marj Lambkin	Councillor
Jerry Duhamel	Councillor
Mary Makarenko	Councillor
Pat Halwachs	Town Staff
Angela Sharbot	Town Staff
Nicole Halasz	Town Staff
Garth Dyck	Fire Chief
Amy Liu	CEAA
Pat Barnes	MNDM
[redacted]	Trapper
Wilf Thorburn	Atikokan Hydro
Gary McKinnon	AEDC
Vic Prokopchuk	AEDC
Mike McKinnon	Atikokan Progress
Jessica Smith	Atikokan Progress
Gord Knowles	AEDC
Twila Smitsnuk	MNR
Brenda Hainey	Conservation Club
Sally Burns	MPP's Office
Val Eckstrom	MP's Office
[redacted]	Resident
[redacted]	Resident
[redacted]	Resident
Alix Drapack (presenter)	Osisko
Cathryn Moffett	Osisko
Marie Manchester	Osisko
Erik Johansson	Osisko
Bud Dickson	Osisko
Shane Manford	Osisko
Adam Johnson	Osisko

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Purpose of Meeting: To present an overview of the DRAFT EIS/EA report for the proposed Hammond Reef Gold Mine Project, with the Town of Atikokan.

Welcome & Introductions
Overview of EIS/EA Report
Project Description Review
Conclusions by EA Component

A brief overview of the potential effects, mitigation measures and follow up program by component:

- Geology/Soils
- Atmospheric
- Hydrology
- Hydrogeology
- Water Quality
- Aquatic Biology
- Terrestrial Biology
- Human Health
- Socio-Economics
- Conceptual Closure and Rehabilitation

Environmental and Social Management Planning
Benefits of the Project

Questions and Answers

Q – Is the camp planned for about 1,000 people?
A – Yes, it will be permitted for a maximum of 1,200 workers.

Q – During the construction phase you will require a large camp, but during operations how are you planning to transport workers to site? Fly-in/fly-out from Thunder Bay?
A – This detail is still under consideration.

Q – The plan for development includes power, but not natural gas. Why?
A – Some amount of natural gas may be used throughout the project, for example for heating, but it will be transported by truck not by pipeline.

Q – Will the waste rock management facility be lined?
A – No.

Q – Can you explain cyanide destruction?
A – Breaking apart the two components of cyanide (carbon and nitrogen) so it becomes non-toxic.

Q – What do you use cyanide for in the first place?
A – Leaching gold from the rock

Q – How far will the noise travel? Will we hear it in town?
A – No, I don't expect you will hear it in town. We can confirm.

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HAMMOND REEF GOLD PROJECT LTD.

Q – Have you studied what noise will do to fish and animals?
A – Yes, it was considered in the ecological risk assessment

Q – Will the Tailings ponds be covered for waterfowl?
A – No, but the water quality of the water that ponds in the TMF is not expected to be harmful to waterfowl.

Q – What happens if there are metal exceedances in water in your discharge? Do you get shut down?
A – Osisko will get an Environmental Compliance Approval (ECA) that specifies discharge water quality. The ECA will also stipulate how often water needs to be sampled and what action should be taken if exceedances are found throughout sampling. Exceedance of PWQO does not necessarily mean a problem – need to determine potential effects to living things.

Q – Have you worked with the Atikokan Sportsmen's Club and kept them involved in your fish habitat plans?
A – We have talked to them, learned about their projects and visited the hatchery. We hope to work with them more as the fish compensation planning progresses.

Q – Does fish compensation include all aquatics or just fish?
A – It is based on aquatic habitat, not on numbers of fish. The assumption is that if the habitat is available all types of aquatic organisms will inhabit the area, not just the fish.

Q – How many jobs are anticipated for the 223 population increase?
A – 165 jobs during operations

Q – Does the Local Study Area (LSA) include Atikokan only or also the surrounding area?
A – The LSA includes a 50km radius of the Project, which is mainly Atikokan.

Q – Does the job estimate include the cleaners at camp?
A – Yes, they would likely be contractors and are therefore included as "indirect" jobs.

Q – Are you satisfied with the level information on the landfill?
A – Yes, the EA for the landfill is still valid and this year's Town budget includes plans for the preparation and submission of an application.

Q – Can you add recreation to the list of projects the Atikokan/OHRG Committee could support?
A – Yes, recreational should be added.

Q – Are you planning to do any reclamation on the shoreline? It is an eyesore.
A – Yes, the reclamation is currently underway. We have focussed on the riparian buffer zones. Staff have been trained in sediment and erosion control, and we have undertaken a large tree planting project.

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TOWN PRESENTATION

DRAFT EIS/EA REPORT SUBMISSION

February 20 2013

Golder Associates

PRESENTATION OVERVIEW

- Welcome
- Overview of EIS/EA Report
- Project Description Review
- Conclusions by EA Component
- Benefits of the Project
- Environmental and Social Management Planning
- Next Steps

EIS/EA REPORT CHAPTERS

Executive Summary
Chapter 1 Introduction
Chapter 2 EA Methods
Chapter 3 Existing Conditions
Chapter 4 Alternatives Assessment
Chapter 5 Preferred Alternative
Chapter 6 Effects Assessment
Chapter 7 Public Consultation and Aboriginal Engagement
Chapter 8 Environmental and Social Management Planning
Chapter 9 Commitments Registry
Chapter 10 Other Approvals
Chapter 11 Economic and Social Benefits of the Project
Chapter 12 Conclusions

TECHNICAL SUPPORT DOCUMENTS

The following reports have been prepared to support the EIS/EA Report:

- Atmospheric Environment TSD.
- Geochemistry, Geology and Soil TSD.
- Hydrogeology TSD.
- Hydrology TSD.
- Water and Sediment Quality TSD.
- Site Water Quality TSD.
- Lake Water Quality TSD.
- Aquatic Environment TSD.
- Terrestrial Ecology TSD.
- Aboriginal Interests TSD.
- Cultural Heritage Resources TSD.
- Human Health and Ecological Risk Assessment TSD.
- Socio-economic Environment TSD.
- Alternatives Assessment Report.
- Conceptual Closure and Rehabilitation Plan.

EA CONCLUSIONS

Based on the findings of the environmental assessment and planned mitigation measures the Hammond Reef Gold Project can be developed such that there is no significant residual impact to the biophysical environment.

Furthermore, it is considered that the Project provides substantial socio-economic benefits to Aboriginal people, the local community and the region and has garnered significant community support through ongoing partnerships and information sharing.

Detailed conclusions regarding the effects assessment, mitigation measures, environmental and social management planning and the economic benefits of the Project area provided in the following slides.

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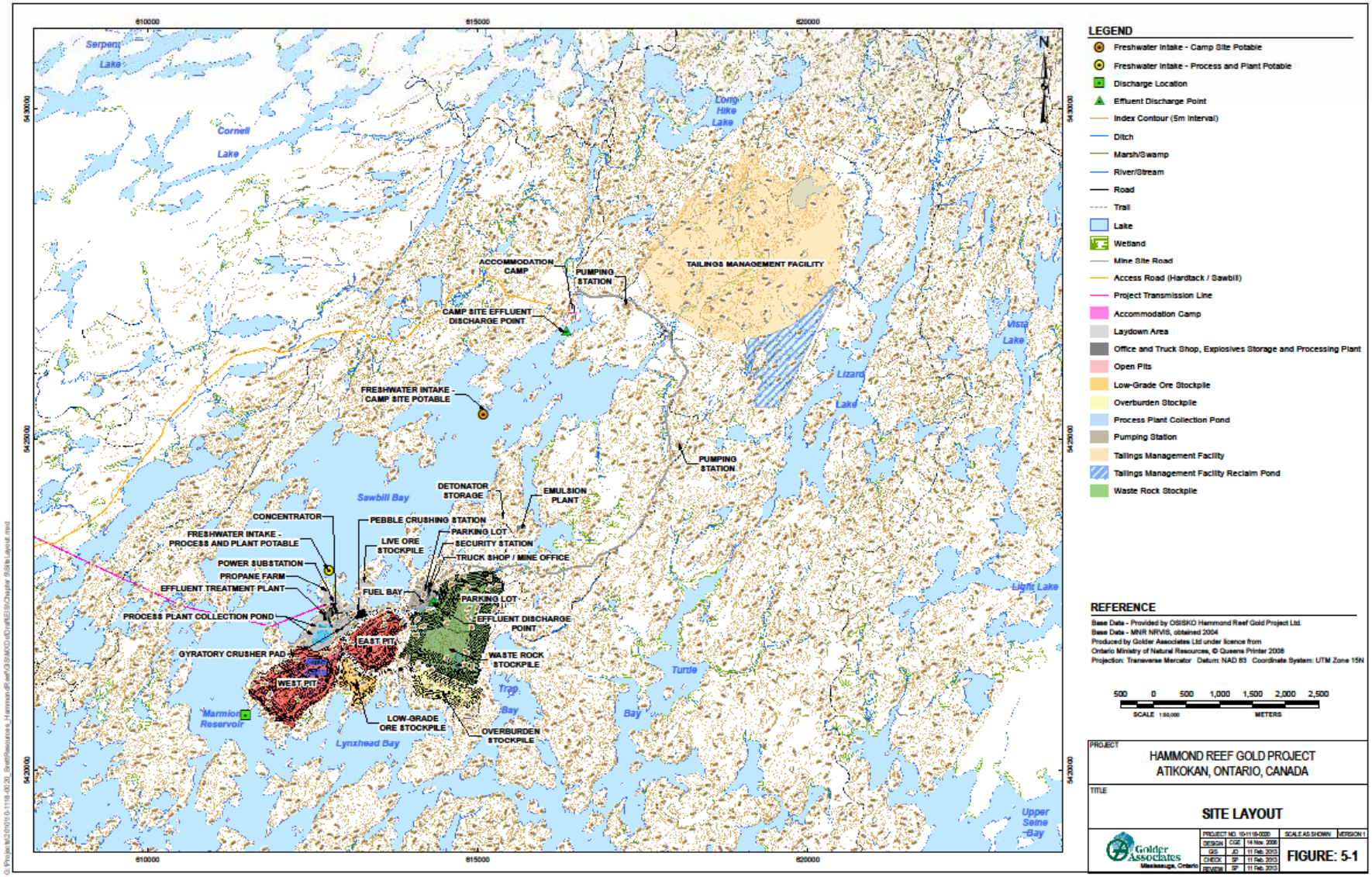
Project Description

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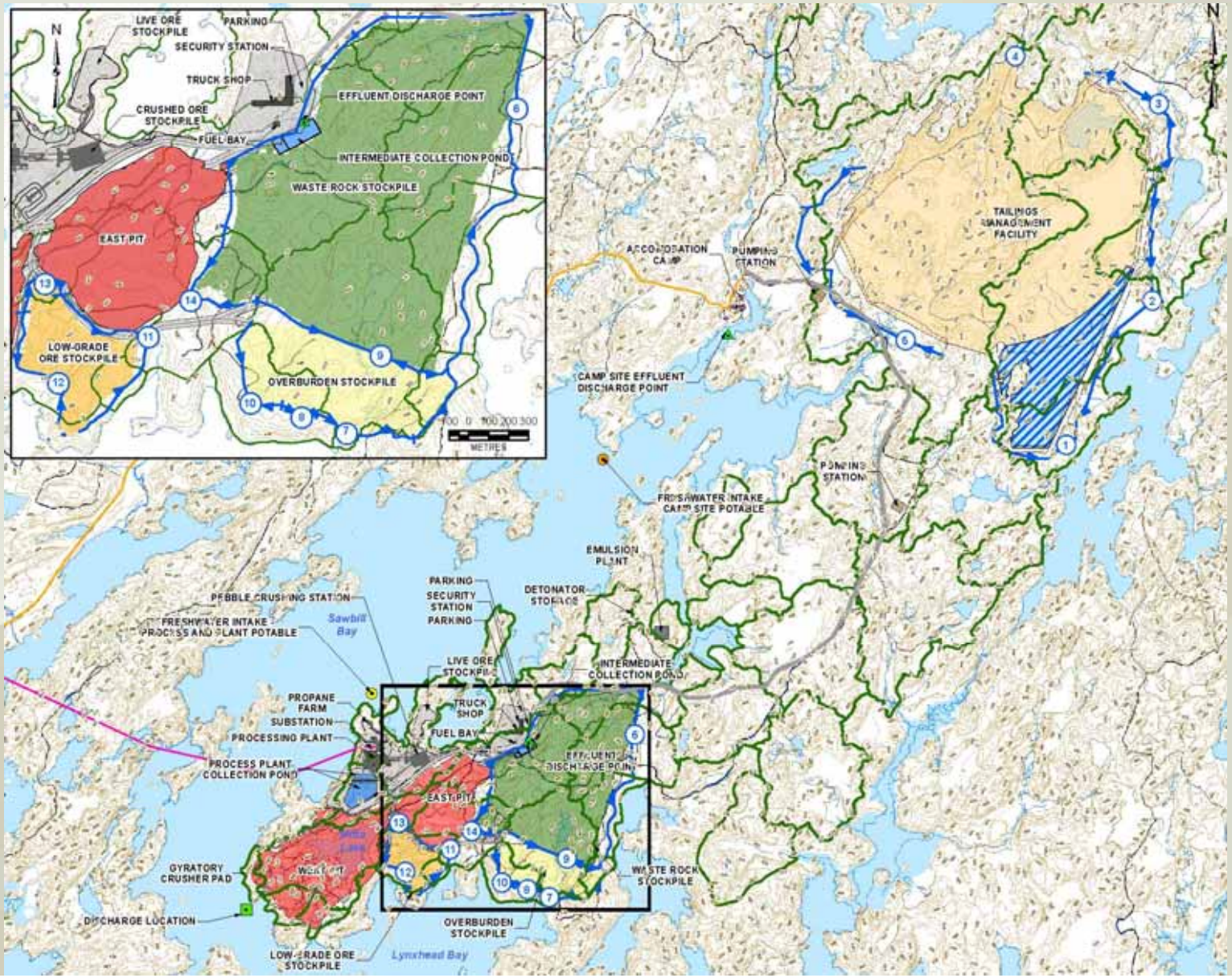
Project Components

- Mine, including two open pits (i.e., east pit and west pit).
- Waste Rock Management Facility (WRMF).
- Ore Processing Facility.
- Tailings Management Facility (TMF).
- Support and Ancillary Infrastructure.
- Water Management System.
- Linear Infrastructure.
- Borrow Sites.

Preferred Site Layout



Site Infrastructure



Construction Phase (30 months)

- Upgrading access roads.
- Construction of transmission lines and communication lines.
- Construction of workers accommodation.
- Site Grading and construction of laydown areas.
- Transport of equipment to the Project Site.
- Preparation of site components and facilities.
- Construction of infrastructure.
- Construction of initial containment structures for the Tailings Management Facility (TMF).

Operations Phase (11 years)

- Maintaining site Access Roads, transmission lines and communication.
- Maintaining accommodation camp.
- Operation of the Mine.
- Storage and production of explosives.
- Operation of Process Facilities including ore stockpiles.
- Operation of mine waste facilities (waste rock stockpile, overburden stockpiles, TMF, and pipelines).
- Transport of equipment and supplies to and from the Project Site.
- Transport of workforce to and from the Project Site.
- Transport of gold doré bars off-site.

Closure (2 years) & Post-closure Phases (10 years)

- Stabilization of tailings surface and revegetation.
- Cessation of pit dewatering operations.
- Pumping of water from various seepage collection ponds to the open pits until water quality is acceptable for direct discharge to the environment.
- Grading of the surface of the waste rock stockpile and overburden stockpile.
- To the extent practical, using overburden stockpile materials as cover to promote vegetation growth in various site areas.
- Decommissioning of site Infrastructure.
- Establishment of open pit “safe lines” based on a rock mechanics evaluation.

In-design Mitigation

- Relocation of Infrastructure to avoid fish-bearing water bodies.
- Discussion with Aboriginal groups to avoid “special sites” that have been identified in the vicinity of the project.
- Adherence to set-back criteria and adjustments to the pit shell to maintain a buffer zone between the pit and the lake.
- Using west pit to store some of the waste rock from east pit in order to reduce the size of the waste rock stockpile.
- Avoidance of Lynxhead Narrows as an effluent discharge point due to identification of walleye spawning area.
- Inclusion of a contingency for treatment of suspended solids if necessary.
- Inclusion of a cyanide destruction circuit within the process.
- Use of existing transportation corridors where possible to minimize requirements for additional environmental disturbance.

Safety and Tailings Management

- The tailings dams were designed according to the following guidelines:
  - Canadian Dam Association (CDA)
  - Ontario Ministry of Natural Resources (MNR)
  - Mining Association of Canada (MAC)

- Additional peer review by an independent expert in tailings dam construction and operation.

- OHRG will develop a customized tailings management system that addresses specific Project needs:
  - A framework for tailings management
  - Sample checklists for implementing the framework

These checklists will provide a basis for developing a customized management system, operating procedures and manuals, exposing gaps within existing procedures, identifying training requirements, communicating with Communities of Interest, obtaining permits, conducting internal audits, and aiding compliance and due diligence, at any stage of the life cycle.

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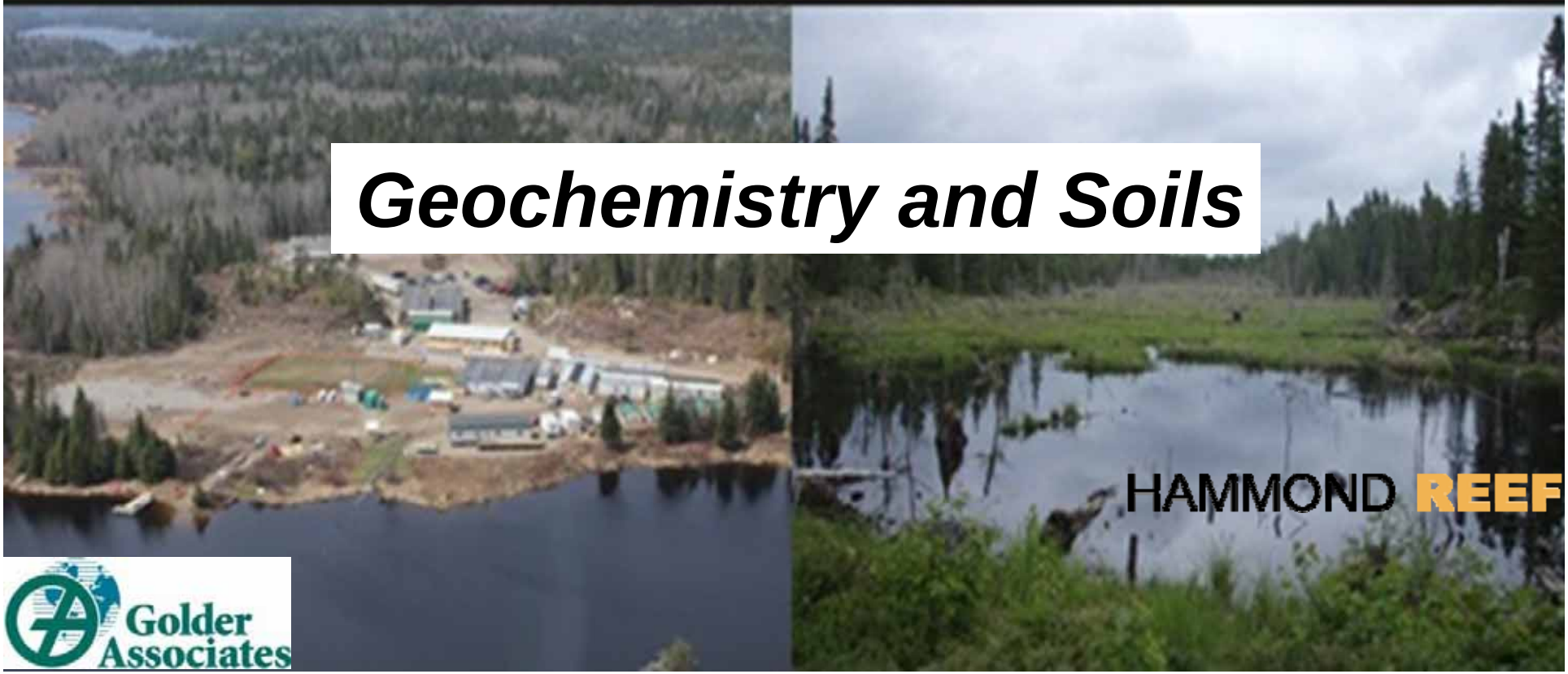
Conclusions by EA Component



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Geochemistry and Soils

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Geology, Geochemistry and Soils Overview

Geology includes**:**

- Description of geological information relevant to the Project

Geochemistry criteria include:

- Acid Generation
- Metal Leaching
- Tailings Water Quality

Terrain and Soils includes:

- Terrain types
- Soil types, chemistry and depths
- Soil erosion risk

No significant impacts were identified.

Effects Assessment

- Soil erosion may influence slope stability and water quality
- Spills may degrade soil quality
- The direct loss of soil and alteration of terrain may have implications with respect to wildlife use of the LSA and with respect to the use of the area as a timber resource.

- Terrain will be altered during the construction and operations phases of the Project. As a result, topography, site elevation and drainage patterns will be altered on a local scale.

Results were also provided for assessment by Aquatic Biology, Terrestrial Ecology and Water Quality.

Mitigation Measures

- An **Erosion Management Plan** will be developed during construction, operations and closure.
- Site drainage will be managed to ensure that runoff does not cause erosion, flooding, or contamination in downstream areas.
- A **Soils Remediation Plan** will be developed that accounts for soil salvage, stockpiling, and reclamation where possible.
- Minimize soil contamination through implementation of a **Spill Management Plan.**
- Geotechnical assessments will be completed for mine facilities and monitoring of stockpiles will also be undertaken to verify and to ensure long-term stability.
- Timber harvesting agreements will mitigate loss of timber resources

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Atmospheric



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Atmospheric Environment Overview

- Air quality
- Noise
- Light
- Vibrations

Assessment focuses on the Operation Phase (worst case scenario).

No significant impacts were identified.

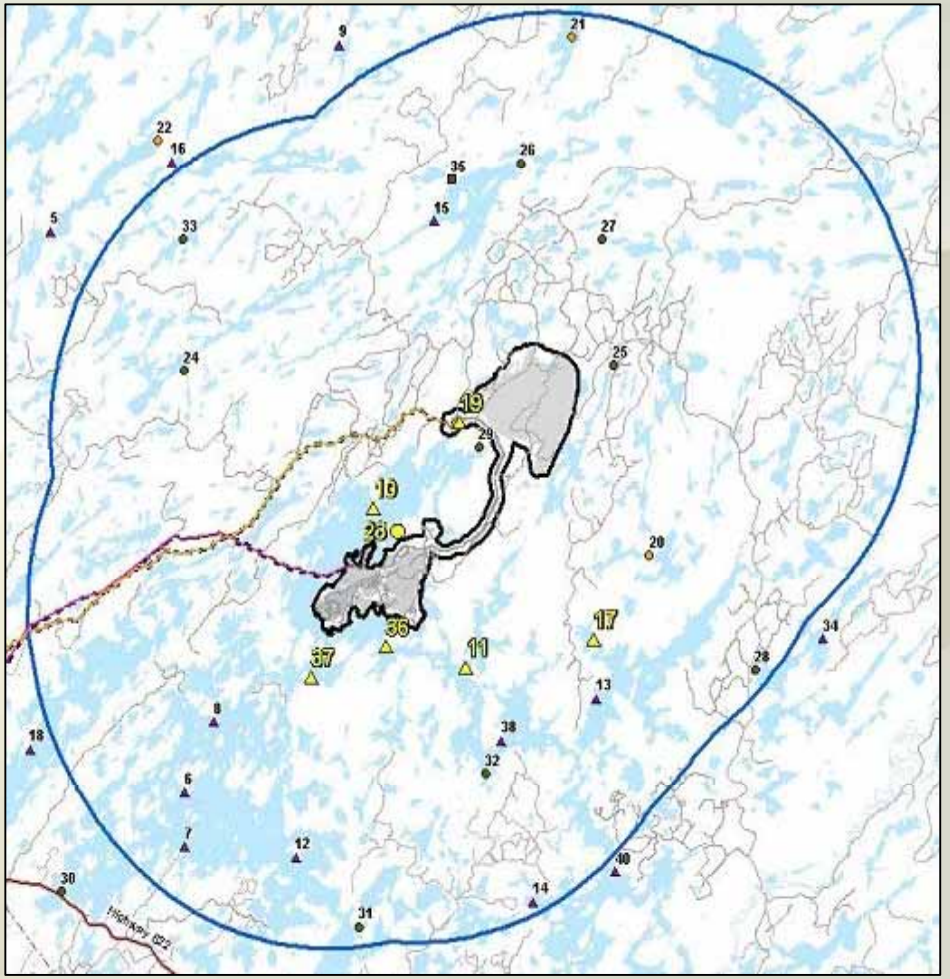
Results were also provided for assessment by the Terrestrial Ecology, Aquatic Biology, Socio-economic and Human Health components.

Atmospheric Conclusions

- Meets regulations for air quality
- Meets regulations for noise with some restricted access

- Further access restrictions are recommended based on the results of a human health risk assessment

- Controlled access to identified sites will be managed through cooperation with Project stakeholders



Vibration Management Plan

- Develop an Adaptive Management Plan for Vibrations:
  - Confirm with test blast during initial operations to develop **site-specific** vibration attenuation.
    - Assess ground and air vibrations from blasting at receptors.
    - Assess blast-induced water overpressure level at shoreline.

IF impacts are identified:
Proposed mitigation to reduce PPV:

- Relocation of the blasting during active spawning periods
- Designing the blast with the progression of holes moving away
- Reduce the maximum charge weight per delay

Mitigation and Monitoring

In-design mitigation:

- Dust management and a dust management plan
- On-site roads will be well maintained to limit noise emissions
- Minimize over lighting, and use shielded light fixtures to minimize uplight.

Compliance monitoring including:

- Source testing to confirm process emissions
- Ambient air monitoring for indicator compounds

Register and investigate any air quality or noise complaints

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Hydrology



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Overview of Hydrology

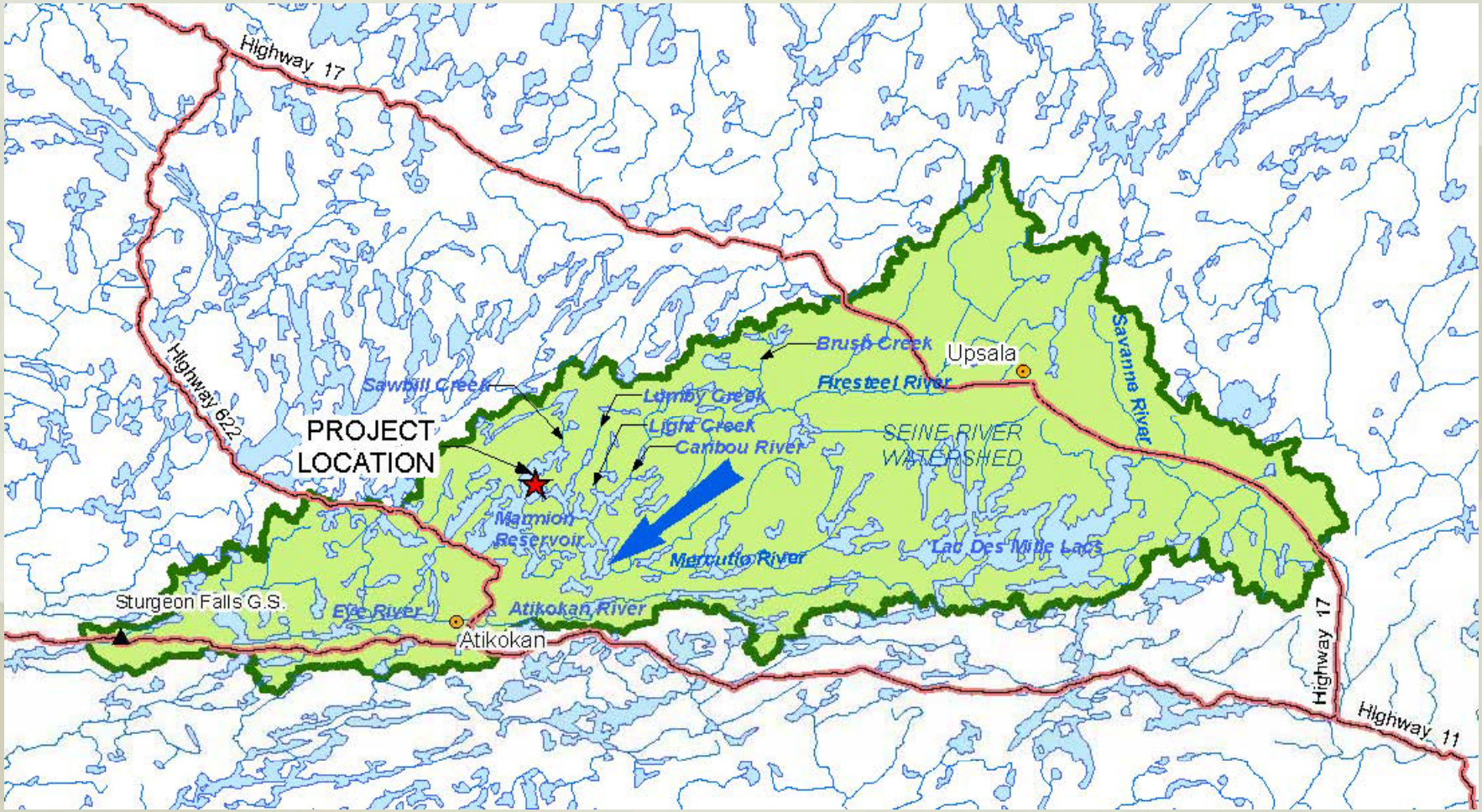
Drainage Basins

- Regional: Seine River Watershed
- Local: Sawbill Bay; Lynxhead/Trap/Turtle Bay Bays; Light Bay & Upper Seine Bay
- Site: 44 site scale tributary catchments (29 in project footprint)

Hydrological Components

- Runoff collection
- Water taking
- Treated wastewater discharge
- Mine dewatering
- Road crossings
- Water intake and discharge structures

Seine River Watershed



Study Areas – Drainage Basins

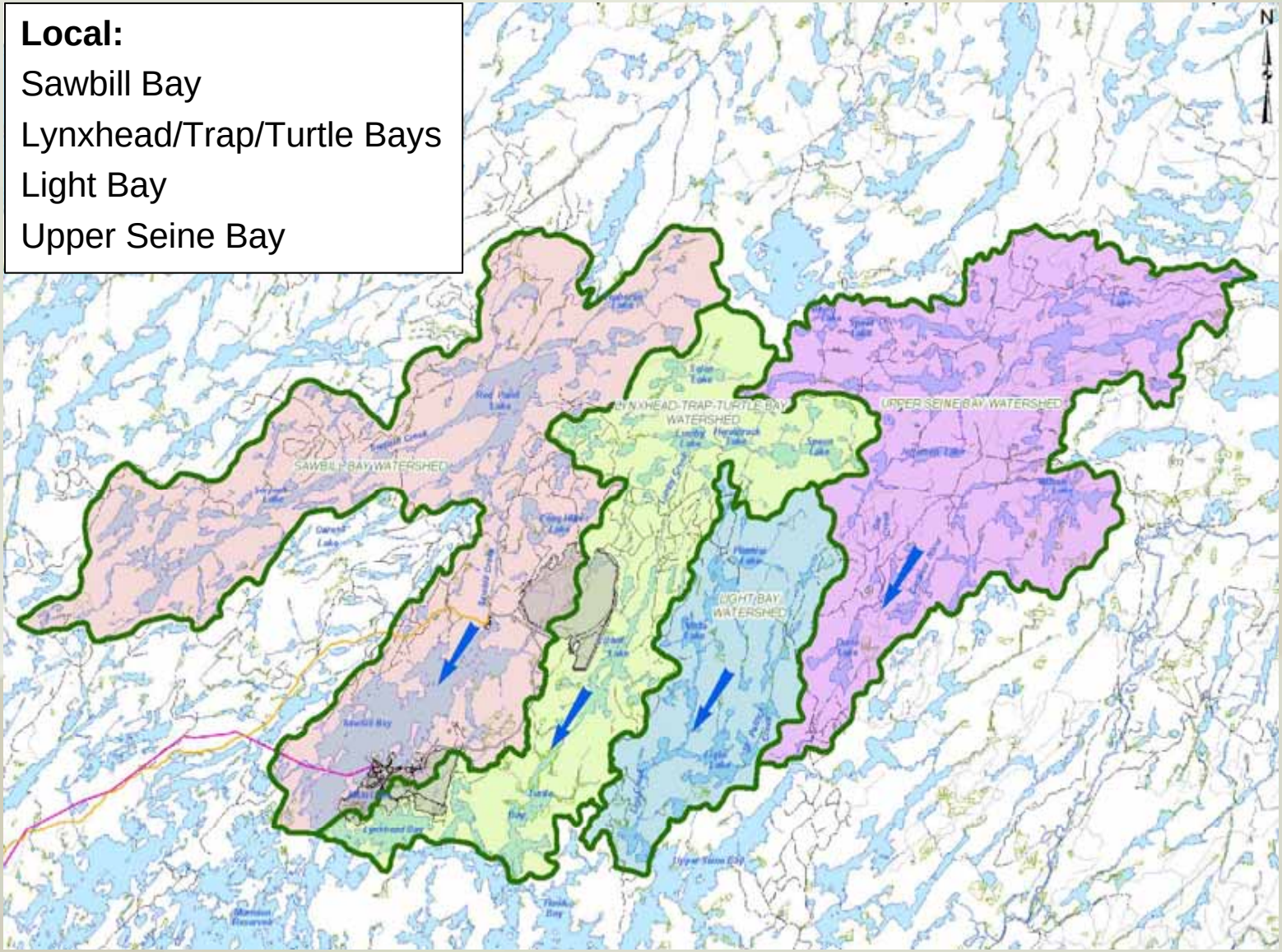
Local:

Sawbill Bay

Lynxhead/Trap/Turtle Bays

Light Bay

Upper Seine Bay



Study Areas – Drainage Basins

Site:
44 catchments
29 in Project footprint

Streamflows:

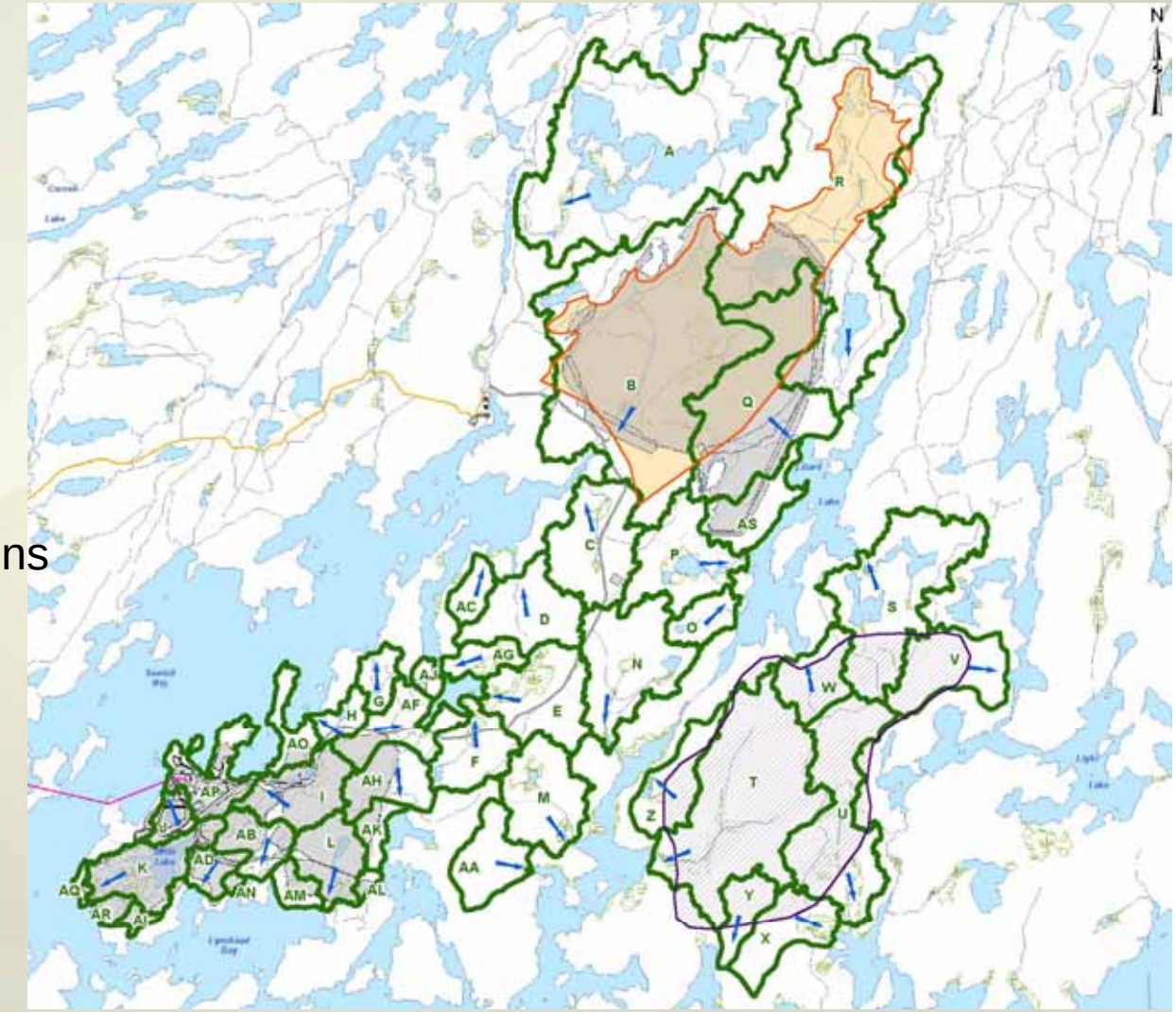
13 flow monitoring stations

Lake Levels:

5 lake level monitoring stations

Navigability:

Data collected at 40 sites



Planned Project Water Intake and Discharge

Fresh water will be taken from two separate locations in Sawbill Bay, Upper Marmion Reservoir.

- Potable water supply for the accommodation camp will be drawn from an intake point adjacent to the accommodation camp.

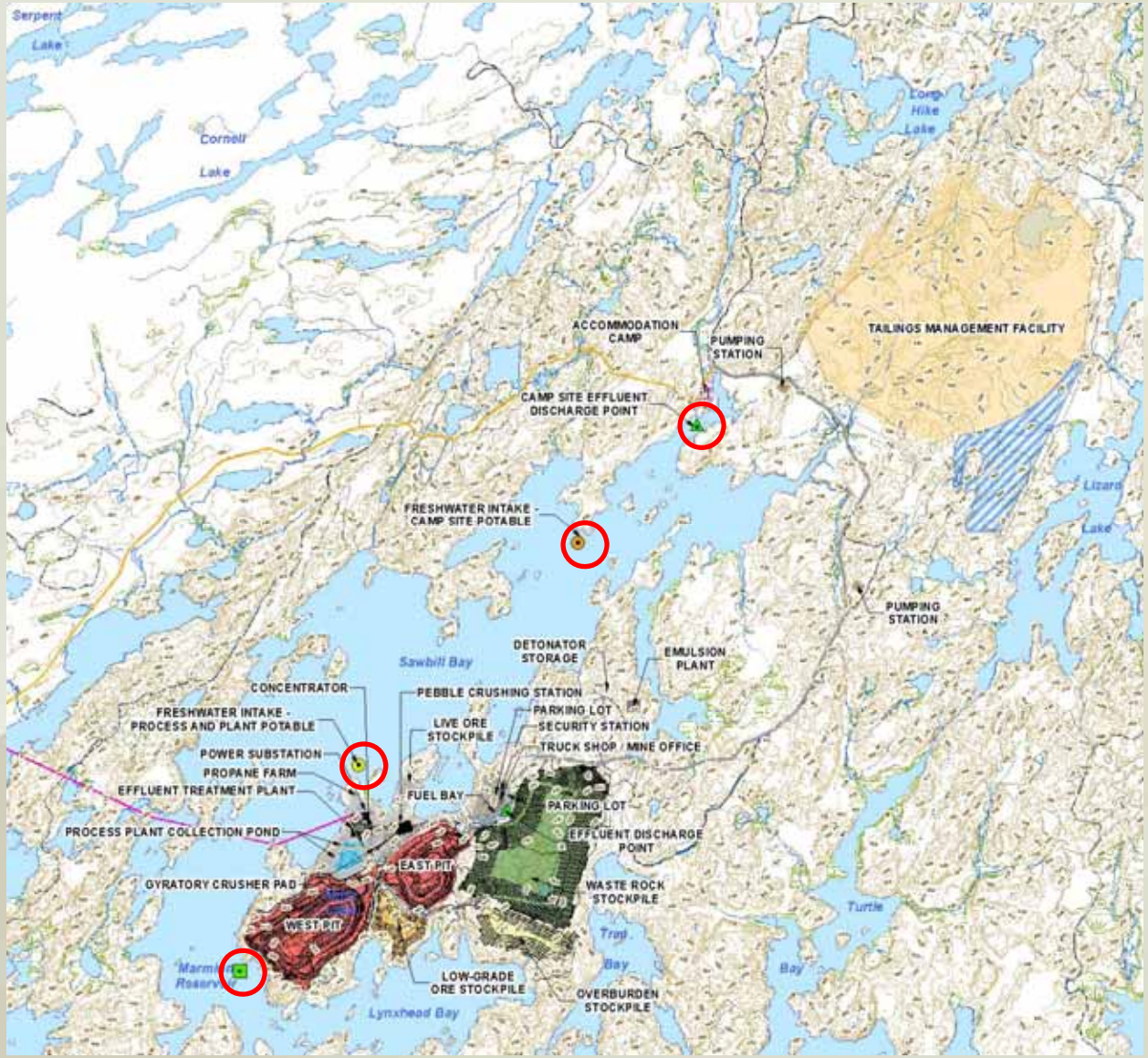
- Fresh water supply for potable and process water use at the processing plant will be drawn from an intake point adjacent to the processing plant.

Treated effluent will be discharged at two separate locations in Sawbill Bay, Upper Marmion Reservoir.

- Treated sewage effluent from the accommodation camp will be discharged near the mouth of Sawbill Creek.

- Treated wastewater effluent from the processing plant will be discharged at the outlet of Sawbill Bay.

Planned Project Water Intake and Discharge Locations



Site Water Balance for Hammond Reef Project

Fresh water required for ore processing and domestic use:

- Processing plant requires ~34,000 m³/day of water,
- Fresh water for processing plant ~7,200 m³/day in average year,
- Potable water for accommodation camp ~300 m³/day.

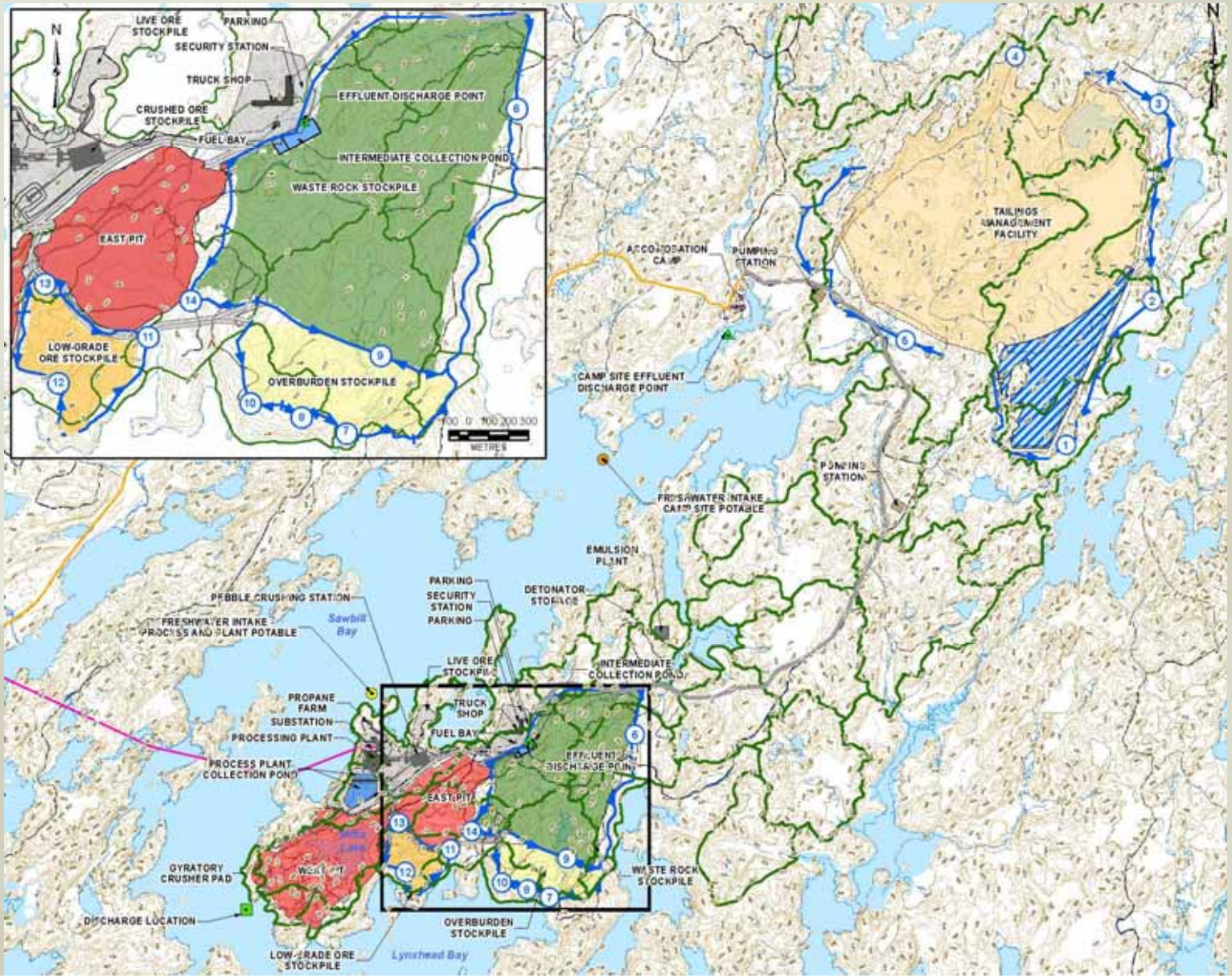
Flood Planning:

- Modeling informed design of water management system
- Calculated accumulation of water in the Collection Pond during a 24-hr 100-yr storm
- Calculated volume of ~350,000 m³.

Collection Pond will include two lined cells designed for the following volumes:

- Spill cell capacity ~100,000 m³
- Runoff cell capacity ~300,000 m³.

Overview of Site Water Balance



Predicted Changes to Upper Marmion Reservoir

Outflows:

- No increase in frequency of outflows below minimum requirements Seine River Water Management Plan
- Reduction of 0.192 m^3/s (<1%) in annual mean outflow - average year
- Maximum reduction of 4.9% in monthly mean outflow – 1:100 dry year

Water Levels:

- No increase in frequency of water levels below minimum requirements of Seine River Water Management Plan
- Maximum reduction of 9.0 cm in monthly mean water levels – 1:100 year wet and dry

Predicted Changes to Site and Local Hydrology

Local and Site Streams

- 15 of 29 small catchments reduced in size by > 50% by Project footprint
- Maximum reduction of ~7% in monthly mean flows in Lumby Creek flows
- Maximum reduction of < 1% in monthly mean inflows to Upper Marmion Reservoir

Local and Site Lakes

- 4 small unnamed lakes will be filled in by Project footprint
- Maximum reductions in monthly mean water levels of 2-3 cm in Unnamed Lake 5 and Lizard Lake

Waterway Navigability

- Loss of navigability within the Project footprint
- 5 new water course crossings
- Intake and discharge structures in Marmion Reservoir

Mitigation Measures

- Install temporary signage during construction of water intake and effluent discharge structures in Marmion Reservoir
- Install permanent signage warning boaters of submerged structures
- Precipitation (weather station) records will be used for design and flow evaluation and adaptive management
- Ongoing discussions with other local water users and participation in the **Seine River Watershed Management Plan**.
- Develop and implement a site water management plan prior to operations

Follow Up Program

- Local Field Stations
  - Maintain 7 stations to monitor stream flows and lake levels

- Site Operations Monitoring
  - Install flow meters at key locations in water management system
    - Potable and fresh water intakes
    - Treated effluent discharge outlets
    - Mine dewatering and mine water pump stations
    - TMF reclaim pond and seepage collection pump stations

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HYDROGEOLOGY



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Hydrogeology Assessment

- Predicted changes to groundwater quantity developed from 3-D groundwater flow model of open pit and mine site area
  - Pit inflows estimated to range from 740 to 1200 m^3/d
    - About 50% of inflows derived from Marmion Reservoir
    - About 50% derived from seepage from adjacent stockpiles
  - Extent of groundwater drawdown localized to pit area
    - About 700 m to the northeast
    - Flow in local streams will be reduced
    - Intermittent streams will experience longer dry periods seasonally
  - Groundwater levels will recover to approximate pre-mining conditions during post-closure

No significant impacts were identified.

Mitigation and Management

- Groundwater inflows to the pit will be managed by operation of in-pit sumps.
- Seepage rates will be controlled
  - low permeability containment
  - relocating a pumping station to area with more favourable conditions

- Mitigation could include:
  - Grouting
  - Drain holes
  - Vertical wells

Follow Up Program

Additional hydrogeology investigations in the area of the PPCP

Develop and implement a groundwater monitoring program to include:

- Assessment of groundwater/surface water interactions
- Regular monitoring of pore pressures on pit slopes during
- Regular monitoring of groundwater levels and water quality
    - Continuation of existing program
    - Drilling/installation of additional well nests may be required.

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Site Water Quality & Lake Water Quality



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Site and Lake Water Quality

- Site water quality model developed to predict range of water quality from key site facilities based on:
  - Defined Project,
  - Expected water balance,
  - Existing water quality and
  - Geochemical studies.

- Lake water quality model developed to predict range of lake water quality due to Project operations based on:
  - Project discharge concentrations,
  - Project discharge flows,
  - Local water balance,
  - Site water balance, and
  - Existing lake water quality.

There are no direct significant impacts to downstream water bodies from changes to water quality.

Effects Assessment

- Most water quality parameters are predicted to meet baseline conditions or guidelines values at the Marmion Reservoir and the Raft Lake Dam
  - ODWS
  - CCME
  - PWQO
  - MISA
- For parameters exceeding a criteria, the significance is assessed to determine if the parameter could have an effect on living things

- Potential water treatment
  - Total suspended solids
  - Phosphates
  - Metals

- Site Specific Water Quality Objectives
  - Copper
  - Free cyanide

Mitigation Measures

- Limit total suspended solids (TSS) discharge
- Implement phosphate-free soaps policy at camp
- Water treatment for TSS and phosphate may be required
- Seepage will be captured and directed to the Tailings Management Facility during operations.
- In Post-Closure seepage will be directed to the open pit to the extent practicable until such a time as it meets appropriate discharge standards
- Appropriate clean-up of any spills will occur

Follow Up Program

Water quality monitoring for general parameters, nutrients, cyanide, and metals at several stations including:

- Internal stations
- PPCP
- TMF reclaim Pond
- Process Plant Discharge to TMF
- WRMF, Stockpile, TMF and Site runoff collection ponds
- Explosive storage area runoff collection pond

Compliance Monitoring:

- Potable site and camp water
- Site Discharge (PPCP or treatment plant)
- Camp Discharge (parameters related to treated sewage)
- Lake water stations

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Aquatic Biology



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Table 2-1: Summary of Field Program Dates

Aquatic Biology Overview

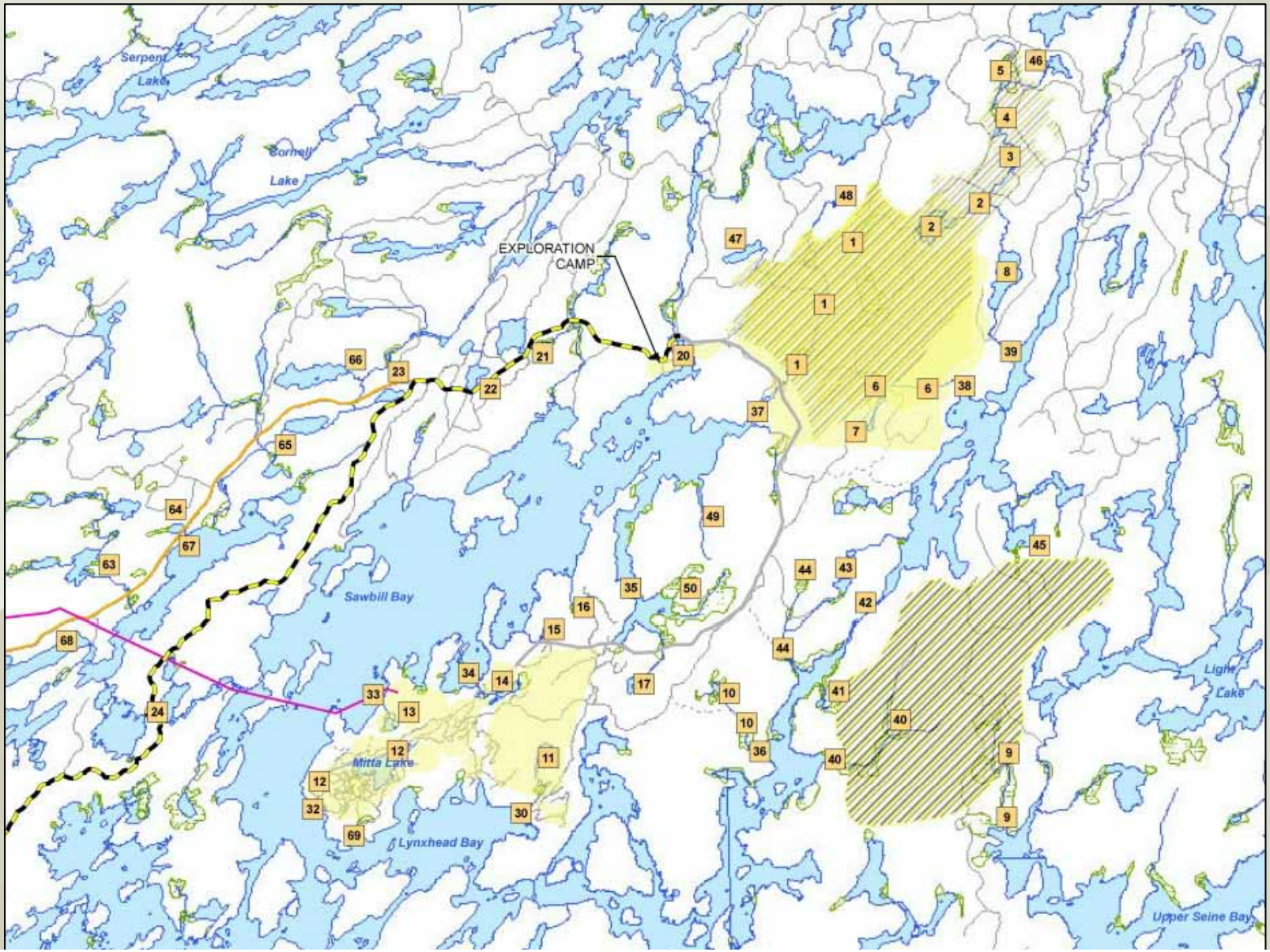
The study was focused on Valued Ecosystem Components, represented by the following fish species and aquatic indicators:

- Lower Reaches & Receivers
- Small-bodied fish - baitfish
- Sport fish – walleye, northern pike, smallmouth bass
- Benthic invertebrates

- 55 APIs were investigated over multiple seasons
- 24 species of fish were found
- Not all APIs supported fish

Field Data Collected	2010	2011	2012
Fish and Aquatic Habitat	May 8 -15, August 1-6, 18-29, September 23-30, October 14-20	May 3-10, May 27 - June 5, August 26-30, September 23-29	August 22-31, September 13-22
Fish Tissue	August 18-29	September 23-29	
Benthic Invertebrates	October 14-20		
Aquatic Sediments	October 14-20		

Aquatic Biology Baseline Field Survey Locations



Effects Assessment

- Water level changes or Effluent discharges
  - Predicted levels downstream of Upper Marmion Reservoir in the Seine River.
  - Changes in lake levels of less than 5 cm
  - No predicted impacts
  - Effluent discharges to receiving waters do not result in impacts to aquatic life.

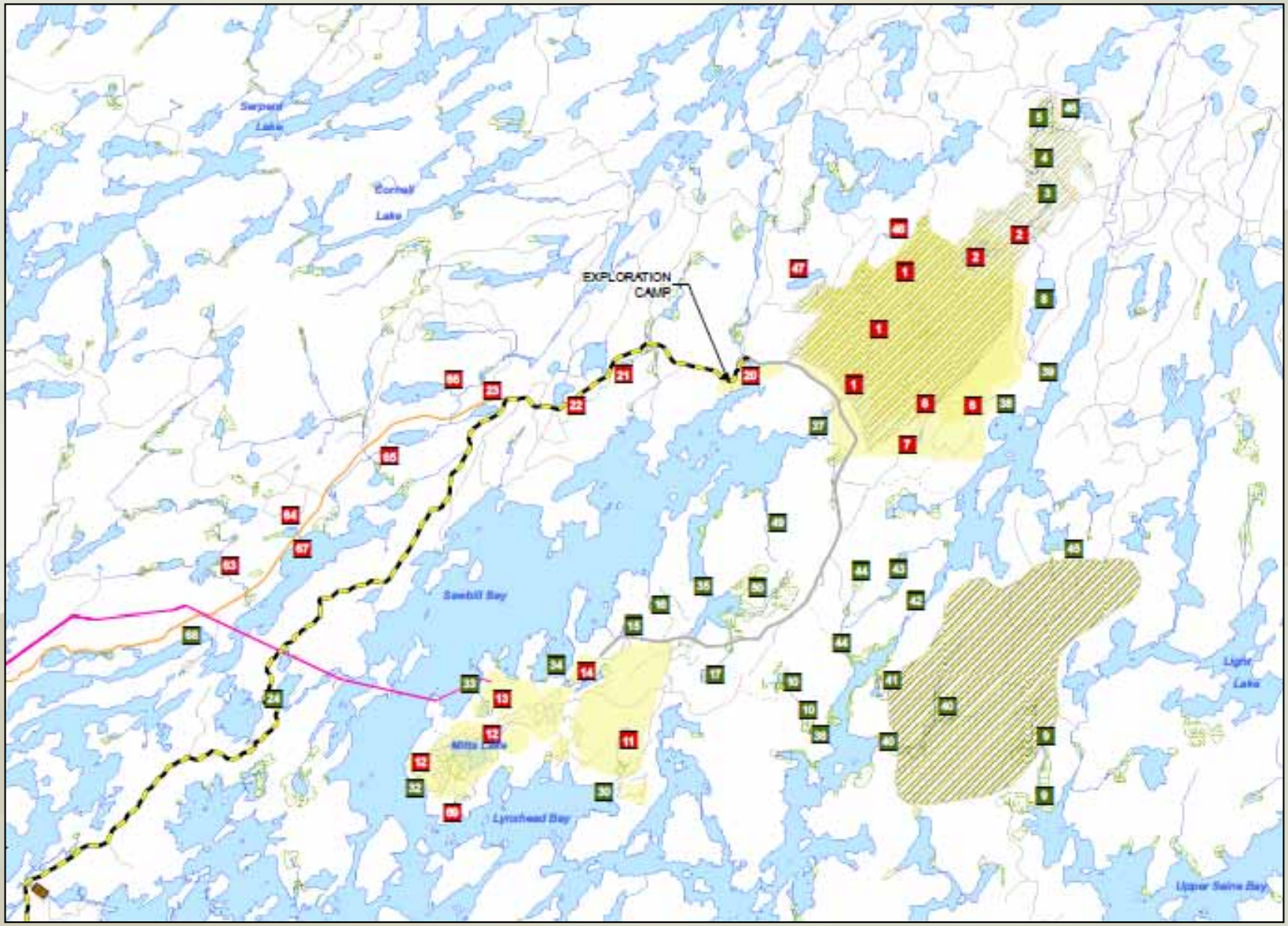
- Loss of aquatic habitat
  - Project infrastructure
  - In-water structures (water intake structures, effluent discharge structures)
  - Road crossings
  - Can be offset by habitat compensation

Fish Habitat Losses

- Approximately 40 ha of aquatic habitat will be lost
  - 11 water bodies (streams, ponds, lakes) will be lost within the mine footprint
  - Open Pit
  - Process Plant Collection Pond (PPCP)
  - Waste Rock Stockpile – needs MMER Schedule 2
  - Tailings Management Facility (TMF) – needs MMER Schedule 2
- 14 watercourse crossings for the access road and mine road

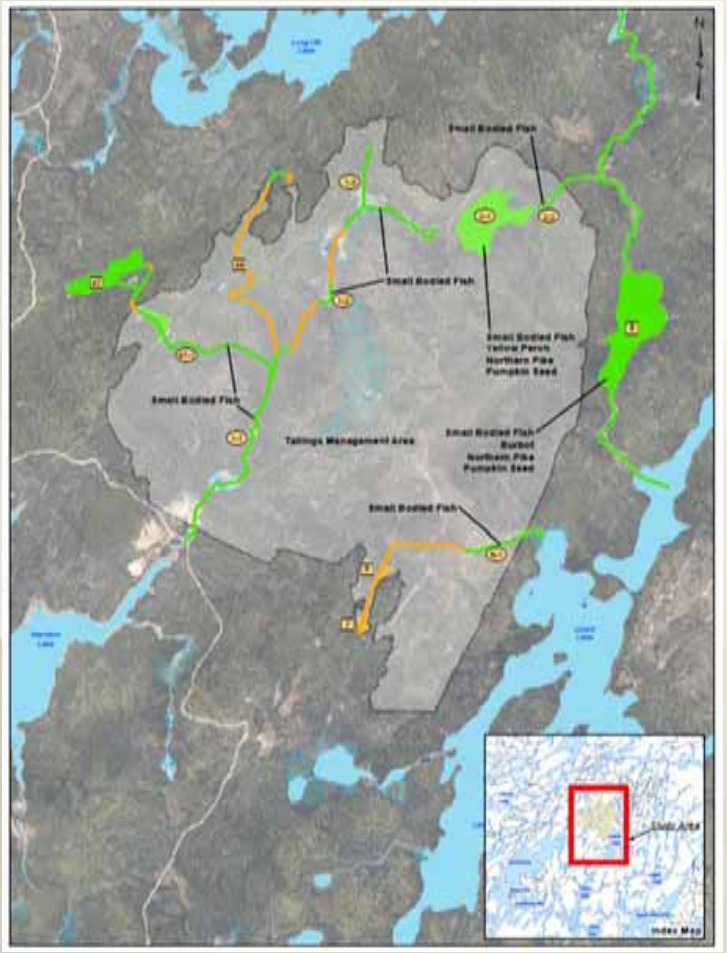
- Fish habitat compensation must take place
  - Onsite
  - Off site

Affected Waterbodies

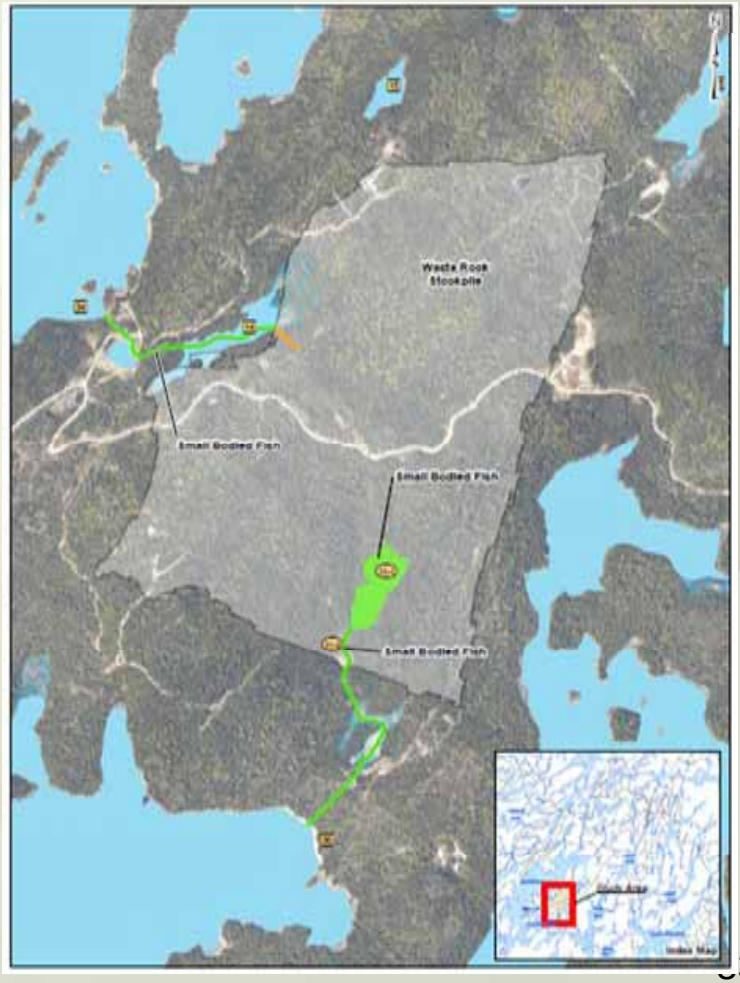


MMER Waterbodies

Tailings Management Facility

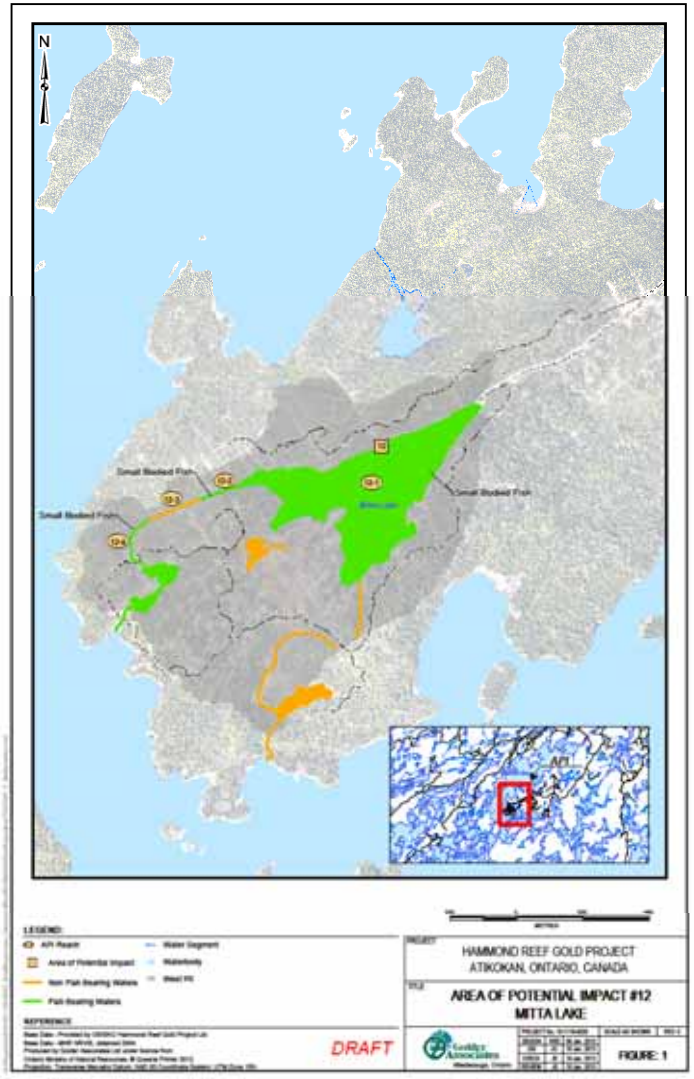


Waste Rock Stockpile



OSISKO
A Fresh Outlook on Mining

Waterbodies affected by the Open Pit



Fish Habitat Compensation – On Site

- A series of meetings took place to development approved Habitat Accounting Methodology which will be implemented in the no net loss planning for the Project.
- No net loss planning includes both habitat compensation and offsets

- Onsite compensation plan to address valued fishery:
  - Stock 4 fishless ponds and create 3 headwater ponds
  - Create fish passage (walleye, pike) in lower Sawbill and Lumby Creeks
  - Create pike spawning habitat in Sawbill Bay in 3 locations
  - Create stream habitat/remove fish barriers at 14 stream crossings (along access and mine road)

- Complete compensation measures during the construction phase of project and monitor during operations phase

Fish Habitat Compensation – Off Site

- Considering Steep Rock remediation efforts instead of onsite work
  - MNR, public and Aboriginal groups have shown interest in Steep Rock alternative.
  - Not usually a preferred option by DFO
  - We have heard that Steep Rock remediation is an important local issue
  - **Please provide comments stating preference for off site compensation if you feel it is of greater benefit to the community**
  - The only way DFO will consider remediation of Steep Rock in lieu of onsite work is if we can pass on letters from the public and Aboriginal groups in support of this option.

Mitigation Measures

- Develop and implement Fish Compensation Plan
- Develop and implement Fish Relocation Plan

- Intake structures will be designed to minimize loss of aquatic organisms.
- Conduct test blast and adjust blasting operations to meet DFO guidelines for vibrations in fish habitat
- Implement standard in-design mitigation erosion control measures
- Maintain sufficient flows in streams during construction of stream crossings and avoid sensitive periods for fish.
- Restrict fishing by Osisko employees while at camp

Follow Up Program – Aquatic Effects Monitoring

- Monitor lake levels
  - Adjust water taking if levels fall below minimum to maintain fish habitat downstream in the Seine River.
- Monitor discharge water quality
  - Implement additional treatment if water quality exceeds predicted concentrations of metals, sulphate and cyanide.
- Monitor seepage from TMF to Lizard Lake
  - Implement control measures if water quality exceeds worst case predictions.
- Monitor water quality post-closure
  - Implement additional treatment if water quality exceeds predicted concentrations for metals.
- Additional Environmental Monitoring to confirm
  - Compensation Success
  - Construction Compliance
  - Environmental Effects Monitoring (EEM)

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Terrestrial Ecology



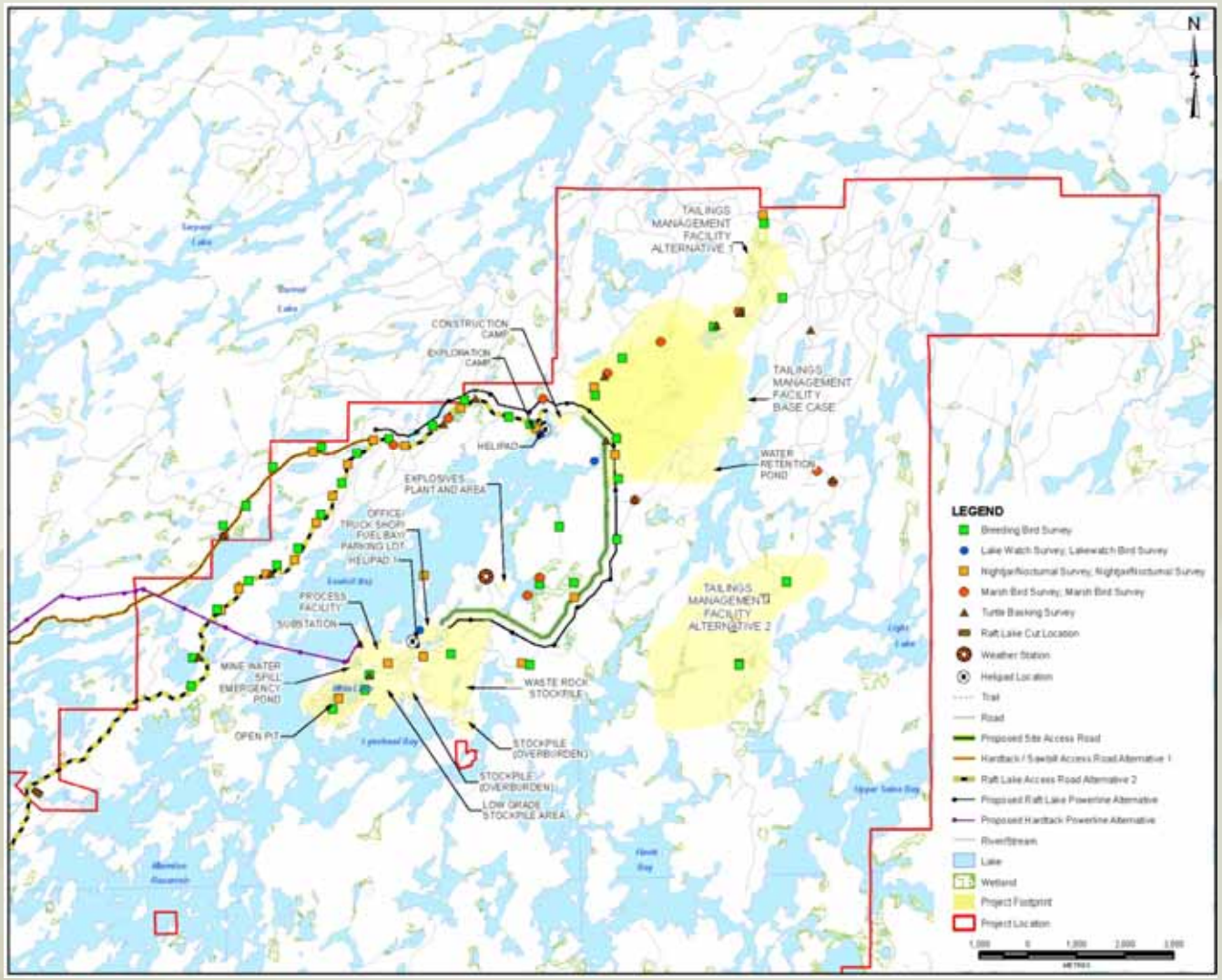
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Terrestrial Ecology Overview

Valued Ecosystem Components

- **Habitat VECs**
  - **Wetlands**
  - **Forest Cover**
- **Group VECs**
  - **Furbearers**
  - **Upland Breeding Birds**
  - **Species At Risk**
- **Species VECs**
  - **Moose**
  - **Wild rice**

Terrestrial Ecology Baseline Field Survey Locations



Residual Impacts and their Significance for the Terrestrial Ecology TSD

VEC	Effect	Geographic Extent	Magnitude	Duration	Overall Significance of the Effects
Wetlands	Loss and alteration of vegetation	low	moderate	moderate	**LOW**
	Alteration of Flows and Drainage Patterns	moderate	low	moderate	**LOW**
Forest cover	Loss and alteration of vegetation	low	moderate	low	**LOW**
Moose	Loss of habitat	low	negligible	low	**NEGLIGIBLE**
Furbearers	Loss of habitat	low	moderate	moderate	**LOW**
	Alteration of flows and drainage patterns	moderate	low	moderate	**LOW**
Species at risk	Loss of habitat	low	moderate	moderate	**LOW**
	Alteration of flows and drainage patterns	moderate	low	moderate	**LOW**
	Risk of Injury/Mortality	low	low	high	**LOW**
Upland breeding birds	Loss of habitat	low	moderate	moderate	**LOW**

Mitigation Measures

- Stockpile soil
- Capture runoff from stockpiles & TMF
- Domestic sewage effluent will be treated
- Excess water will be treated and returned to Marmion Reservoir
- Minimize wildlife/vehicle collisions.
  - Post speed limits & warning signs.
  - Awareness training for workers (especially for snapping turtles).
- Stop blasting temporarily if large mammals are observed within the zone.
- Vegetation clearing will consider breeding birds
- Develop a policy to restrict hunting, harvesting and trapping by Osisko employees while living at the accommodation camp
- Install markers on Transmission line and limit the use of guy wires.
- Selectively clear the pathway of the transmission line (not graded)
- Vegetated riparian buffers will remain around watercourses at access road crossings to the extent possible.
- Native species for re-vegetation at closure.
- Develop an invasive plant management strategy
- Develop an industrial and domestic waste management plan
- Animals that become a nuisance will be trapped and moved to remote locations for release.

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Human Health and Ecological Risk Assessment



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Human Health and Ecological Risk Assessment (HHERA)

- Human Health Effects Assessment
  - Acute and chronic inhalation assessment
  - Noise assessment
  - Particulate matter assessment
  - Multi-media assessment (includes water and soils)
- Ecological Health Effects Assessment

No residual effects for, acute inhalation, chronic inhalation, multi-media assessment or ecological health.

Assessment of Effects

Noise Effects		Diesel Particulate Matter Effects		PM_{10} Effects	
Level	**Rationale**	**Level**	**Rationale**	**Level**	**Rationale**
Low	Predicted health measures are below Health Canada guidelines Additional literature search identified potential noise effects at levels below guidelines Assumed the receptors are subject to the predicted noise concentrations on a long-term basis	Low	The ILCR for both locations is 1.6×10^{-6} DPM concentration based on maximum emissions during operation phase and assumed to apply for the entire constructions, operations and closure phases The ILCR exceeded the target cancer risk level at one location only Assumed that trapper is exposed to the maximum annual DPM concentration for 8 hours per day, 105 days per year for 15.5 years	Low	The maximum predicted 24-hour concentration was within 10 $\mu g/m^3$ of the screening threshold The PM10 concentration was only above the screening threshold at one receptor location 95% of the time the PM10 concentration would be below the screening threshold at that receptor location

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Cultural Heritage



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CULTURAL HERITAGE

Stage 1 Archaeological Assessment (desktop report)

- Property inspection completed in October 2011
- General history of the regional and local study area
- Built Heritage and Cultural Landscape screening

Stage 2 Archaeological Assessment – Completed August 2012:

- Golder archaeological team and Aboriginal assistants
- Test pit survey
- Two historic sites both related to the earlier mine exploration activities.

No designated cultural heritage sites identified within the study area.

Sawbill Mine Site:

- Complete a cultural heritage evaluation report for the Sawbill Mine Site.

Gas Engine (circa 1940)



Mine Shaft



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Aboriginal Interests



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Aboriginal Interests Overview

Valued Ecosystem Components

- **Aboriginal Community Characteristics VEC**
  - Project-related employment opportunities
  - Project-related expenditures
  - Project-related education and training

Aboriginal Heritage and Culture VEC

- Project-related disturbance of archaeological sites
- Restricted access or disturbance of cultural or spiritual sites

- **Traditional Land Use VECs**
  - Project-related changes to fishing opportunities
  - Project-related changes to hunting, trapping and plant harvesting opportunities
  - Project-related changes to source and safety of country foods

Effects Assessment

- **Aboriginal Community Characteristics VEC**
  - Positive effects only
  - Need for enhancement to education and training

- **Aboriginal Heritage and Culture VEC**
  - No effects
  - No identified artefacts
  - Special sites in the area are not within Project footprint
  - Share construction plans on an ongoing basis

- **Traditional Land Use VECs**
  - Potential effect is low
  - Regional use of lands
  - Low reliance on country foods

Follow Up Plan

- Ongoing information sharing throughout all Project phases
- Involvement in fish relocation planning
- Ongoing use of Resource Sharing Committees

- Economic Commitments
  - Scholarships
  - Partnerships with local academic institutions
  - On the job training
  - A hire local priority policy
  - Targeted employment, training and business opportunities

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Socio Economic



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Socio-Economic Overview

Socio-Community

- Population and Demographics
- Labour Market
- Government Finances
- Public Services and Infrastructure
- Housing and Accommodation
- Transportation

Land and Resource Use

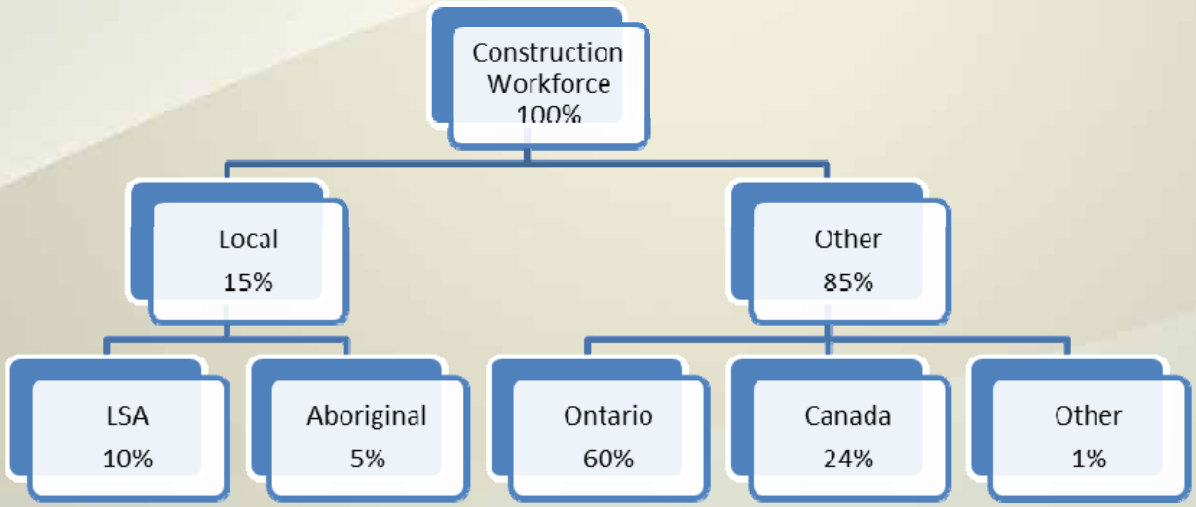
- Outdoor Tourism and Recreation
- Hunting, Trapping, Fishing
- Mining and Forestry
- Water Use and Access

Study Areas

- Population, services and infrastructure focussed on Town of Atikokan
- Economic benefits also include districts of Rainy River, Thunder Bay and Kenora
- Land and Resource Use focussed on study area identified by Aquatic and Terrestrial Biologists

Population and Demographics

- The permanent resident population in the LSA during the construction phase is expected to increase by 54 persons.
- The total direct increase in the permanent resident population in the LSA for the operations phase is 223 persons.
- Population increase associated with the Project is expected to have an overall beneficial effect on the community.



Labour Market Assessment

- Total cost to construct the Project is estimated at $1.4 billion
- Labour costs are estimated at $288 million
- $33 million is anticipated to be spent in the Local Study Area

- Total annual operating costs are estimated at $395 million
- Labour costs are estimated at $68 million
- $9.8 million per year is anticipated to be spent in the Local Study Area

Project Employment

- Estimated 42 direct construction jobs within the LSA
- Estimated 40 indirect construction jobs within the LSA
- Estimated165 direct operations jobs within the LSA
- Estimated 19 indirect operations jobs within the LSA

Predicted to reduce the number of unemployed persons from 150 (9.0% unemployment rate) to approximately 104 (5.9% unemployment rate)

Outdoor Tourism and Recreation

- Visual Assessment
  - Perception of the LSA could change
  - Some views are no longer remote or pristine wilderness
  - Could affect outdoor tourism and recreation in the LSA
  - Nine locations modelled as shown in next slide

- Restricted Access
  - Campsites and tourism establishment
  - Must comply with noise standards
  - Minimize and reduce impacts to human health

Visual Assessment



Visual Assessment

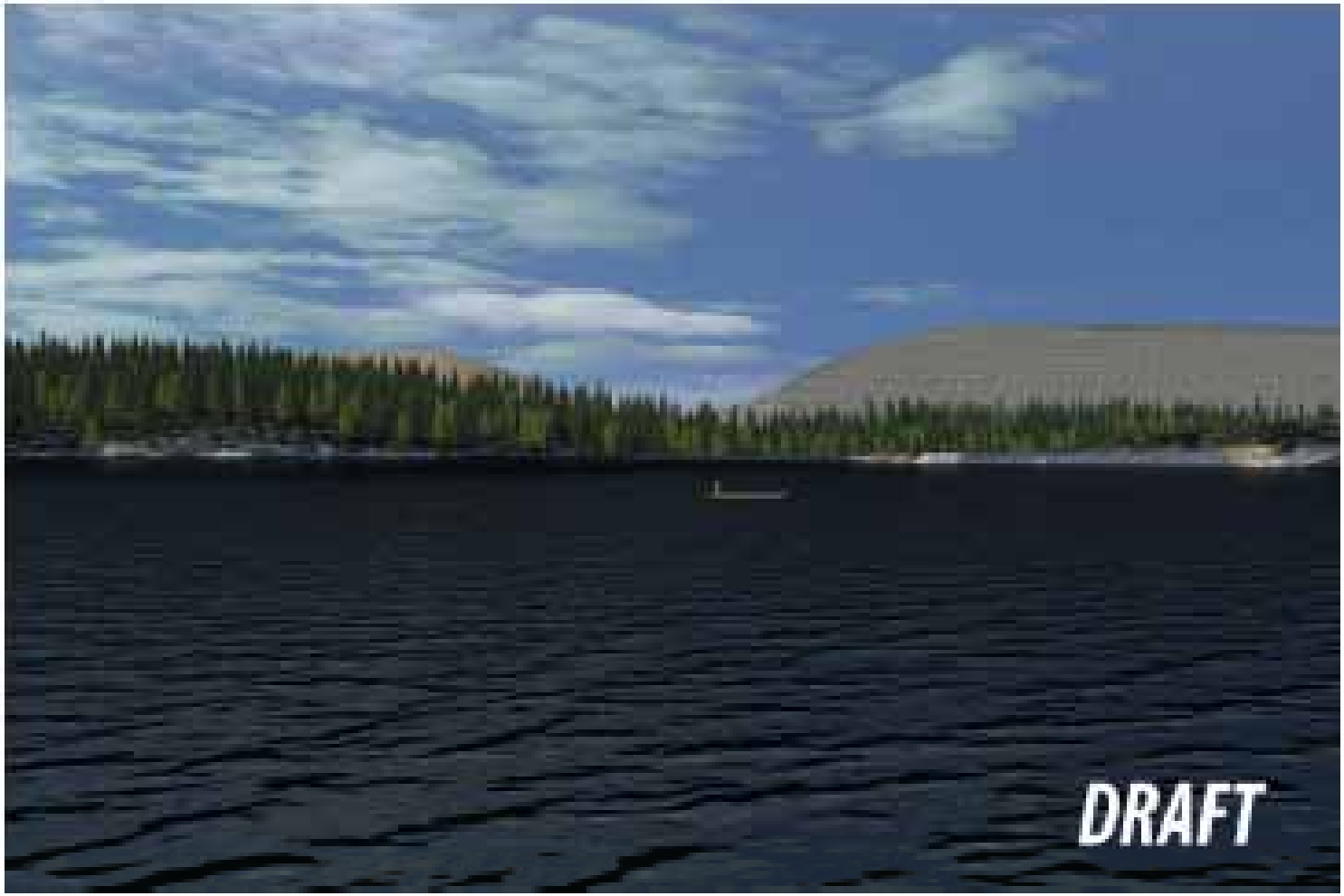


Figure 2: Visual Simulation - View of Overburden and Waste Rock Stock Piles form Lizard Lake

Visual Assessment



Figure 6: Visual Simulation - View of Process Plant from Sawbill Bay

Visual Assessment



Figure 10: Visual Simulation - View from Finlayson Lake Resort

Transportation

- Construction phase is anticipated to result in an increase in traffic
- Category 'C' level of service on Highway 11B,
- Volume-to-capacity ratio up to 0.18 at Highway 11B and 622.

- These levels are well within acceptable service levels, the significance of this adverse effect is assessed as low.

Hunting

- Within the LSA, the Project is expected to remove 2,063 ha of land that would otherwise have been available for hunting.

- This represents 0.3% of the total area of Wildlife Management Unit and 2.0% of the total area of Bear Management Areas.

- The loss of this resource may result in increasing hunting pressure on similar areas in the LSA.

Follow Up Plan

Invest in Public Infrastructure

- Work with the Town of Atikokan to support the licensing, construction and operation of a new municipal landfill site.

Protect Tourism and Recreation

- Ongoing sponsorships of events such as the Atikokan Bass Classic.
- Restrict hunting/fishing for workers while at camp.

Grow the Local Workforce

- Encourage workers to relocate their families to Town of Atikokan
- Provide incentives for workers to live in Town
- Potential spousal hiring program

Optimize Local Business Opportunities

- Work with the Town of Atikokan and the Atikokan Economic Development Corporation to identify opportunities for local businesses to develop or expand

Invest in Worker Education and Training

- On site and off site employee training
- Partner with local school boards
- Employee transition planning including training and placement support to assist employees in finding other employment in the community or elsewhere in the resource extraction sector

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Environmental and Social Management Planning



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EVIRONMENTAL MANAGEMENT PLANNING

Conceptual plans

- Monitor the effectiveness of mitigation measures
- Verify the predicted changes to the environment

Detailed plans

- Developed in cooperation with Project stakeholders
  - Aboriginal
  - Public
  - Government
    - Provincial & Federal – identify lead agencies (direction/report review)

Social Management Planning – OHRG/Atikokan Committee

- Facilitate ongoing communications with the public
- Represent the long term well being of the Town of Atikokan
- Develop measures that contribute to the local quality of life

- Long term beneficiary fund
  - Provide community sponsorships and support
  - Committee will select projects to be supported
  - Identify projects that can improve the quality of life for as many Atikokan residents as possible:
    - Cultural;
    - Social;
    - Physical;
    - Educational; and
    - Environmental.

Social Management Planning – Monitoring Program

- Social indicators will be identified and confirmed through ongoing consultation.

- These indicators will be based on measurements that can be compared over time with those presented in Baseline Conditions, for example:
  - Education levels
  - Unemployment levels
  - Hunting and fishing licenses

- Social monitoring plans will be developed in cooperation with the Committees

Monitoring will facilitate the adaptive management of socio-economic effects.

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Economic & Social Benefits



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BENEFITS OF THE PROJECT

The Project is anticipated to provide substantial economic benefits to local community members through direct employment.

Estimated wages and salaries:

- Total:$2 billion.
- Local: $332 million

The total combined estimated wages and salaries paid to Aboriginal community members for the construction and operations phases are $124 million.

BENEFITS OF THE PROJECT

The Project is anticipated to provide substantial economic contributions through provincial and federal revenues from personal income taxes.

Estimated income and payroll tax revenues are provided for the construction and the operations phase.

- Total: $490 million
- Provincial: $175.7 million
- Federal: $315.1 in federal taxes.

Taxes considered include those paid by direct labour and by spin-off employment, either indirect or induced.

BENEFITS OF THE PROJECT

The Project is anticipated to provide substantial long term social benefits through workforce training.

- Enhancement of existing skills
- Opportunities to develop new skills

Workforce training will occur through a number of pathways including:

- On-job and on-site training programs carried out by OHRG as part of daily operations
- Focussed off-site training for specific jobs and tasks
- Community-based training directed towards obtaining employment by OHRG or its suppliers

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Next Steps



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Notice of Public Comment Period

DRAFT Environmental Impact Statement / Environmental Assessment Report

Osisko Hammond Reef Gold Project

Osisko Hammond Reef Gold (OHRG) has developed a draft Environmental Impact Statement /Environmental Assessment (EIS/EA) Report for the Hammond Reef Gold Project (the Project).

Over the next seven weeks, OHRG will be sharing the details of the draft EIS/EA Report with the Project stakeholders and accepting comments. Planned information sharing includes presentations to government, meetings with Aboriginal groups and an Open House in Atikokan.

The combined draft EIS/EA Report was prepared according to provincial and federal information requirements for the Project. Provincially the requirements include the Terms of Reference approved by the Minister of the Environment on July 4, 2012. Federally, the requirements include the EIS Guidelines prepared by the Canadian Environmental Assessment Agency and posted on the Canadian Environmental Assessment Registry on December 15, 2011.

The Project is a proposed mine located approximately 23 km northeast of Atikokan, Ontario. The Project involves the establishment, construction, operation, and closure of an open pit gold mine, and any ancillary activities and structures.



The draft EIS/EA Report will be available for public review and comment from February 15, 2013 to April 5, 2013. You may review the draft EIS/EA Report on the Osisko website at

http://www.osisko.com/en/properties/hammond-reef/enviromental.html

The draft EIS/EA Report is also available for review in hard copy Monday to Friday 8:30 am – 5: 00 pm at the following locations:

Osisko Hammond Reef Gold Ltd.
101, Goodwin Street
Atikokan, ON P0T 1C0

Ministry of the Environment
Environmental Approvals Branch
St. Clair Avenue West, Floor 12A
Toronto, Ontario M4V 1L5
416-314-8001/1-800-461-6290

Anyone wishing to provide comments on the draft EIS/EA Report should submit their comments in writing and/or by email to Osisko Hammond Reef Gold by April 5, 2013. All comments should be submitted to:

Osisko Hammond Reef Gold Ltd.
Alexandra Drapack
Manager, Sustainable Development
155 University Avenue, Suite 1440
Toronto, ON M5H 3B7
Email: adrapack@osisko.com

Details on an upcoming Open House in Atikokan will be provided through advertisements in the Atikokan Progress, Fort Frances Times and Thunder Bay Chronicle.

OSISKO HAMMOND REEF GOLD LTD.

Head Office:
1100, av. des
Canadiens-de-Montréal
Suite 300, P.O. Box 211
Montreal, Qc, H3B 2S2

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www.osisko.com

Under the Freedom of Information and Protection of Privacy Act and the Environmental Assessment Act, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

DRAFT EIS/EA Report is available online

Electronic and hard copies distributed to Project stakeholders

February 15 began 7 week public comment period (ends April 5 2013)

Questions, comments, and feedback is appreciated

Letter regarding Steep Rock remediation.

ONGOING PUBLIC CONSULTATION

- Bi-Weekly Community News Briefs
  - Atikokan Progress
  - Fort Frances Times
  - Ignace Driftwood
  - Thunder Bay Chronicle
- Workshop – Planned March/April 2013
- Open House – Planned March/April 2013

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MEETING NOTES
MEETING WITH THE TOWN OF ATIKOKAN
May 21 2013

Attendees:

	Attendee	Organization
1	Mayor Dennis Brown	Town of Atikokan
2	Bud Dickson	Town of Atikokan
3	Marj Lambkin	Town of Atikokan
4	Jerry Duhamel	Town of Atikokan
5	Bob Gosselin	Town of Atikokan
6	Marlene Davidson	Town of Atikokan
7	Angela Sharbot	Town of Atikokan
8	Lonny Maunu	Town of Atikokan
9	Garth Dyck	Town of Atikokan
10	Peter Burbeck	Town of Atikokan
11	Nicole Halasz	Town of Atikokan
12	Brandy Coulson	Town of Atikokan
13	Mike McKinnon	Atikokan Progress
14	Alexandra Drapack	Osisko Hammond Reef Gold
15	Martin Griffin	Osisko Hammond Reef Gold

Meeting Purpose:
Present an update on the comments received on the DRAFT EIS/EA report and our approach to responding to the comments. (See attached Presentation)

Comments:
Q: How long is the EIS/EA approval valid?
A: My understanding is that the EIS/EA approval is valid for the project that is described in the EIS/EA report. If that project is not built for a few years, the approval is still valid, as long as the project details do not materially change. For example, the Town of Atikokan had an approved EA for the landfill that was granted in 1997 and is still valid today because the project is the same as described in your 1997 report.

Hammond Reef Gold Project

Comments on the Draft EIS/EA Report

Draft EIS/EA Report

- Published February 15
- 7 week public comment period
- Received comments from:
  - Public
  - Government
  - Aboriginal

Public

Open House

- Comment forms (40)

Non Governmental Organizations

- Atikokan Economic Development Corporation (2)
- Ontario Federation of Anglers and Hunters Committee
- Atikokan Sportsmen's Club

Local Citizens

- Crystal Beach Resort (3)
- Individual letters and emails (5)

The local residents strongly support the Project

Open House

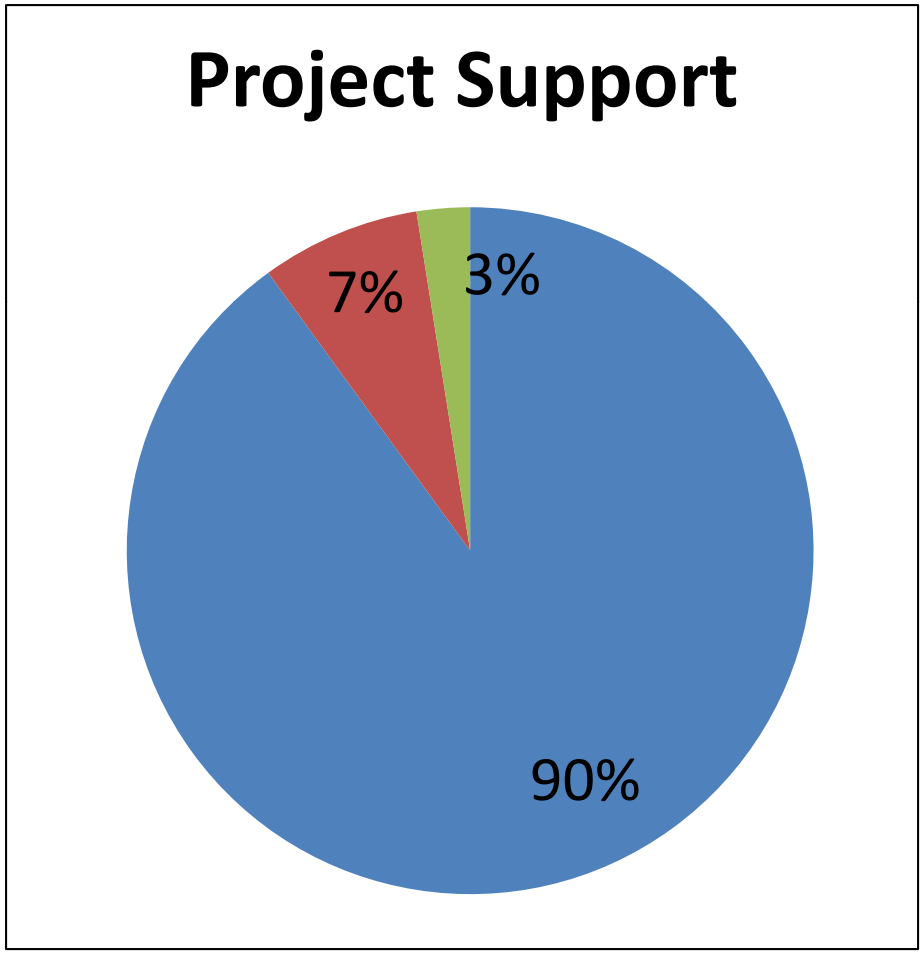
90% of respondents fully support the Project

My biggest **hope** relating to the Project is.....

-That it will be approved ASAP
-A good feasibility study
-Jobs for local people
-A place I can work and retire

My biggest **concern** relating to the Project is....

-It may be delayed
-Falling gold price
-Water quality of Marmion
-Not starting up soon enough
-Bringing in people who want to party and hang out

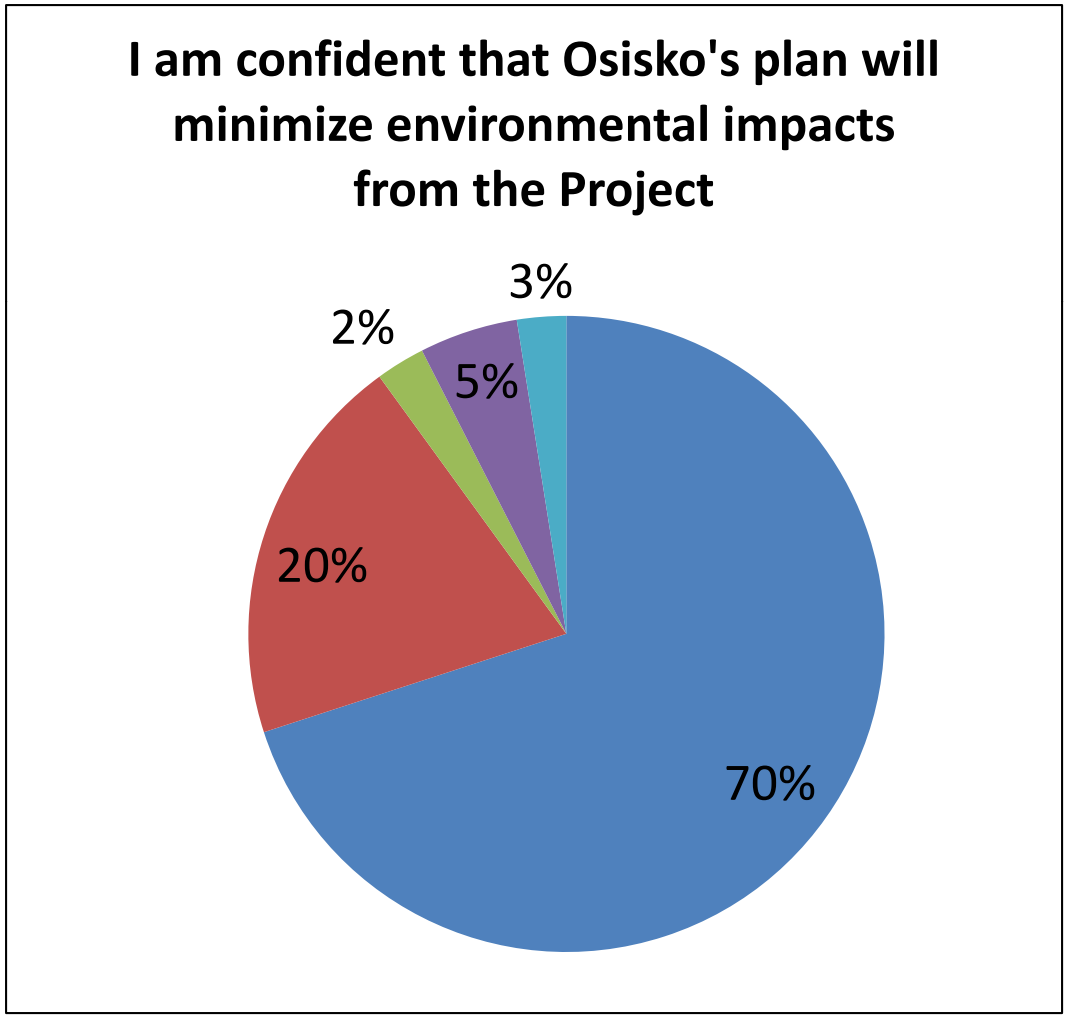


Open House

70% of respondents strongly agree Osisko's environmental management plan is sufficient

80% feel up to date on the Project

100% believe the quality of life in Atikokan will improve if the Project goes forward



People who depend on fishing and tourism are concerned about impacts and

changes to the landscape

Non Governmental Organizations

- **Ontario Federation of Anglers and Hunters**
  - OFAH does not support the project as proposed
  - Stated concerns of impact to fish and fishing
  - Provided comparison of Project fish tissue sampling to MOE protocol
  - Project fish tissue sampling considered inadequate
- **Atikokan Sportsmen's Club**
  - Baseline fish data not considered sufficient
  - Fish tissue analysis not considered adequate
  - Effluent treatment for nutrients, copper and cyanide not detailed enough
  - Vibration effects to fish not detailed enough
  - Fish habitat compensation plans not clear, do not agree with Steep Rock option
  - Closure plans not detailed or conservative enough, concerned about costs
- **Atikokan Economic Development Corporation**

  We are confident that the measures outlined by OHRG will address the areas of concern and mitigate the risks involved in developing this gold mine.

Local Citizens

- **Crystal Beach Resort**
  - Fishing
  - Water quality
  - Visual effects
  - Tourism
- **Individual letters and emails**
  - Does not support Steep Rock as fish habitat compensation
  - Concerned that personal mining claim is not considered
  - *The cost of mitigating any adverse effects (and the effects themselves) could indeed be minor compared to the economic and social benefits*
  - *I want to comment on how well Osisko has kept the public informed of plans, progress, etc. through your News Briefs and Open Houses.*
  - *I congratulate you on your tenacity and dedication to completing this report.*

Next Steps - Public

- ✓ Thank you letters for support

- Ontario Federation of Anglers and Hunters
  - Formal written response stating fish tissue sampling was sufficient

- Atikokan Sportsmen Club
  - May 22 meeting
  - Formal written response with qualitative answers

- Tourism Operators (including Crystal Beach)
  - May 21 meeting
  - Seek ideas for opportunities to mitigate impacts
  - Clearly convey visual impacts and restricted access requirements
  - Formal written response

- Mine Claim Holder
  - Formal written response stating that claim does not overlap with Project area

Aboriginal Groups

- Métis Nation of Ontario
- Seine River
- Lac des Mille Lacs

Government

Federal

- 166 comments
- Canadian Environmental Assessment Agency (40)
- Department of Fisheries and Oceans (38)
- Environment Canada (59)
- Health Canada (10)
- Natural Resources Canada (9)
- Transport Canada (16)

Government

Provincial

- 517 comments
- Ministry of Natural Resources (294)
- Ministry of Northern Development and Mines (48)
- Ministry of Environment (175)
- Additional letters provided on Air Model, Sewage Works, Archaeology and Heritage Assessment

Municipal

- 6 comments
- Town of Atikokan (2)
- City of Thunder Bay
- Township of O'Connor
- Township of Ignace
- Northwestern Ontario Municipal Association

Municipal

- **Town of Atikokan**

  I am confident that Osisko is doing everything possible to meet all environmental standards, and I look forward to Osisko being given permission to move forward.

- **Township of Ignace**

  I whole heartedly support the Osisko Hammond Reef Gold Project, for all the economical and social benefits it will provide for the Town of Atikokan

- **Township of O'Connor**

  Council feel that the project will greatly benefit local residents and will encourage a healthy and prosperous community and hey also feel that it is in the best interest of the Town of Atikokan that the project proceeds as quickly as possible

- **City of Thunder Bay**

  You have served Northwestern Ontario well as a model mining company of which social, corporate and environmental mining practices is leading edge.

- **Northwestern Ontario Municipal Association**

  We are excited about the positive impacts that this project will have on employment and economic activity for the region as well as the skills development opportunities that will be realized.

Ontario Coalition of Aboriginal People (OCAP)

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MEETING NOTES
OCAP INTRODUCTION AND PROJECT OVERVIEW
APRIL 13, 2012
VALHALLA INN, THUNDER BAY

ATTENDEES:

1	Jon MacDonald	Ontario Coalition of Aboriginal People (OCAP)
2	Karl Kahmann	Ontario Coalition of Aboriginal People (OCAP)
3	Mark O'Brien	Ministry of Northern Development and Mines
4	Patrick Barnes	Ministry of Northern Development and Mines
5	Cathryn Moffett	Osisko Hammond Reef Gold
6	Mark Bowler	Osisko Hammond Reef Gold

Purpose

The purpose of the meeting was to provide the opportunity for Osisko and OCAP representatives to meet face to face. Osisko provided an overview of the Hammond Reef Gold Project and the EA process, OCAP provided some background about themselves and detailed their concerns about the Project.

Information Provided

- Project Overview Booklet
- Fact Sheets Open House 1
- Fact Sheets Open House 2
- Fact Sheets Open House 3
- Workshop 1 Presentation
- Terms of Reference
- EIS Guidelines

Informal Discussion

- Osisko provided some background about the company
- Clarified Project location
- Discussion of mill closures and need for employment
- Discussion of closure planning compared to forestry (no requirement to post bond)

Project Overview Video

- Suggest more relevant size comparisons – i.e. clear cut or reserve land
- Questions about water use
- Discussion about how the Project geochemistry is different than Steep Rock

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Project Overview Presentation

- History of Hammond Reef
- Project Location
- 2011 Drill Program Update
- Mine Project Components
- Environmental Assessment
    - Potential Impacts
    - Valued Ecosystem Components

OCAP Position

- OCAP is happy to be building a relationship with the government, i.e. Mark O'Brien
- Want to be recognized as Aboriginal
- Supportive of the Project moving forward
- OCAP represents that nearest Aboriginal community to the Project – Wabigoon Metis
- OCAP asserts Aboriginal rights in the area of the Project
- Safety is a concern, accidents happen even with good planning
- Wants to be educated about modern mining techniques
- Grateful for the chance to meet in a small group to voice concerns, summarized as:
    - Potential impacts to fish (walleye)
    - Potential effects of cyanide use
    - Potential impacts to hunting and the moose population
    - Potential effects of blasting
    - Potential impacts of noise on wildlife
    - Potential effects to water quality
    - Potential decreased access to lands and waters
    - Loss of Mitta Lake as a productive part of the aquatic ecosystem

Duty to Consult

There was a discussion between Mark O'Brien from MNDM and Jon MacDonald regarding OCAP's desire to be recognized by the Crown as having Aboriginal rights. OCAP does not want to have to prove their rights and interests on a case by case basis, rather they want to be recognized and routinely informed by the Crown.

Next Steps

- OCAP wants to stay involved in the EA Process
- Osisko will keep OCAP informed through planned Project consultation milestones
- Osisko is willing to do an information mail-out to the OCAP membership if desired
- OCAP to provide further information about their organization and membership
- Osisko is planning to share the results of the baseline studies over the next few months

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 16562E3

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A Fresh Outlook on Mining

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HAMMOND **REEF**
Gold Project

Hammond Reef Project Presentation – Fort Frances Chamber of Commerce

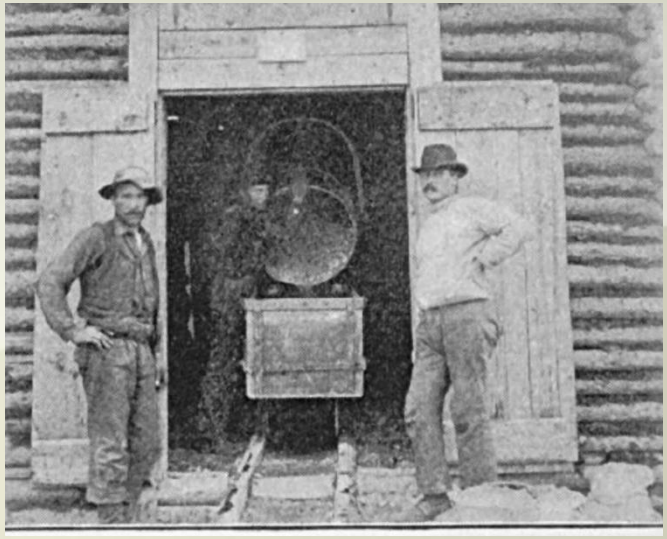
December 2011

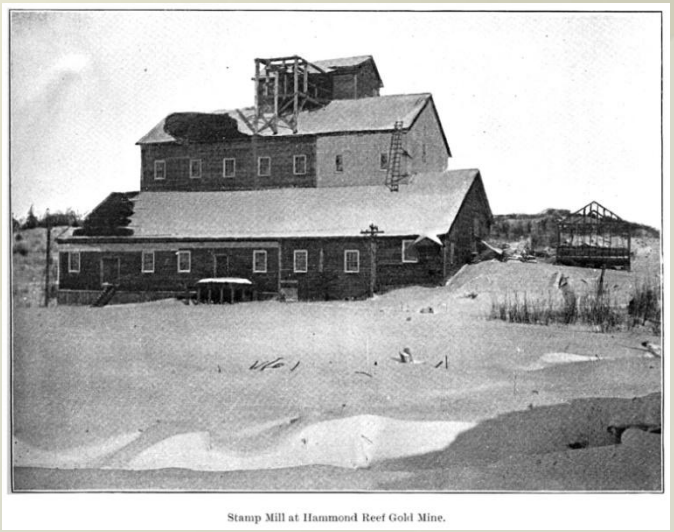
Presentation Summary

- History of Hammond Reef
- Project Location
- 2011 Drill Program Update
- Mine Project Components
- Environmental Assessment
  - Potential Impacts
  - Valued Ecosystem Components

History of Hammond Reef

- 1895 – 1st discovery of gold mineralization.
- 1897 – 1900 – Sawbill Mine: 2,283 tons (0.21 ounces/ton gold)
- 1937 – 1941 – Sawbill Mine: 5,368 tons
- 1980s & 1990s: Falconbridge & Penland Firth Ventures: exploration.
- 2006 - 2010: Brett Resources optioned property: exploration continued.
- May 2010: Osisko Mining Corporation buys Brett Resources: exploration continues….





Stamp Mill at Hammond Reef Gold Mine.

Project Location





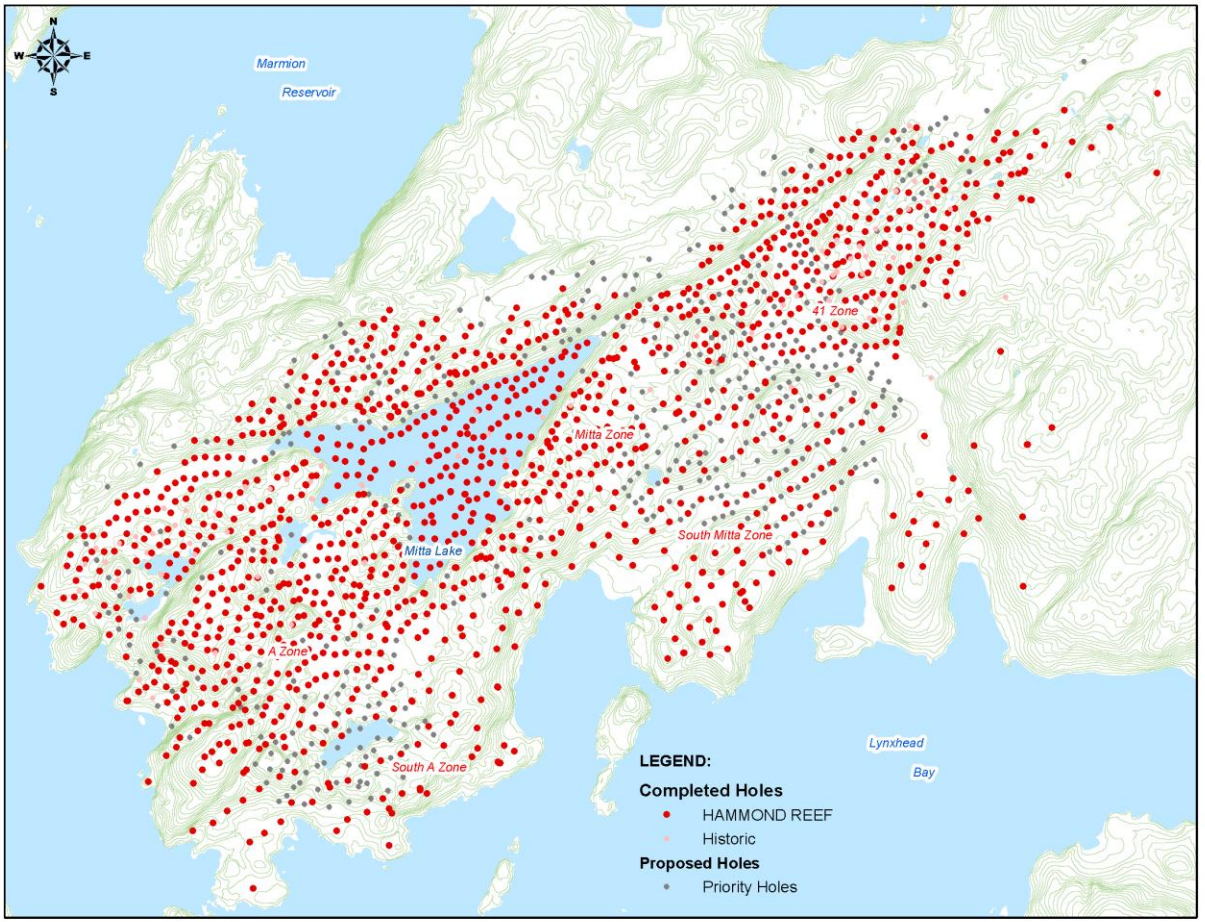
Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 1656263

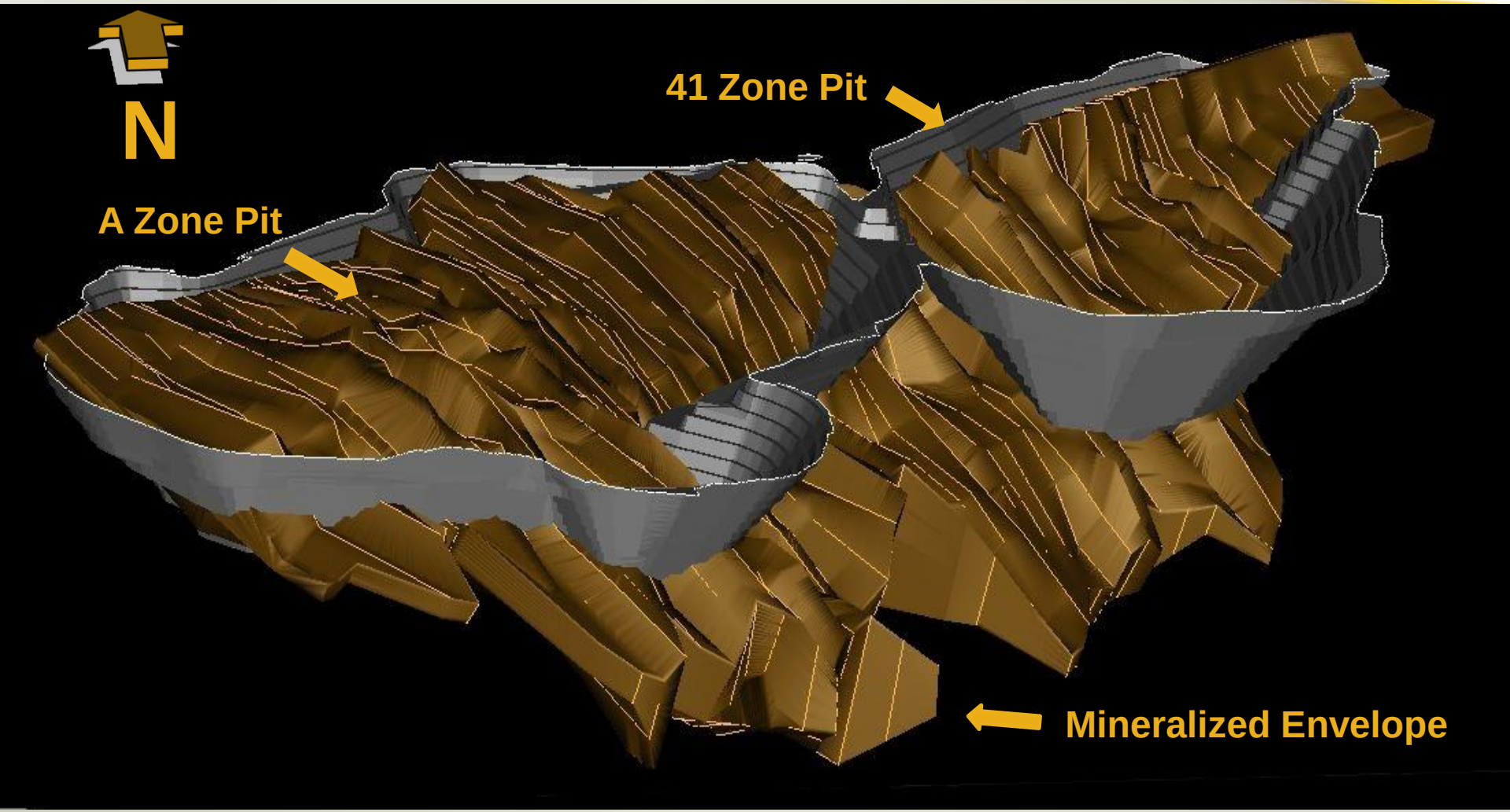
Drill Program

Global inferred resource is10.52 million ounces gold

Estimated 0.30 g/t Au

Increase of 65% or 4.16 million new ounces since 2009

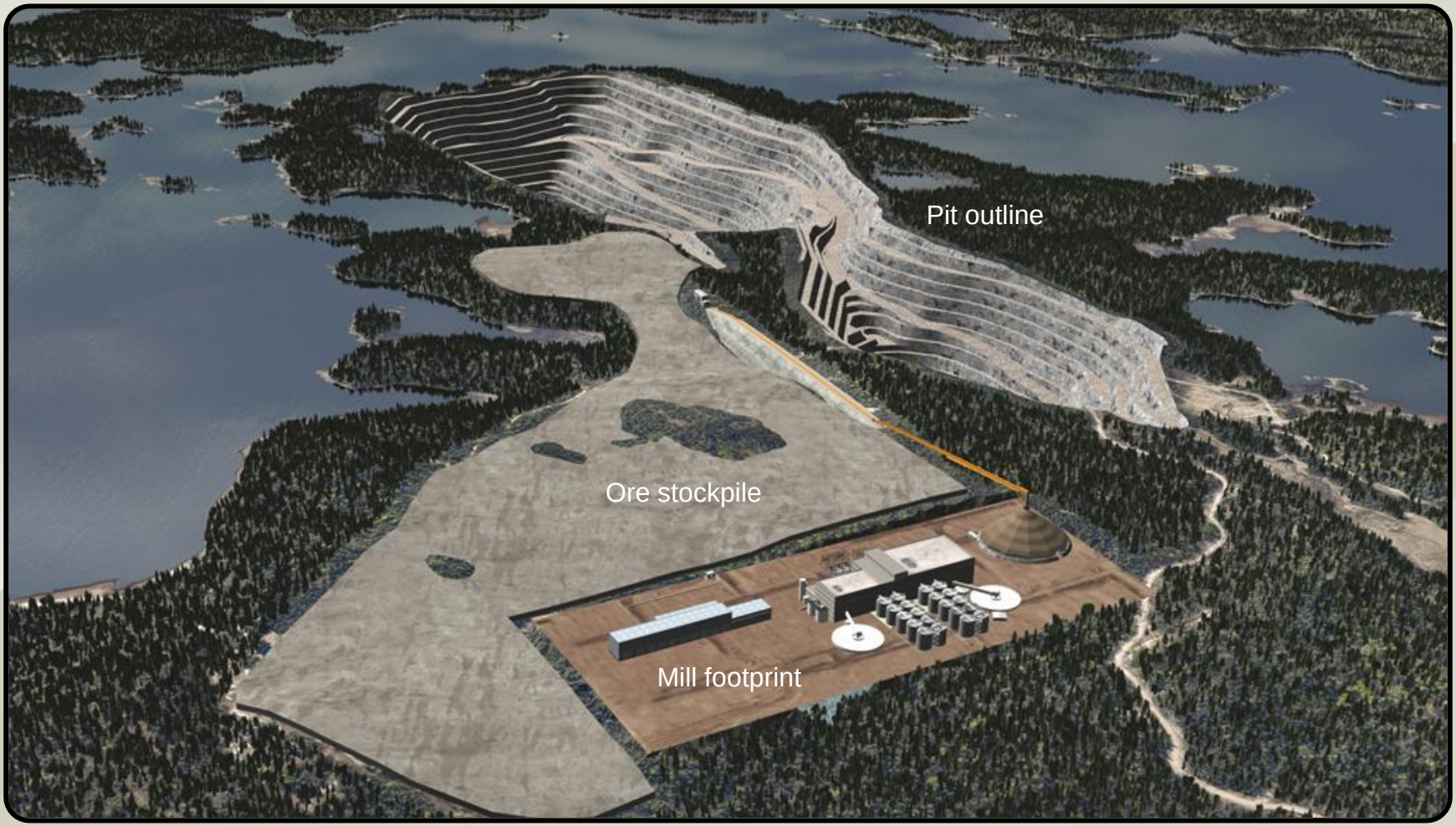



N
41 Zone Pit
A Zone Pit
Mineralized Envelope

Buying Local

- Some examples of goods and services currently provided locally:
  - Cleaning products
  - Hardware and electrical
  - Auto parts
  - Groceries and catering
  - Hotels

Preliminary Site Layout



Workforce Estimates

- Current workforce: 100
- Additional contract workers: 100
- Construction workforce: up to 2,000
- Operations workforce: up to 500

Key Project Components

- Open Pit Mine
- Ore Processing Facility
- Tailings Management Area



Open Pit Mine

- Two open pits will be developed
- Will require the draining of Mitta Lake
- The waste rock will be piled 1 km from the mine, some waste rock will be put back into the first pit.
- Ore will be stockpiled in two piles close to the processing plant.



Ore Processing Facility

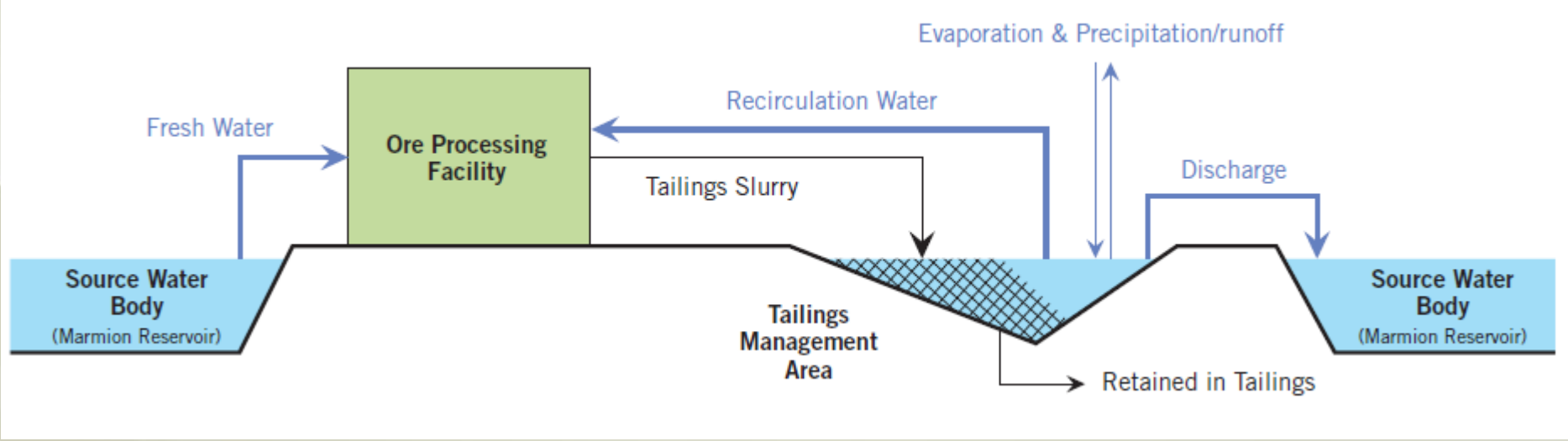
- Designed for an ore throughput of 50,000 tonnes/day
- Includes crushing, grinding, flotation, cyanide leaching, electrowinning and final refining using furnaces.
- Will require approximately 82,000 m^3/day of process water.
- The water balance has not been completed for the Project.
- Water will be reclaimed as much water as possible.
- 3,200 m^3/day of fresh water will be sourced from Marmion Lake





Tailings Management Area

- Avoid (where possible) impacts to fish-bearing waterways
- Mitigate and compensate negative impacts where unavoidable
- Timely permitting
- Does not sterilize ore
- Progressive reclamation



Environmental Assessment

The Environmental Assessment (EA) has officially begun for the Hammond Reef Gold Project.

Environmental Assessment is:

- A planning tool that will help Osisko review Project alternatives and choose the best option.
- An evaluation of environmental and social impacts as well as engineering and construction factors.
- Necessary step before government permits can be issued.

Baseline Studies

- Land Use
  - Current and Historic
- Environmental Features
  - Geology, Hydrogeology, Atmospheric and Noise, Geochemistry.
- Biological Environment
  - Aquatic and Terrestrial
- Socio-economic Environment

All reports will be coming in the next few months

Thank you for your time!

OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

MEETING NOTES
OCAP INTRODUCTION AND PROJECT OVERVIEW
APRIL 13, 2012
VALHALLA INN, THUNDER BAY

ATTENDEES:

1	Jon MacDonald	Ontario Coalition of Aboriginal People (OCAP)
2	Karl Kahmann	Ontario Coalition of Aboriginal People (OCAP)
3	Mark O'Brien	Ministry of Northern Development and Mines
4	Patrick Barnes	Ministry of Northern Development and Mines
5	Cathryn Moffett	Osisko Hammond Reef Gold
6	Mark Bowler	Osisko Hammond Reef Gold

Purpose

The purpose of the meeting was to provide the opportunity for Osisko and OCAP representatives to meet face to face. Osisko provided an overview of the Hammond Reef Gold Project and the EA process, OCAP provided some background about themselves and detailed their concerns about the Project.

Information Provided

- Project Overview Booklet
- Fact Sheets Open House 1
- Fact Sheets Open House 2
- Fact Sheets Open House 3
- Workshop 1 Presentation
- Terms of Reference
- EIS Guidelines

Informal Discussion

- Osisko provided some background about the company
- Clarified Project location
- Discussion of mill closures and need for employment
- Discussion of closure planning compared to forestry (no requirement to post bond)

Project Overview Video

- Suggest more relevant size comparisons – i.e. clear cut or reserve land
- Questions about water use
- Discussion about how the Project geochemistry is different than Steep Rock

OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

Project Overview Presentation

- History of Hammond Reef
- Project Location
- 2011 Drill Program Update
- Mine Project Components
- Environmental Assessment
    - Potential Impacts
    - Valued Ecosystem Components

OCAP Position

- OCAP is happy to be building a relationship with the government, i.e. Mark O'Brien
- Want to be recognized as Aboriginal
- Supportive of the Project moving forward
- OCAP represents that nearest Aboriginal community to the Project – Wabigoon Metis
- OCAP asserts Aboriginal rights in the area of the Project
- Safety is a concern, accidents happen even with good planning
- Wants to be educated about modern mining techniques
- Grateful for the chance to meet in a small group to voice concerns, summarized as:
    - Potential impacts to fish (walleye)
    - Potential effects of cyanide use
    - Potential impacts to hunting and the moose population
    - Potential effects of blasting
    - Potential impacts of noise on wildlife
    - Potential effects to water quality
    - Potential decreased access to lands and waters
    - Loss of Mitta Lake as a productive part of the aquatic ecosystem

Duty to Consult

There was a discussion between Mark O'Brien from MNDM and Jon MacDonald regarding OCAP's desire to be recognized by the Crown as having Aboriginal rights. OCAP does not want to have to prove their rights and interests on a case by case basis, rather they want to be recognized and routinely informed by the Crown.

Next Steps

- OCAP wants to stay involved in the EA Process
- Osisko will keep OCAP informed through planned Project consultation milestones
- Osisko is willing to do an information mail-out to the OCAP membership if desired
- OCAP to provide further information about their organization and membership
- Osisko is planning to share the results of the baseline studies over the next few months

From: Alexandra Drapack
Sent: August 6, 2012 2:25 PM
To: Martin Griffin; Cathryn Moffett; Bud Dickson
Cc: Hélène Cartier
Subject: Fw: mining concerns

Follow Up Flag: Follow up
Flag Status: Completed

See below.

I will respond to Jon's email when I return from vacation. We have a regularly scheduled meeting with CEAA, MOE and MNDM on Aug. 14 and I intend to clarify that we are not obligated to provide expenses for consultation for "interested" persons.

Cathryn will be sending out via email our invitation to the Open House in Atikokan on Aug. 18 as well as the Notification of Commencement of the EA in the next couple of days and OCAP is on the distribution list to receive that email.

Thanks,
Alix

From: [redacted]
Sent: Monday, August 06, 2012 02:06 PM
To: Alexandra Drapack
Cc: Brad Maggrah <roads@drytel.net>; Karl Kahmann <email address removed> ; Mark (MNDMF) O'Brien <mark.o'brien@ontario.ca>
Subject: mining concerns

We were given your name to contact, because our e-mails have gone unanswered from Mr. Bowler.
Our Association has consistently tried to reach out to Osisko, because of the intended mine near Atikokan.
Although not funded as an Aboriginal association, we continue to lobby as one, because we do have members from the Ontario Coalition of Aboriginal People, who do live in the region of development.
Small families as well as individual members of OCAP believe that the proponent, (Osisko) has a duty to consult, by meeting these aboriginals.
We realize that the true duty to consult lies with the government, but that same government suggests that the proponent also meet with, and talk to the aboriginals who represent these people.
I am the representative of OCAP for mining matters in Ontario and although we did have one meeting in Thunder Bay, your persistent lack of interest of OCAP, has our members very concerned.
A community of Aboriginals does not necessarily consist of hundreds of members, but as Metis or off reserve status/non status Indian families exist in the affected area and these members are from OCAP, we believe that the proponent, (Osisko) should recognize that fact.
We hope for and expect that meetings can be arranged with our consultation group, in Thunder Bay and expenses covered by the proponent.
We have forwarded information and concerns for this mine to all involved, and look forward to consultations so that our members, who do live in the region, can be advised and involved.
Thank you for taking the time to respond!

Jon MacDonald;

Mining Representative.

Ontario Coalition of Aboriginal People

From: [redacted]
Sent: August 14, 2012 9:05 AM
To: cmoffit@ososko.com
Cc: Mark (MNDMF) O'Brien; Brad Maggrah
Subject: Hammond reef mine

Hello again Cathryn;
I see in the paper that there will be open houses for the mine near Atikokan.
Because I represent OCAP, (Ontario Coalition of Aboriginal People) for mines and forests in Ontario, we are taking an interest in this development.
We have membership scattered around the area in question and as a result, we feel as though the mining company should meet with us as the proponent, for consultation purposes.
Could you please be so good as to send me a hard copy of the proposal, so that we can formulate an opinion as well as put forward our concerns as an Aboriginal group.
I do not live near Atikokan, but spent several years in that area. As OCAP's representative, we feel as though we belong at the table as an aboriginal group.
We are a not for profit organization and are not funded by government at this time; therefore, traveling throughout the region becomes restricted because of expenses.
Our president, Mr. Brad Maggrah lives in Wabigoon, Ontario and other executives of OCAP live in various regions of Ontario. Again, this makes it more difficult to send our executive to meetings in a specific location.
We do have a consultation committee for the northwest and our representatives live in Wabigoon, Rocky Bay and Schreiber, Ontario.
We did meet once in Thunder Bay, some time ago, with Osisko, but since that time have had little consultation or meeting times.
We normally meet in Thunder Bay, and the proponent does pay expenses.
Mark O'Brien knows our Coalition quite well, as we have met with Mark on several occasions.
We, as an Association will be in on the Environmental meetings, but normally, the government also encourages the proponent to meet with aboriginal groups. We hope that your company can do this.
I look forward to your response.

Jon MacDonald;
Mines and Forestry

Representative,

Ontario Coalition Of

Aboriginal People.

OSISKO

August 23, 2012

Jonathan MacDonald
Ontario Coalition of Aboriginal People
Box 189
Wabigoon, ON P0V 2W0

Dear Mr. MacDonald,

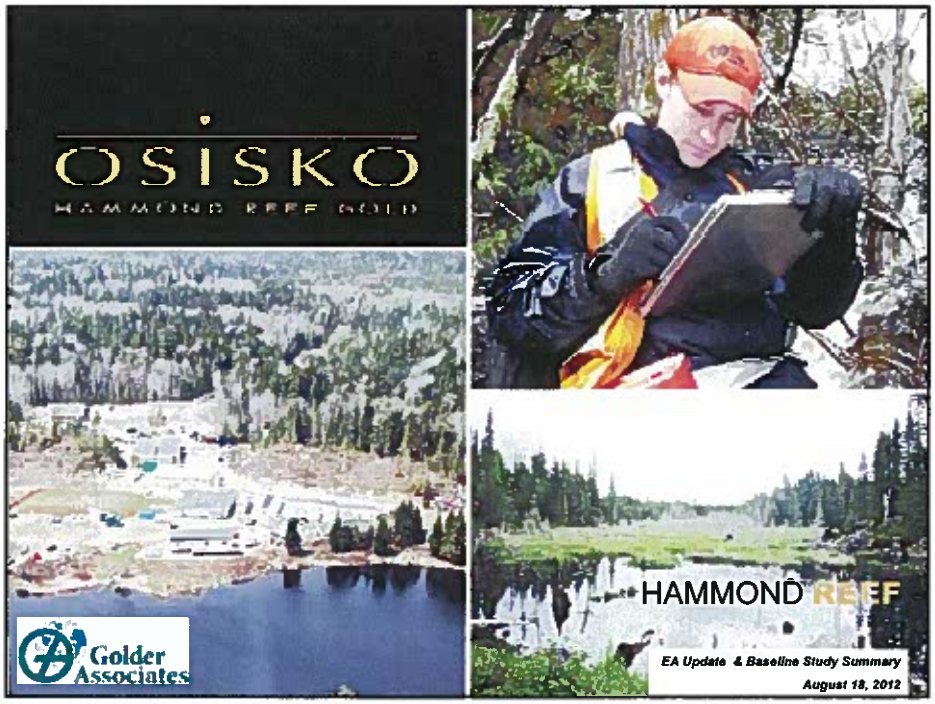
As promised, please see enclosed for copies of the information that was presented and handed out at Osisko Hammond Reef Gold's fourth Open House in Atikokan on Saturday August 18, 2012.

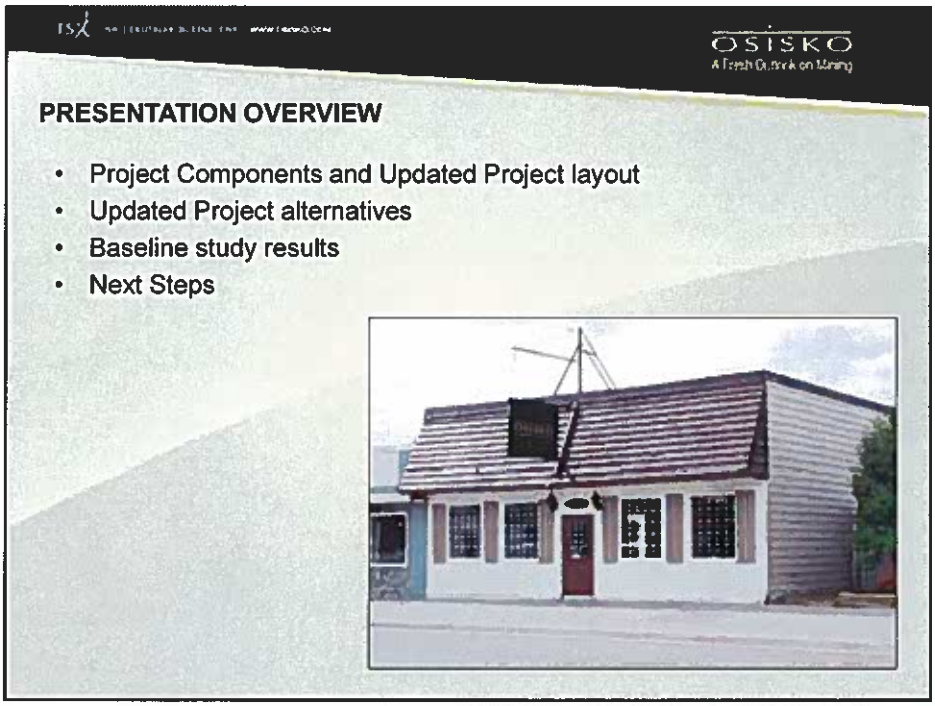
Regards,

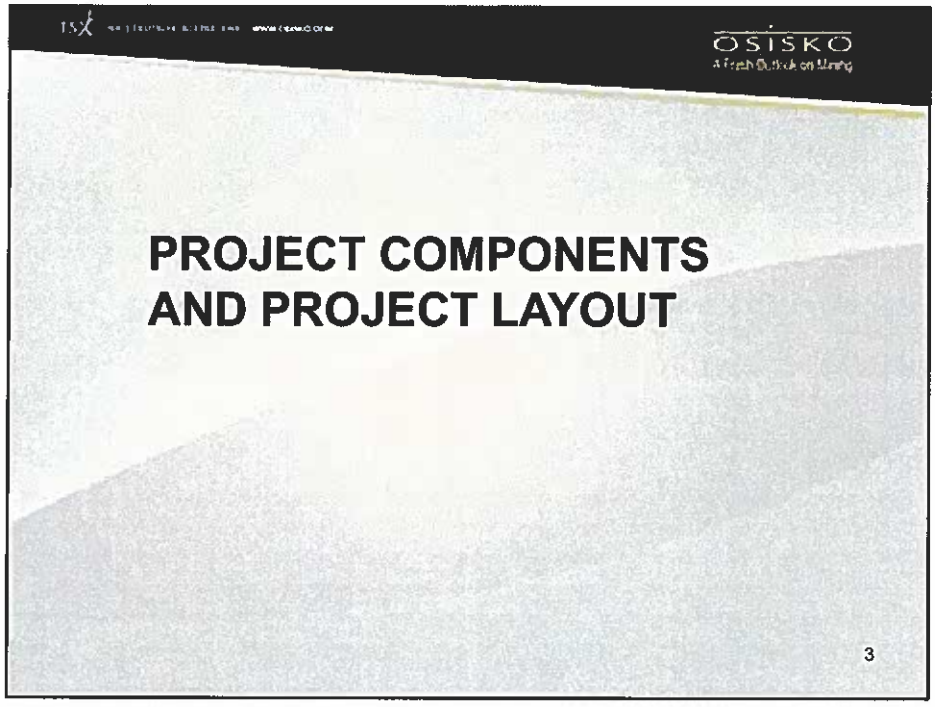
<Original signed by>

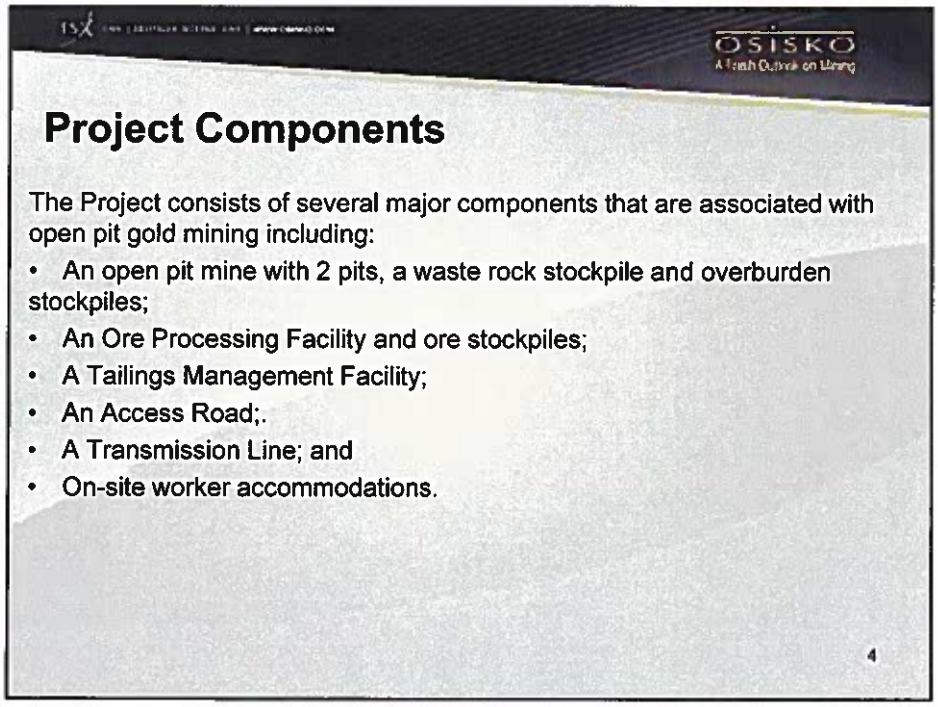
Alexandra Drapack, MBA, P.Eng
Director, Sustainable Development

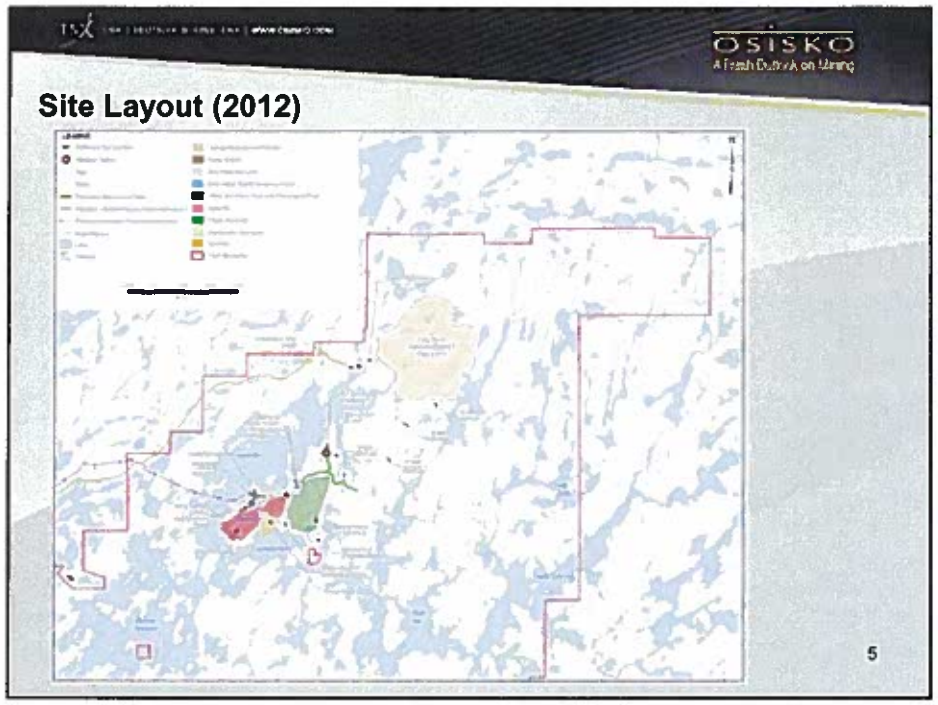
155 University Av., Suite 1440, Toronto, Ont., Canada M5H 3B7
Telephone (416) 363-8653 – Telecopier (416) 363-7579
www.osisko.com

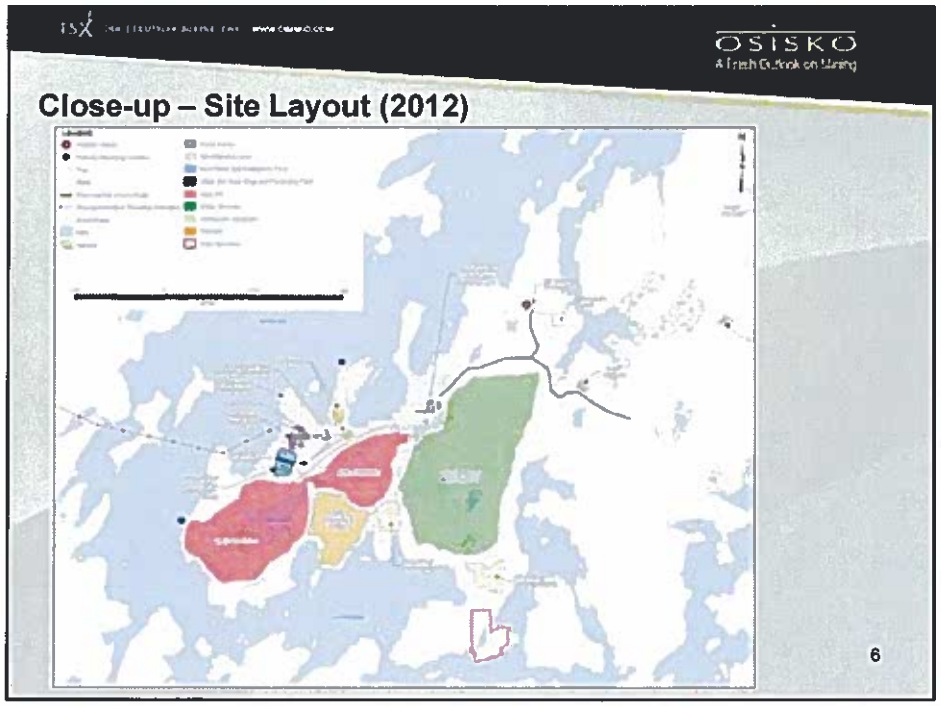

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HAMMOND REEF GOLD
Golder Associates
HAMMOND REEF
EA Update & Baseline Study Summary
August 18, 2012


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A Fresh Outlook on Mining
PRESENTATION OVERVIEW
• Project Components and Updated Project layout
• Updated Project alternatives
• Baseline study results
• Next Steps


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PROJECT COMPONENTS
AND PROJECT LAYOUT
3


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Project Components
The Project consists of several major components that are associated with open pit gold mining including:
• An open pit mine with 2 pits, a waste rock stockpile and overburden stockpiles;
• An Ore Processing Facility and ore stockpiles;
• A Tailings Management Facility;
• An Access Road;.
• A Transmission Line; and
• On-site worker accommodations.
4


OSISKO
A Fresh Outlook on Mining
Site Layout (2012)
5


OSISKO
A Fresh Outlook on Mining
Close-up – Site Layout (2012)
6

PROJECT ALTERNATIVES

7

Project Alternatives

The federal & provincial permitting processes require the consideration and evaluation of alternatives:

1. Alternatives to the Project
   - The Project vs. "Do Nothing"
2. Alternative Methods for the Project
   - Evaluation of benefits and drawbacks
   - Some methods have been screened out (shown in red)
   - Planning exercise that results in "best option" being built

8

Project Alternatives

Alternatives to the Project

The "do nothing" alternative will be used as a benchmark to help determine:

- The extent to which the alternatives address the opportunity
- The benefits of proceeding with the Project

Alternative Methods for the Project

- **Mine development**
  - Open pit mining – drain Mitta Lake
  - Underground mining
  - Open pit mining – avoid Mitta Lake
- **Ore processing**
  - Use of a synthetic cyanide destruction circuit
  - Use of natural cyanide destruction
  - Off site processing facility
  - Non-cyanide processing methods

9

Project Alternatives

Alternative Methods for the Project (continued)

- **Tailings Management**
  - Thickened tailings
  - Conventional tailings
  - Tailings location
  - Use of a low permeability liner
  - No installation of liner
  - Hogarth Pit
  - Lizard Lake
  - Northeast location
- **Power supply**
  - Align transmission line wtih existing road (Raft Lake or Sawbill Hardtack)
  - New transmission line alignment for shorter distance
  - Buy power from provincial grid
  - Use of natural gas
  - On site diesel generators
  - On site power generation

10

Project Alternatives

Alternative Methods for the Project (continued)

- **Water Supply**
  - Discharge to Sawbill Bay
  - Discharge to Lynxhead Bay
  - Source from Turtle Bay
  - Source from Hogarth Pit
  - Source from Marmion Basin
  - No recycling of water
  - Recycle as much waster as possible
- **Waste Rock**
  - Waste rock location
  - Recycling and/or re-purposing of waste rock by third party

11

Project Alternatives

Alternative Methods for the Project (continued)

- **Waste alternatives**
  - On site landfill
  - Off site landfill
- **Sewage treatment**
  - On site treatment
  - Off site treatment
- **Support facilities**
  - On site worker camp
  - Worker accommodation in Town
  - Combination --- on-site worker camp and commuters from Town
- **Access road**
  - Widening of Sawbill road
  - Widening of Raft Lake road

12

Why consider an on site camp?

- Estimated operations workforce of 500 people
- Small local population to draw from
- Skilled workforce will likely require recruiting workers from across Canada
  - Numerous mining projects starting and will require workers at the same time (demand for skilled workers is high)
- Commuting time may be considered a draw back to potential employees
- Paid food and accommodation is a benefit to young workers

Combination Alternative: Considers both workers wishing to live in Town, commuting daily by bus AND workers wanting a shift rotation allowing them to reside elsewhere in Canada.

13

Osisko's commitment

- We understand the importance of encouraging employees to reside in Atikokan.
- In Malartic, 50% of the workforce is comprised of residents of Malartic.
- Osisko policies will favour hiring of local residents, providing they meet the qualifications for the role.
- Osisko will encourage employees to reside in Atikokan.

14

Camp Layout (2012)



15

BASELINE STUDIES

16

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BASELINE STUDIES

- Water quality
- Hydrology
- Ground water
- Geochemistry
- Air and noise
- Fish and fish habitat
- Vegetation and wildlife
- Socio-economics



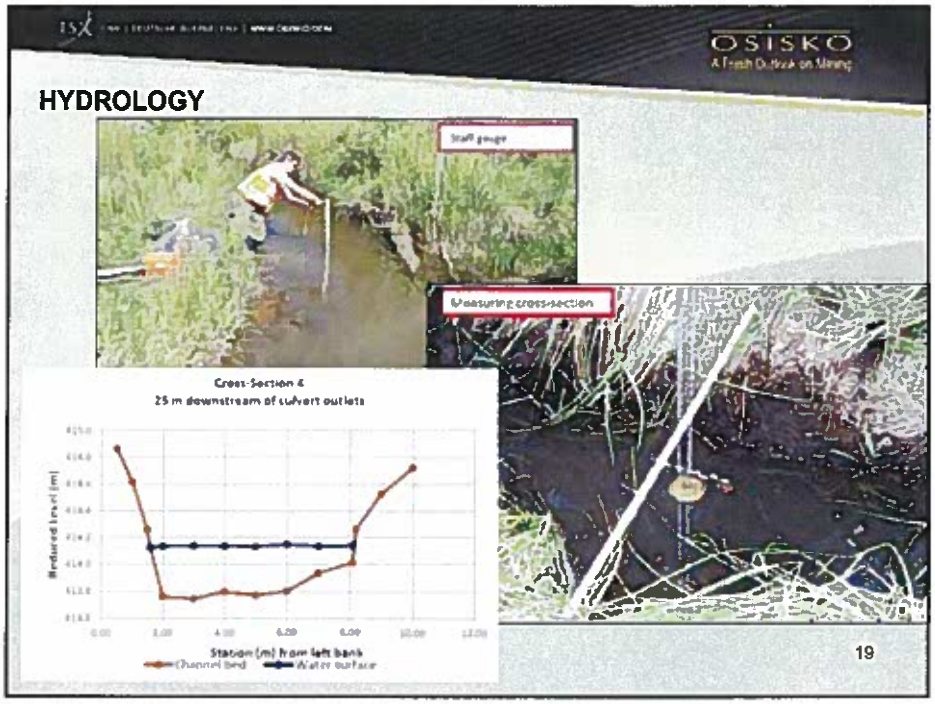
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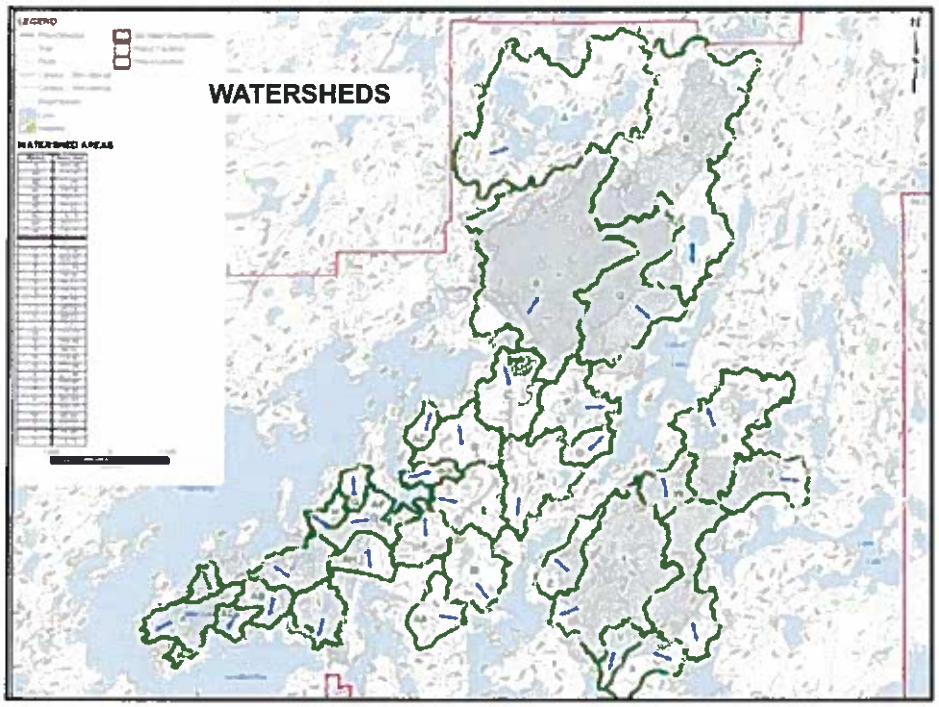
WATER QUALITY

- 30 sampling locations, 8 water bodies
- Sampled five times since fall of 2010
- Acidic to near-neutral pH values
- Aluminum and iron concentrations were greater than the criteria
- Sporadic concentrations of total cadmium, chromium, cobalt, copper, lead, nickel, silver and zinc greater than the criteria
- Four total mercury concentrations greater than the criteria
- 20% or less of the observed phenol concentrations were greater than the criteria



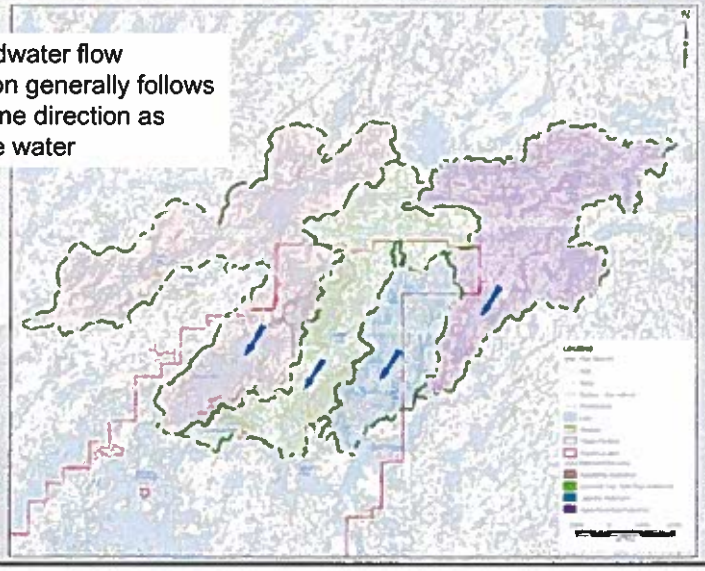



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HYDROLOGY
Staff gauge
Measuring cross-section
Cross-Section 4
25 m downstream of culvert outlets
Station (m) from left bank
19


WATERSHEDS

GROUNDWATER

Groundwater flow direction generally follows the same direction as surface water



21

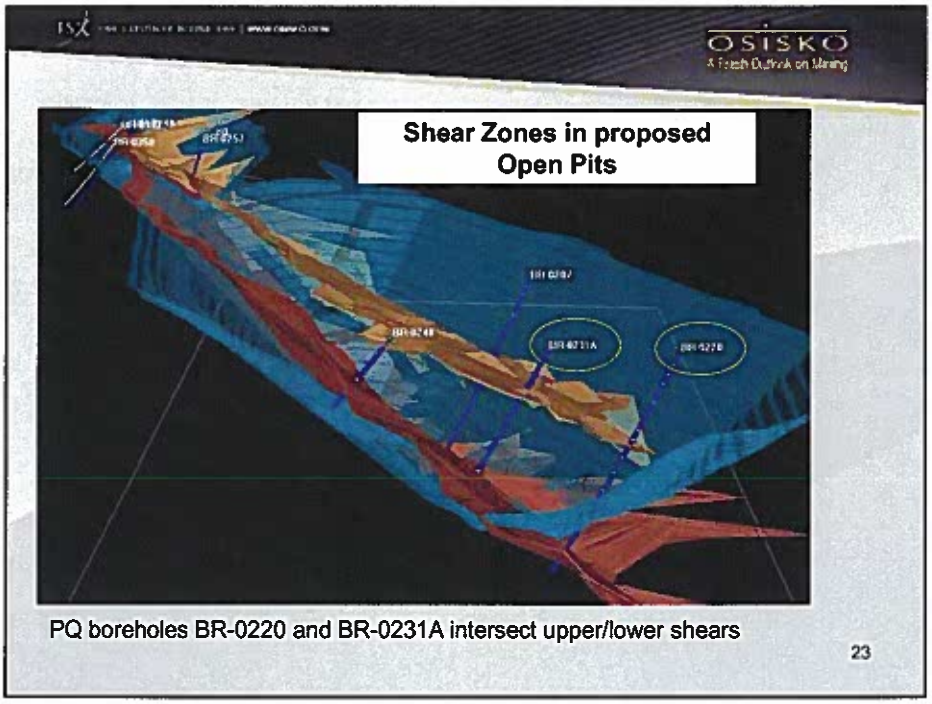
GROUNDWATER

- 13 stations, 9 sampling events since 2010
- Overburden is generally thin and discontinuous
- Bedrock is generally tight and massive indicating limited flow
- Two zones for movement in the bedrock
  - Upper weathered zone = surface to 10 metres below ground
  - Sheer zones = at depth

Groundwater Quality

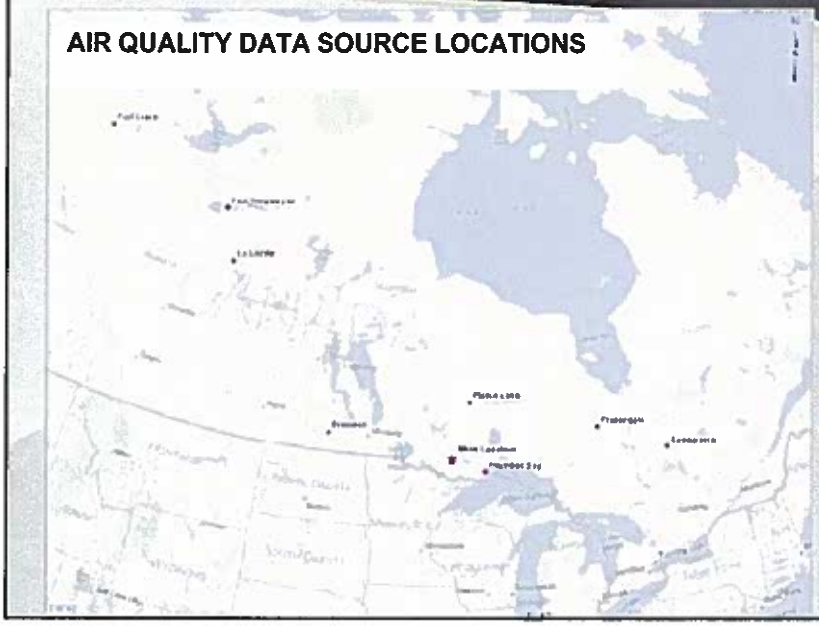
- Some parameters in the shallow groundwater have levels above criteria
- Deep groundwater generally meets criteria and is similar to shallow and surface water




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Shear Zones in proposed Open Pits
PQ boreholes BR-0220 and BR-0231A intersect upper/lower shears
23


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GEOCHEMISTRY
• Sulphide contents are low and acid generation is not expected
• Metal leaching
  • pH values are neutral to alkaline and higher than the CCME/PWQO/MMER criteria range in short term tests
  • Aluminum concentrations can be greater than criteria in the short-term
  • Copper can be higher than the criteria in the short-term but decreases
  • Cadmium, silver and uranium concentrations can be marginally greater than the criteria

AIR QUALITY DATA SOURCE LOCATIONS



25

AIR QUALITY

- The air quality assessment will include modelling of the following parameters:
  - Particulate matter (PM);
  - Oxides of nitrogen (NOX) and nitrogen dioxide (NO2);
  - Sulphur dioxide (SO2);
  - Carbon monoxide (CO); and
  - Metals, including antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, tellurium, tin and vanadium.

26

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NOISE

- Existing noise levels are assumed to be quiet
  - 40 dBA during daytime hours and 35 dBA during night time hours
- Specific locations such as cabins will be identified as noise receptors
- Noise modelling will include predictions of acoustic levels at receptors

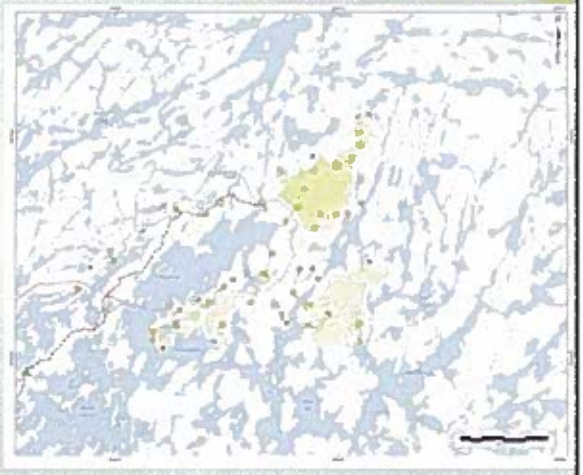


27

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A Fresh Outlook on Mining

FISH AND FISH HABITAT

- Key potential aquatic receivers were identified as:
  - Sawbill Bay
  - Lynxhead Bay
  - Lizard Lake
  - Turtle Bay
- 55 sample locations called "Areas of Potential Impact" (APIs)
- Includes ponds, streams and small lakes



- Field trips in August and October of 2010 and May, June, August and September of 2011.

28

TSX

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FISH SPECIES

- 23 different fish species were captured from the different APIs, including whitefish, mudminnow, northern pike, longnose dace, burbot, stickleback, suckers, sculpins, walleye and perch.



CONCLUSIONS

- No coldwater fish species or waterbodies
- Watercourses are generally low gradient, highly influenced by beaver dams
- Flow in sections of many water courses is seasonal or subsurface and highly variable
- Lower portions of some tributaries are accessible to fish from major receivers



TSX

OSISKO

VEGETATION AND WILDLIFE

Terrestrial biology field work has included:

- Bird surveys
- Amphibian habitat inventory
- Turtle basking and nesting surveys
- Vegetation community surveys
- Wild rice surveys



- Vegetation communities are coniferous and mixed forest communities interspersed with fens, marshes, swamps, small lakes and watercourses
- The bird community survey results are typical for the habitats that occur in the region
- All mammal species are considered to be typical in the region



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A Fresh Outlook on Mining

VEGETATION AND WILDLIFE

- Three bird and one reptile species of special concern are found in the Project area (Canada warbler, Common nighthawk, Bald eagle, and Common Snapping turtle)
- One provincially rare plant species is found in the Project area (Assiniboin sedge)
- One culturally important plant is found in the Project area (Wild rice)

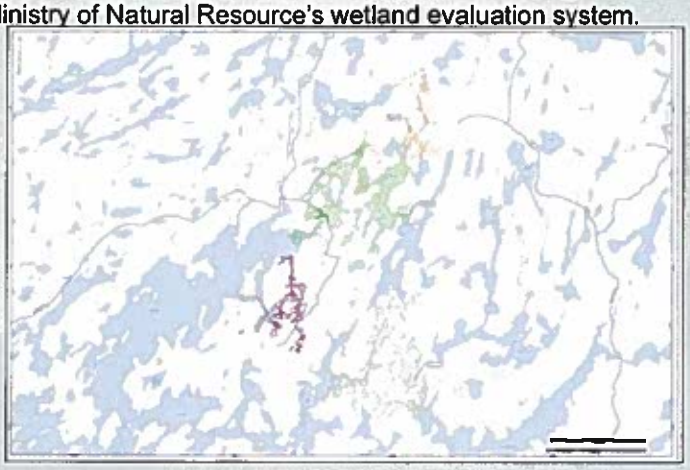




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A Fresh Outlook on Mining

WETLAND EVALUATION

Four wetland complexes have been evaluated using the Ministry of Natural Resource's wetland evaluation system.

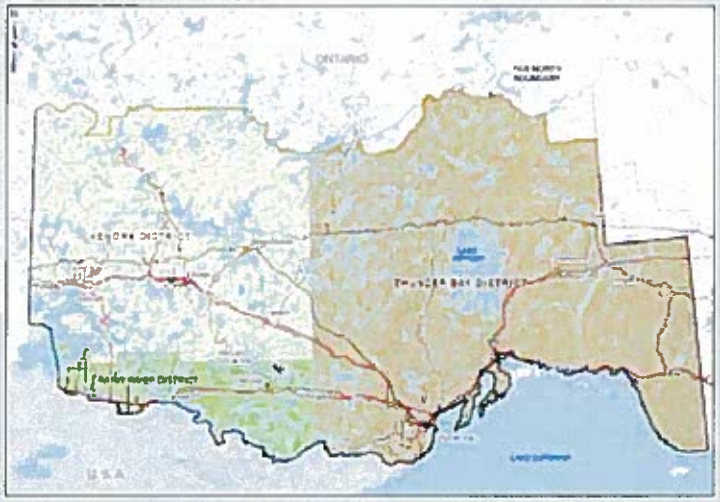


Do you know of anyone who uses these wetlands?

32

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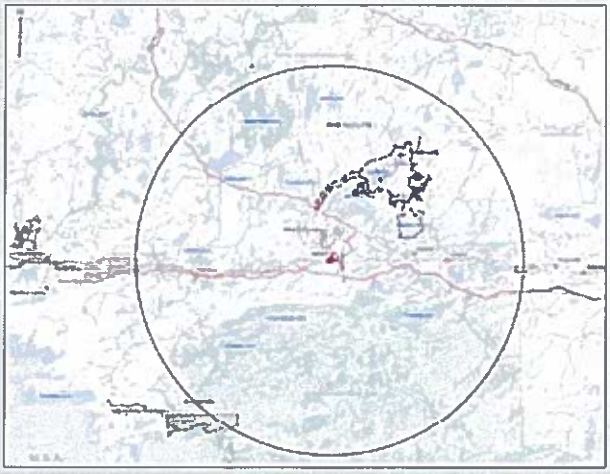
Socio-Economics
Regional Study Area



33

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Socio-Economics
Local Study Area



34

Population and Demographics

- Declining population in Atikokan and Region
- Low mobility in Atikokan
- Percentage of children and 20-49 cohort lower than provincial average
- 25-34 year olds predominantly female; 50-59 cohort predominately male
- High dependency ratio



Economics

- Higher proportion of employment in services compared with decline in manufacturing, construction and resource based industries
- Non-service employment dominated by males
- High unemployment rate
- Median income marginally lower than provincial average
- Below provincial average levels of post-secondary education
- Potential for resource based projects to stabilize regional and local economies
- Thunder Bay anticipated to be major regional beneficiary of development
- Few businesses in Atikokan currently equipped to support mining development

Public Services and Infrastructure

- Protection and Emergency Services may have additional capacity
- Atikokan is designated as underserviced for doctors
- Hospital is scheduled for expansion and improvements
- Day care and social housing currently have additional capacity
- Schools have additional capacity
- Limited post-secondary education available in Atikokan through Contact North
- Existing population may not support cost of maintaining and improving recreational facilities
- Existing population may not support cost of maintaining and improving water and wastewater facilities
- New landfill site planned
- Existing electricity and natural gas has additional capacity

Housing and Transportation

- High home ownership and occupancy
- Shortage of rental and apartment units
- Low housing prices compared with region and province
- Existing housing stock is old
- Building lots are available for new housing

- Atikokan is well connected to provincial highway and rail networks; traffic study will assess adequacy of local road network
- Thunder Bay is the hub for air transport: the local air network is poorly developed

NEXT STEPS

- Finalize Engineering and Feasibility Study
- Assessment of potential effects
- Publish Environmental Assessment (EA) Report
- Obtain permitting
- On-going consultation and information sharing with:
  - Aboriginal partners;
  - Government; and
  - Public



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PROJECT PHASES AND SCHEDULE

The Project will be completed in four phases: construction, operations, closure and post-closure. Each phase of the Project will be evaluated for a potential interaction with the Valued Ecosystem Components (VECs) identified for the physical, biological and social environment. Each Project phase has a defined list of activities and a planned schedule for completion.

CONSTRUCTION

The construction phase will begin once all relevant permits have been received. The construction phase is expected to last 30 months. Construction of the access road and the project transmission line will take priority, as overall Project construction and operations depends on having suitable electricity and access to the Project Site.



OPERATIONS

During the operations phase, the process of removing the ore through development of the open pit begins. The mining process will also generate waste rock and tailings. The operations phase is expected to last for 11 years.



CLOSURE

The closure phase includes a list of activities that are designed to ensure that the Project Site is left in a manner that reduces the potential impacts on the social and natural environment. Project infrastructure will be removed and environmental monitoring will take place until it is shown that the site meets all agreed closure conditions.



POST-CLOSURE

Activities during the post-closure phase will focus on monitoring programs and maintaining the integrity of the environment and of any retained infrastructure. Post-closure activities will extend 10 years after the closure of the Mine.



PROJECT PHASES AND SCHEDULE

- The earliest the permitting could be complete is January 2014
- Construction is expected to take 30 months
- Operations are expected to last 11 years
- Decommissioning will take about 2 years
- Closure and rehabilitation will be ongoing

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PROJECT PHASES AND SCHEDULE

2010	2011	2012	2013	2014	2015	2016	...	2028	2029	2030	2031	2032

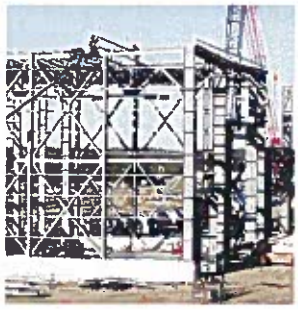
P.-F.[1]

EA[2] AND PERMITTING

FEASIBILITY



CONSTRUCTION



OPERATIONS



Ongoing

Monitoring & management continues

CLOSURE & POST-CLOSURE



Construction Phase Activities

- Site preparation
- Soil removal and stockpiling
- Building of workers camp
- Operation of concrete batch plant
- Operation of mobile crushing and screening plant
- Upgrading/construction of access road
- Construction of electrical transmission line
- Transportation of people and materials
- Installation of temporary power and pumping
- Mitta Lake dewatering
- Sediment removal and stockpiling
- Soil removal and stockpiling
- Building of Processing Plant
- Dam foundation site preparation
- Construction of diversion ditching and seepage collection ditches around TMF
- Installation of temporary sediment control structures
- Construction of perimeter containment dam
- Construction of reclaim water pond and pump station
- Waste rock transfer and stockpiling
- Progressive building of Project facilities
- Construction of diversion ditches and seepage collection ditches
- Construction of Mine site roads
- Laydown of pipelines

Operations Phase Activities

- Building and infrastructure maintenance
- Vehicle fuelling and maintenance
- Surface water and erosion control
- Water management
- Domestic water and sewage management
- Domestic and industrial waste management
- Operation of mobile crushing and screening plant
- Transportation of people and materials
- Initial open pit mining
- Blasting
- Ore haulage
- Overburden removal and stockpiling
- Top soil removal and stockpiling
- Ore transfer and stockpiling
- Operation of processing plant
- Tailings management
- Reclaim water management
- Waste rock transfer and stockpiling

Closure Phase Activities

- Decommissioning of Project facilities
- Site reclamation
- Tailings pond management
- Transportation of people and materials
- Water management

Post-closure Phase Activities

- Tailings pond management
- Water management
- Transportation of people and materials

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PROJECT ALTERNATIVES AND LAYOUT

The Hammond Reef Gold Project is continuing to move forward in the permitting process as we finish baseline studies and begin to move towards an assessment of potential effects of the Project. The following are some updates to alternatives that will be considered in the Environmental Assessment.

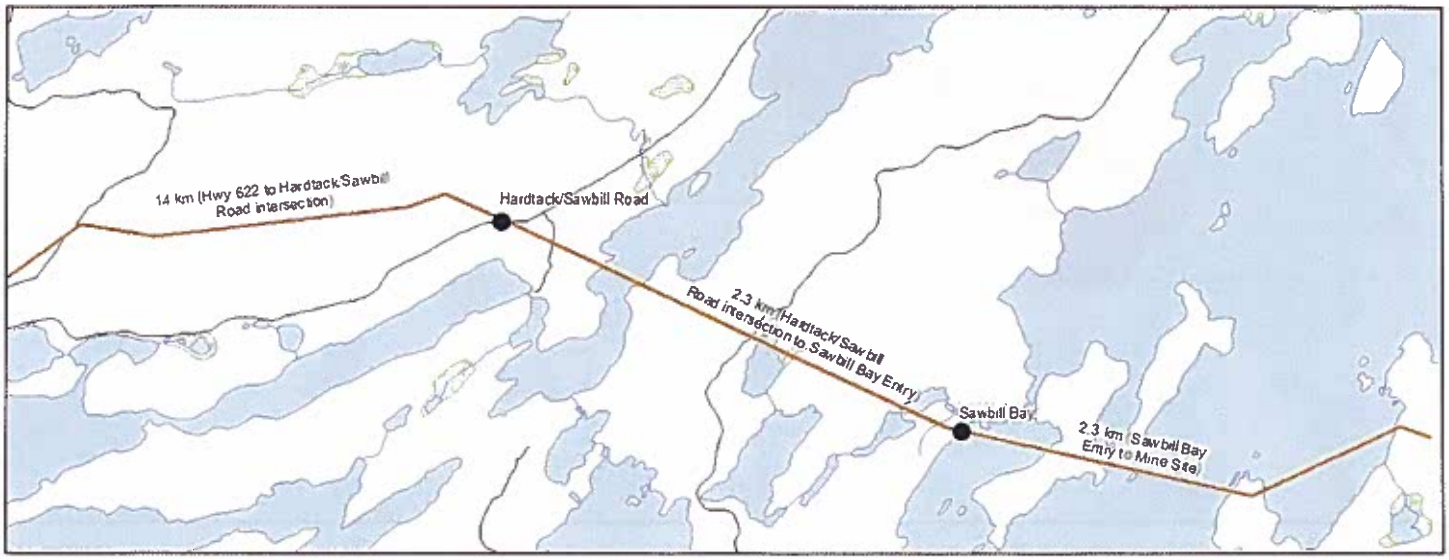
ON SITE CAMP ALTERNATIVE

Osisko envisions that during operations, workers will be a combination of daily commuters who opt to live in the town of Atikokan and travel to the Site as well as workers living elsewhere who will lodge at the Site during their work rotation. The camp will be designed for about 1,000 workers.



ELECTRICITY ALTERNATIVES

- 230 kV transmission line
- 100 MW of power per year
- Total length of 20 km
- Estimate 85 towers
- First 14 km composed of wood structures
- Second 6 km section will use steel towers to allow longer spans
- Considering natural gas for heating (15 MW of 100 MW)



OSK LISTED ON TMX Toronto Stock Exchange

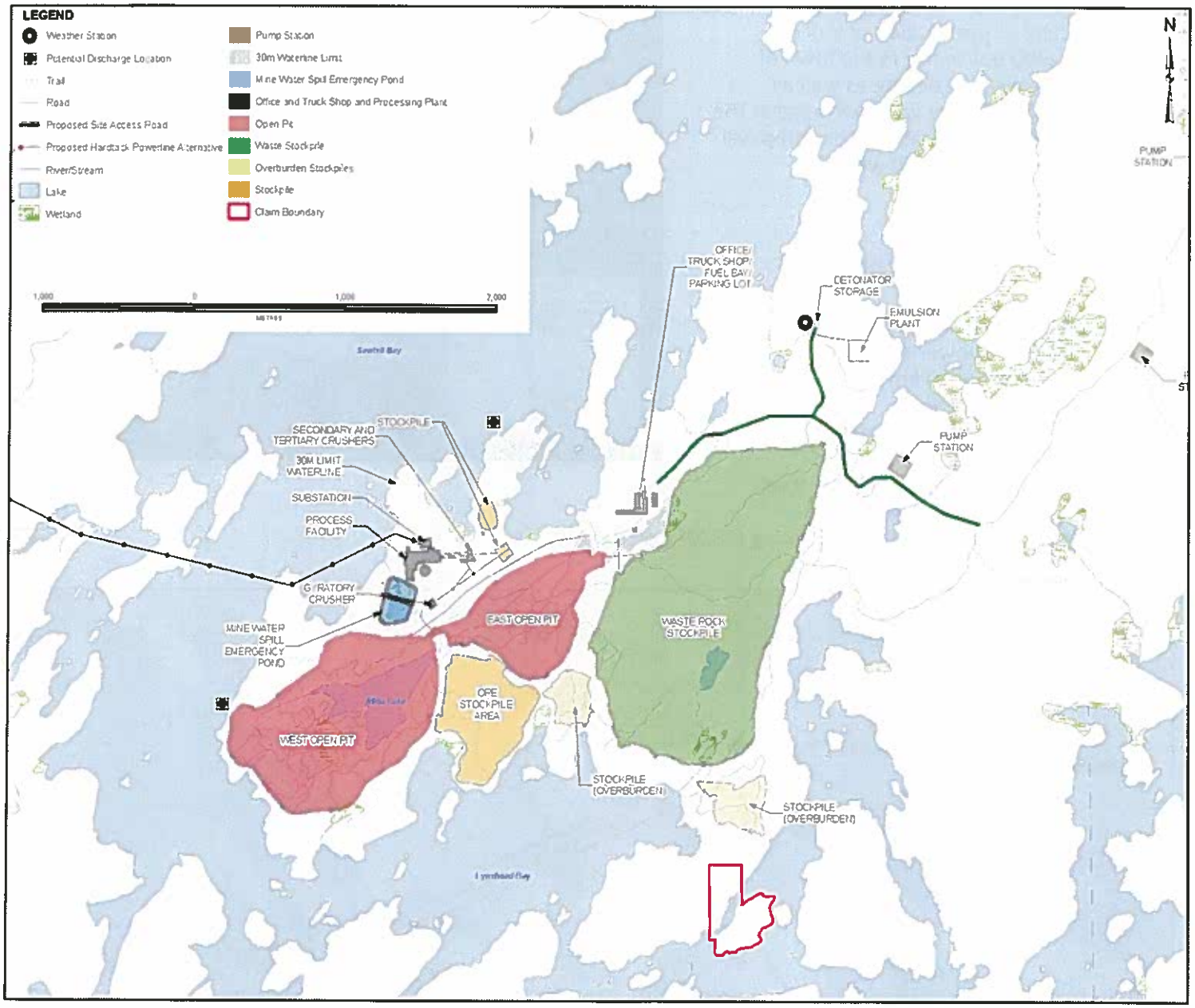
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PROJECT ALTERNATIVES AND LAYOUT

Over the past several months our engineering team has been working together with our environmental consultant, Golder Associates to finalize the Project layout and design details. The updated Project Layout map provides the footprint that will be assessed by our Environmental Assessment team.

Please keep in mind that the Project are still in the design stage and some details may continue to change as the Project planning process moves forward.



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Government Process (Federal)

Canadian Environmental Assessment Agency | Agence canadienne d'évaluation environnementale

COMPREHENSIVE STUDY PROCESS *at a glance*

For Comprehensive Studies conducted by the Canadian Environmental Assessment Agency

Timeline

Receipt of adequate project description

*90 calendar days**

Notice of commencement

365 calendar days (federal government review time)*

Request for public comments on the CSR

At least 30 days

Minister's decision

Comprehensive Study Process[1,2]

PHASE 1. Pre-Environmental Assessment Planning
- Submission of Project Description by Proponent
- Determination of Whether Project Description is Adequate
- Coordination and Work Planning
- Determination of Scope of Project
- Determination of Whether a Comprehensive Study Should Commence

PHASE 2. Environmental Assessment Commencement
- Notice of Commencement of Comprehensive Study
- Announcement of Availability of Participant Funding
- Preparation of Environmental Impact Statement (EIS) Guidelines
- Public Comments on Project and Conduct of Comprehensive Study

PHASE 3. Environmental Impact Statement
- Proponent Preparation of EIS and Follow-up Program Design
- Public Participation during Conduct of Comprehensive Study[3]
- Review of EIS
- Consideration of Public and Aboriginal Groups Comments

PHASE 4. Comprehensive Study Report
- Agency Preparation of Comprehensive Study Report (CSR)
- Public Comment Period on CSR
- Consideration of Public and Aboriginal Groups Comments

PHASE 5. Environmental Assessment Decisions
- Minister of the Environment Considers CSR, Summary of Aboriginal Consultation and Public Concerns
- Minister of the Environment Issues an Environmental Assessment Decision Statement
- Lead Role Transfered from Agency to Responsible Authority
- Responsible Authority's Environmental Assessment Decision

PHASE 6. Mitigation and Follow-up
- Finalization of Follow-up Program Design
- Implementation of Mitigation Measures
- Implementation of Follow-up Program

Lead

Agency

Responsible Authority

*See proposed Establishing Timelines for Comprehensive Studies Regulations

[1] Aboriginal consultation is a separate process that is integrated throughout the comprehensive study to the greatest extent possible

[2] As long as the Canadian Environmental Assessment Act's requirements are met, process described may be adjusted to coordinate with process of other jurisdictions

[3] Timing and nature of this public participation opportunity can vary depending on the process

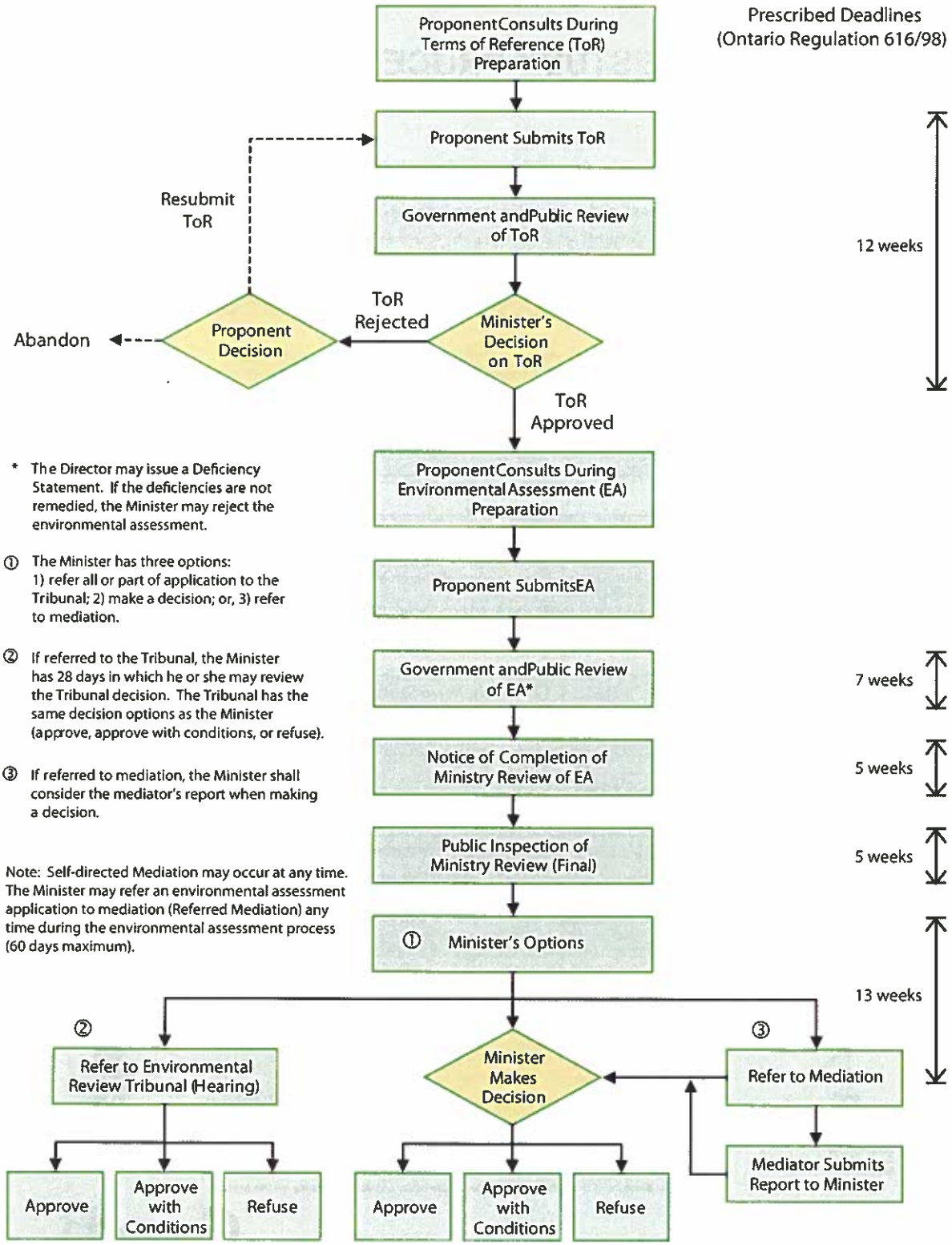
Canada

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Government Process (Provincial)

Environmental Assessment Process



* The Director may issue a Deficiency Statement. If the deficiencies are not remedied, the Minister may reject the environmental assessment.

① The Minister has three options: 1) refer all or part of application to the Tribunal; 2) make a decision; or, 3) refer to mediation.

② If referred to the Tribunal, the Minister has 28 days in which he or she may review the Tribunal decision. The Tribunal has the same decision options as the Minister (approve, approve with conditions, or refuse).

③ If referred to mediation, the Minister shall consider the mediator's report when making a decision.

Note: Self-directed Mediation may occur at any time. The Minister may refer an environmental assessment application to mediation (Referred Mediation) any time during the environmental assessment process (60 days maximum).

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ASSESSMENT CRITERIA AND EVALUATION

STUDY AREAS

Each component of the Environmental Assessment will determine study areas within which the potential effects of the Project will be assessed.

Mine Study Area (MSA): the area containing the footprint of the Mine, the Waste Rock Management Facility, the Processing Plant, the Tailings Management Facility, and the Support and Ancillary Infrastructure.

Local Study Area (LSA): an area around the Mine Study Area with natural linkages where impacts could be expected.

Regional Study Area (RSA): an area beyond the Local Study Area which will encompass the maximum geographic area that impacts from the Project are anticipated.

Linear Infrastructure Study Area (LISA): the area containing the footprint of the access road and project transmission line. The LISA is represented by a Y shaped area that extends 30 m on either side of the central line of the access road and the Project transmission line.

ASSESSING POTENTIAL EFFECTS

The effects of the Project activities on the identified VECs will be assessed through the criteria listed in the table below. In order to determine the significance of a potential effect, three levels are associated to each criterion: low, medium and high.

Assessment Criteria	Level		
Geographic Extent (of effect)	**Low**	**Medium**	**High**
	Effect is within the Project Site (i.e. Mine Study Area or Linear Infrastructure Study Area)	Effect extends into the Local Study Area	Effect extends into the Regional Study Area
Frequency (of effect)	**Low**	**Medium**	**High**
	Conditions or phenomena causing the effect to occur infrequently (i.e., several times per year)	Conditions or phenomena causing the effect to occur at regular, although infrequent intervals (i.e., several times per month)	Conditions or phenomena causing the effect to occur at regular and frequent intervals (i.e., daily or continuously)
Duration (of conditions causing effect)	**Low**	**Medium**	**High**
	Conditions causing effect are evident during the site preparation and construction phase, or decommissioning phase	Conditions causing effect are evident during the operations phase	Conditions causing effect extend beyond any one phase
Degree of Irreversibility (of effect)	**Low**	**Medium**	**High**
	Effect is readily (i.e., immediately) reversible	Effect is reversible with time	Effect is not reversible (i.e., permanent)

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ASSESSMENT CRITERIA AND EVALUATION

VALUED ECOSYSTEM COMPONENTS

Biological Environment

- Wetlands
- Forest community
- Species at Risk
- Furbearers
- Moose
- Wild rice
- Marmion Reservoir
- Lizard Lake
- Streams and ponds draining the Project footprint
- Walleye
- Smallmouth Bass
- Baitfish Species



Physical Environment

- Soil quality
- Groundwater quantity
- Surface water quantity
- Surface water quality
- Air quality
- Noise levels
- Navigability



Social Environment

- Population and demographics
- Economics
- Services and infrastructure
- Land use and resources
- Heritage resources



Where a Project-VEC interaction is identified, an assessment will be carried out to predict the potential effects on the VEC, identify mitigation measures and determine the significance of the effect, using a defined criteria and indicators.

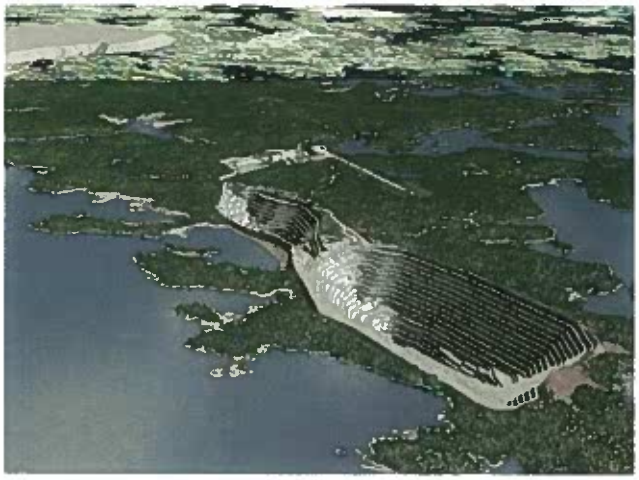
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Potential Effects of the Project

Open Pit Mining

- Loss of trees, plants, creeks and streams
- Loss of Mitta Lake
- Dust and fumes
- Noise from blasting and machinery
- Water quality changes from pumping and exposure to dust
- Water quality changes due to run off from ore stockpiles
- Seepage to soils and groundwater due to runoff from ore stockpiles



Water Management Systems

- Increased suspended solids in creeks and streams due to wash areas and maintenance facilities
- Increased use of water in Marmion Lake for ore processing
- Drawdown of groundwater from pumping the open pit
- Effects to fish and fish habitat from discharge water



Waste Management Systems
(tailings and waste rock)

- Loss of trees, plants, creeks and streams
- Seepage to soils and groundwater due to runoff from waste rock stockpiles
- Changes in water quality due to spills at fuelling and servicing areas
- Changes in water quality due to domestic water needs
- Changes in water quality due to discharge of treated water
- Seepage to soils and groundwater and runoff to surface water from landfill



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Potential Effects of the Project

Main Access Road and Electrical Transmission Line

- Loss of trees and plants
- Increased erosion and sedimentation of waterbodies from road runoff



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 water discharges from ore processing



Socio-Economics

- Increased employment
- Increased need for goods and services
- Strain on community services and infrastructure due to increase in population
- Decreased tourism and recreation opportunities
- Changes to current use of traditional lands and resources by Aboriginal people
- Visual impact at the Mine Site



Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
October 2018 – 1656263

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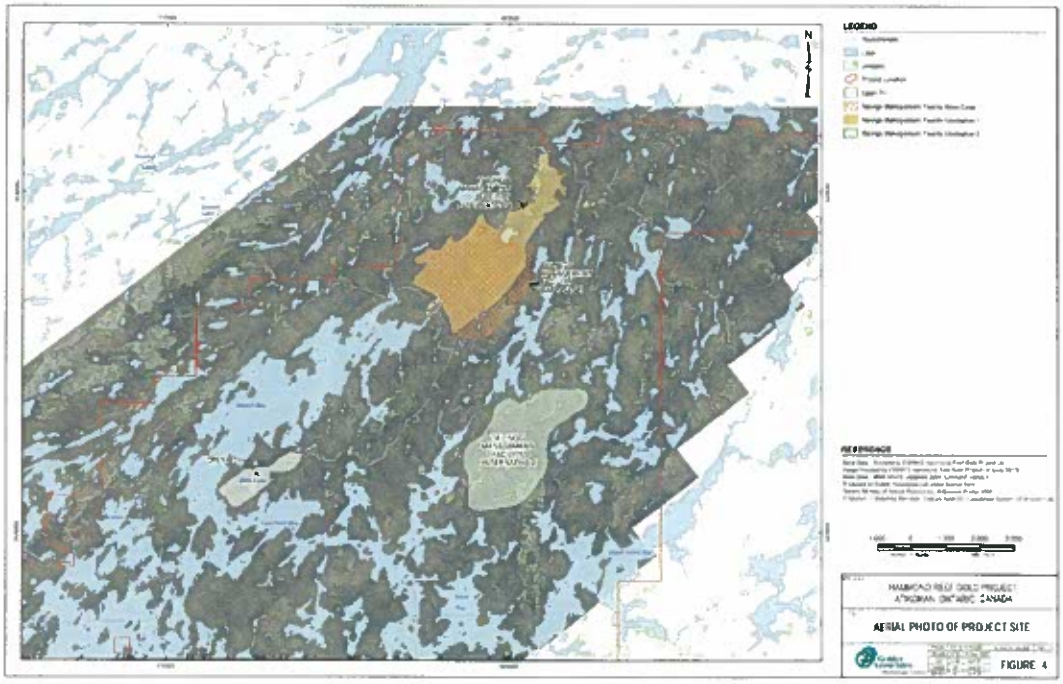
During ore processing the large rocks from the mine go through a series of processes that crush and grind them into a product similar to fine grains of sand. After the gold is removed from the ground rock, the remaining sand and water slurry is referred to as tailings.

The Project will produce approximately 245,000,000 tonnes of tailings requiring management. The tailings slurry will be pumped from the ore processing facility to one of three potential tailings containment areas. Seepage collection systems would be incorporated into the design to capture rain water that could flow through the area. The majority of the water will be recovered and recirculated through the process. Available data indicates the tailings would not be acid generating, therefore lined tailings dams are not planned.

Baseline studies are currently underway to assess the physical and biological conditions on all three sites, including areas downstream of each alternative. The development of tailings containment structures will permanently hold the tailings, and will require the removal of fish habitat. Habitat compensation plans will be developed in accordance with government regulations.

Osisko is currently considering 3 locations for tailings containment areas that will minimize environmental effects, specifically to fish habitat. The tailings containment options cover an approximate area of 750 to 800 hectares, which is roughly the size of 360 football fields.

Base Case:
This alternative has been designed to take advantage of a natural ridge to the north. A berm would be constructed to contain the tailings. The Base Case would result in the loss of some small streams, mixed boreal forest and open wetland areas. No wildlife species of concern have been found in these areas.



Alternative #1:
Similar to the Base Case, this location takes advantage of the natural ridge to the north, however it extends further to the east in case gold ore is found at the southern edge of the Base Case alternative. Alternative #1 would include placing tailings in a small lake, and therefore a second alternative has been identified.

Alternative #2:
This option is located to the east of the mine site in an upland area. Alternative #2 requires more extensive dam construction, since there are no natural features that would provide containment. Effects to aquatic habitat would be minimized for this option, since only small intermittent streams would be affected.

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

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MINE CLOSURE

A FRESH OUTLOOK ON MINING

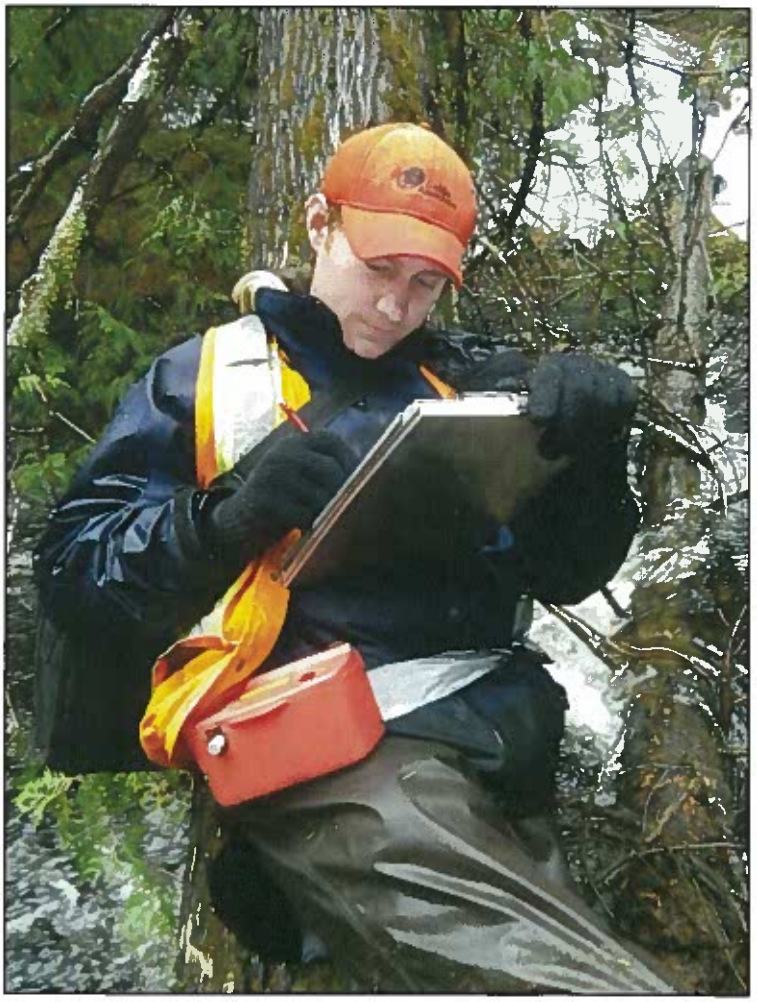
Closure and rehabilitation planning for the mine are currently underway. A certified Closure Plan, including financial assurance, schedule and cost will be submitted to the government and provided to the public during the review period. Community feedback through ongoing public consultations will help determine post-closure Project land and facility uses, and will also help to finalize the closure plan.

Osisko's plan is to rehabilitate disturbed land and watercourses and restore them to their pre-Project conditions wherever possible. The tailings management facility and waste rock stockpiles will be progressively stabilized and vegetated during operations, using native plant species. The open pits will be flooded upon closure.

Environmental monitoring of the site will be required after closure and will continue on a regular basis until water quality monitoring results indicate that surface water runoff from the site will not cause harm to the environment.







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LAND AND RESOURCE USE QUESTIONNAIRE

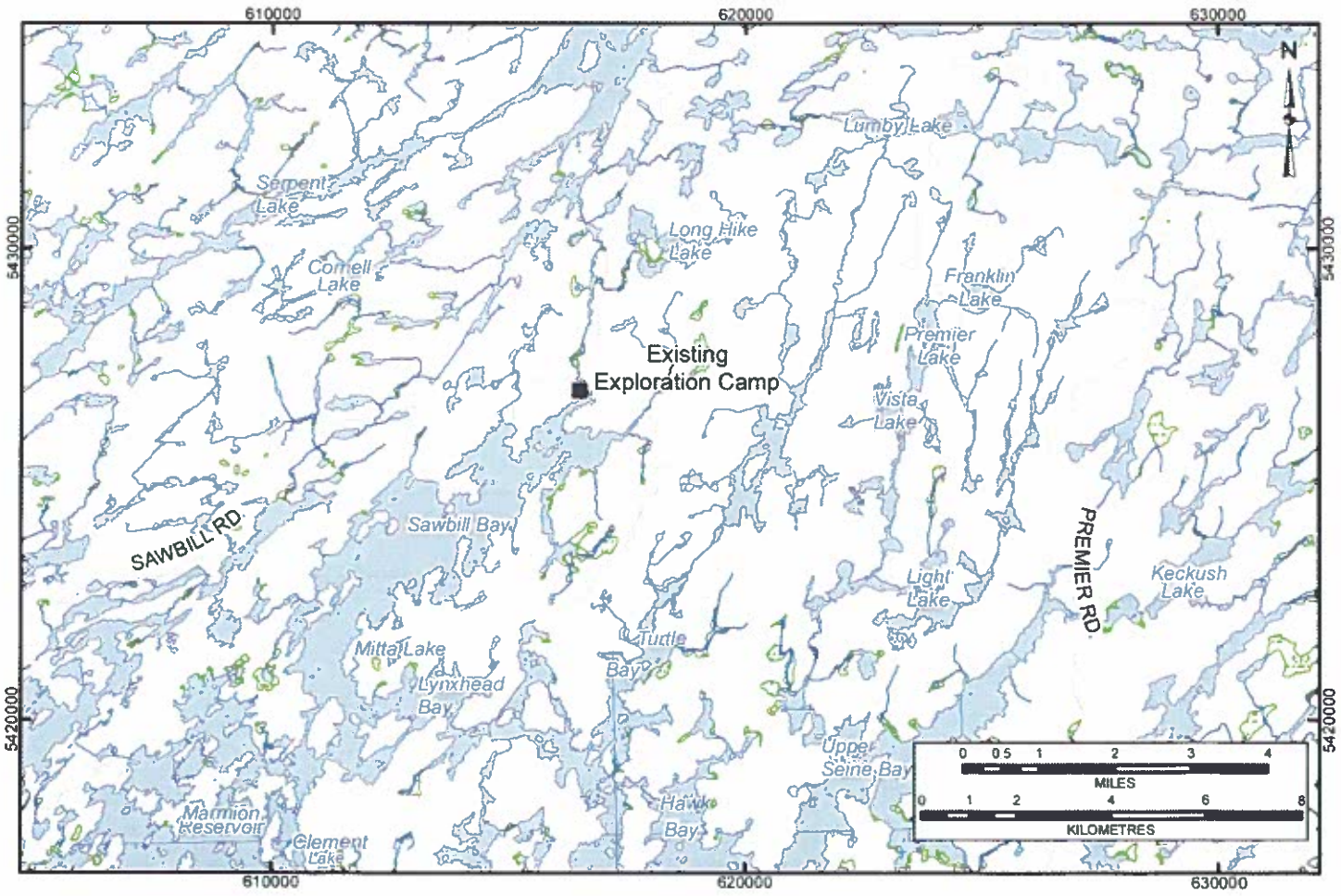
Please take a few minutes to let us know how you use the land and resources near the potential Hammond Reef Gold Project. This information will be compiled and used to inform the Environmental Assessment for the Project.

FISHING | HUNTING | HARVESTING

1. **Which of these activities do you practice on the study area? You can indicate more than one.**

   ☐ Fishing
   ☐ Hunting
   ☐ Harvesting plants / collecting berries

2. **On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":**



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**

b. **What part of the fish do you eat?**

c. **How much fish do you eat in one meal?**

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

Thank you very much for your time! Please contact us if you have any questions

Alexandra Drapack
Director, Sustainable Development
Phone: 416-363-8653 ext 110
Email: adrapack@osisko.com

A Fresh Outlook on Mining.

From: [redacted]
Sent: August 24, 2012 8:52 AM
To: Alexandra Drapack
Cc: patrick barnes; Mark (MNDMF) O'Brien; Karl Kahmann; brad maggrah; Cathryn Moffett
Subject: Re: mining concerns

Follow Up Flag: Follow up
Flag Status: Completed

Thank you for the e-mail and the attention which you provided to myself, concerning the potential mine near Atikokan.
When I have reviewed the information package, I will converse with our committee and formulate an answer to Osisko.
Please remember that in all of the CEAA documents that the government hopes that the proponent of a project will meet with affected Aboriginal groups about that project. To date, we do not believe that a teleconference call would fit that description.
Why are you meeting with other Metis groups about this mine, when leaving others out?
Thank you for your understanding.

From: Alexandra Drapack
Sent: Friday, August 24, 2012 8:20 AM
To: [redacted]
Cc: patrick barnes ; Mark (MNDMF) O'Brien ; Karl Kahmann ; Brad Maggrah ; Cathryn Moffett ; Liu,Amy [CEAA] ; Whitmore, Michelle (ENE) ; Martin Griffin ; Bud Dickson
Subject: RE: mining concerns

Mr. MacDonald,

A hard copy of the attached information package has been sent to the mailing address you provided. After you have had a chance to review the information, I would be happy to arrange a teleconference with you and your members to discuss any concerns.

Thanks
Alix

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development / Directrice développement durable
155 University Avenue, Suite 1440 | Toronto, ON M5H 3B7
101 Goodwin Street | PO Box 2020 | Atikokan, ON P0T 1C0
Tel. : 416-363-8653 #110 | Cell. : 416-606-1692 | Fax: 416-363-7579
adrapack@osisko.com | www.osisko.com

From: [redacted]
Sent: August 14, 2012 5:35 PM

To: Alexandra Drapack
Cc: patrick barnes; Mark (MNDMF) O'Brien; Karl Kahmann; Brad Maggrah
Subject: Re: mining concerns

Thank you for both the e-mail and the offer to meet.
I would like an information package, which you can send to: Jon MacDonald; Box 146; Schreiber, Ontario. P0T 2S0.
I cannot expect any of my committee to pay over $100 to attend a meeting away from their home, so unfortunately, I will not attend any meeting in Thunder Bay, unless there are expenses paid.
As you know, we do not receive funding from any source of government at this time, except when meeting with the CEAA people. (there is some funding which was allotted to us for that purpose.)
Because we are province wide, our representatives have to travel some distance to attend meetings. Those costs add up on a personal basis and because we do not have the funding which is enjoyed by other aboriginal groups, we have to work out of pocket. The one meeting which we attended, cost the individuals some $200 each.
I hope that something can be worked out, because of concern for that project.

From: Alexandra Drapack
Sent: Tuesday, August 14, 2012 4:56 PM
To: [redacted]
Cc: Brad Maggrah ; Karl Kahmann ; Mark (MNDMF) O'Brien ; Liu,Amy [CEAA] ; Whitmore, Michelle (ENE) ; Barnes, Patrick (MNDM) ; Martin Griffin ; Cathryn Moffett
Subject: RE: mining concerns

Mr. MacDonald,

Thank you very much for your continued interest in the Osisko Hammond Reef Gold (OHRG) Project. I am very interested in meeting you and in the opportunity to continue sharing information on the OHRG with OCAP. I wanted to confirm that you received our invitation to attend the Open House in Atikokan on Saturday, August 18 (see below for announcement).

If you are unable to attend the event, I would be happy to arrange a time to meet with you and Karl in Thunder Bay to present the most recent information on the project. My colleague, Cathryn Moffett (whom you met on April 13 2012) and I will be in the Dryden area on September 16 or 17 and would be interested in meeting with Mr. Maggrah at that time to present information on the project as I understand he lives in Dryden. We would be happy to meet with OCAP to present our project information and although we will not be providing any funding to cover expenses for attendance at the meetings, we can offer to meet you in both Thunder Bay (date to be determined) or in Dryden on September 16 or 17.

If you are unable to make it to the Open House in Atikokan, I will put together an information package with the most current information on the Osisko Hammond Reef Gold project.

Thanks
Alix

Following is the announcement that was sent to you regarding the Notice of Open House and Notice of Commencement of the EA:
Hello,
I am pleased to announce that the Terms of Reference for the Osisko Hammond Reef Gold Project were approved by the Ontario Minister of the Environment on July 4, 2012. Please see attached for the **Notice of Commencement of Environmental Assessment** for the Project. A copy of the approved Terms of Reference is available on our website at the link below.`

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Please don't hesitate to contact me with any questions or comments.
Thanks, Cathryn

http://www.osisko.com/en/properties/hammond-reef/enviromental.html

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development / Directrice développement durable
155 University Avenue, Suite 1440 | Toronto, ON M5H 3B7
101 Goodwin Street | PO Box 2020 | Atikokan, ON P0T 1C0
Tel. : 416-363-8653 #110 | Cell. : 416-606-1692 | Fax: 416-363-7579
adrapack@osisko.com | www.osisko.com

From: [redacted]
Sent: August 6, 2012 2:06 PM
To: Alexandra Drapack
Cc: Brad Maggrah; Karl Kahmann; Mark (MNDMF) O'Brien
Subject: mining concerns

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We have forwarded information and concerns for this mine to all involved, and look forward to consultations so that our members, who do live in the region, can be advised and involved.
Thank you for taking the time to respond!

Jon

MacDonald;

Mining

Representative.

Ontario

Coalition of Aboriginal People

From: Alexandra Drapack
Sent: August 29, 2012 11:22 PM
To: 'Amy.Liu@ceaa-acee.gc.ca'; 'michelle.whitmore@ontario.ca'; 'Patrick.M.Barnes@ontario.ca'
Cc: Cathryn Moffett; Hélène Cartier; Martin Griffin
Subject: Fw: mining concerns
Attachments: Description-The Ontario Coalition of Aboriginal Peoples.docx

Follow Up Flag: Follow up
Flag Status: Completed

FYI

From: [redacted]
Sent: Wednesday, August 29, 2012 11:08 PM
To: Alexandra Drapack
Cc: Brad Maggrah <roads@drytel.net>; Karl Kahmann <email address removed> ; patrick barnes <Patrick.M.Barnes@ontario.ca>; Ron Swain <email address removed> Mark (MNDMF) O'Brien <mark.o'brien@ontario.ca>
Subject: Re: mining concerns

Hello again Alexandra.
As in documentation from the CEAA and MNDM explains, proponents of activities are encouraged to meet with Aboriginal groups about proposals for their ventures.
Because OCAP is a province wide association and also because we are not funded at this time, (as some other Metis associations are), our executive works on a volunteer basis.
As a provincial association, our members and executive live in various locations throughout Ontario and in particular, our consultation committee is widespread and not funded to go to meetings.
Would you drive for hours, stay in a motel, as well as food expenses on a constant basis to meet with various agencies and continue to pay your own expenses? As I am retired, on a fixed income, that would become untenable.
Enclosed is a short bio. about OCAP which will help you in understanding that we are a legitimate association which is made up of individuals from all over this province as well as families or communities.
To the point; we have members in the area of your mine proposal and will have some say in your proposal, with or without your co-operation or respect. That will reflect on potential positions which we will take.
Teleconference does not cut it. Face to face gives a better understanding and dialogue helps heal any potential rifts which can occur. We are very concerned about a lack or respect and dialogue.
We only want to be treated as equal, compared to other Metis groups. Please don't forget that we represent off reserve status/non status Indians as well as Metis in Ontario. Our membership is quite large and growing.
Your company is proposing a business in an area where we do have members and as a result, please understand that we expect face to face consultations, in Thunder Bay, which is central to our northern consultation group. Because we expect to be treated equally as an Aboriginal group, we believe that the proponent, (your company), is responsible to meet with and also accommodate our group. Simply put, we continue to wait for your company to carry through with it's responsibilities.
Thank you for your attention and concern.
If there is anything which I can do to help solve this problem, please contact myself as the Mining representative for the Ontario Coalition of Aboriginal People; (OCAP).

From: Alexandra Drapack
Sent: Wednesday, August 29, 2012 3:24 PM
To: [redacted]
Cc: patrick barnes ; Mark (MNDMF) O'Brien ; Karl Kahmann ; Brad Maggrah ; Cathryn Moffett ; Liu,Amy [CEAA] ; Whitmore, Michelle (ENE) ; Martin Griffin ; Hélène Cartier
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I cannot expect any of my committee to pay over $100 to attend a meeting away from their home, so unfortunately, I will not attend any meeting in Thunder Bay, unless there are expenses paid.
As you know, we do not receive funding from any source of government at this time, except when meeting with the CEAA people. (there is some funding which was allotted to us for that purpose.)
Because we are province wide, our representatives have to travel some distance to attend meetings. Those costs add up on a personal basis and because we do not have the funding which is enjoyed by other aboriginal groups, we have to work out of pocket. The one meeting which we attended, cost the individuals some $200 each.
I hope that something can be worked out, because of concern for that project.

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Sent: Tuesday, August 14, 2012 4:56 PM
To: jonmac1@shaw.ca
Cc: Brad Maggrah ; Karl Kahmann ; Mark (MNDMF) O'Brien ; Liu,Amy [CEAA] ; Whitmore, Michelle (ENE) ; Barnes, Patrick (MNDM) ; Martin Griffin ; Cathryn Moffett
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Coalition of Aboriginal People

"The Ontario Coalition of Aboriginal Peoples"

The Ontario Coalition of Aboriginal People, (OCAP), was formed in 2006 and has been incorporated as a not for profit association, (#1718085).

The demise of the old Ontario Métis Aboriginal Association (OMAA), left a huge void across Ontario pertaining to aboriginal peoples who belonged to OMAA and therefore without representation, many thousands of Metis and off reserve status/non status Indians in Ontario were left without both representation and recognition to the two layers of Government, which under the charter, were granted this protection.

The Congress of Aboriginal Peoples (CAP) is recognized and funded by the Federal Government, to speak on behalf of Metis, off reserve status/non status and Inuit people across Canada. This National Association, CAP, has Provincial Territorial Organizations, (PTO's) from all across Canada and Ontario's seat at that time was filled by OMAA. Since OMAA was decertified, the Congress of Aboriginal People, accepted the Ontario Coalition of Aboriginal People, (OCAP), to fill that seat at the national Assembly, and since that time, OCAP has been affiliated with the Congress of Aboriginal Peoples. This occurred in 2006.

OCAP has yearly meetings and a duly elected executive was formed with Brad Maggrah as President, Mr. Ron Swain as Chairperson, Mr. Elmer St. Pierre as vice Chief and membership, with Mr. Jim Smith as Treasurer, while Roger Kent was elected recording Secretary.
Various councillors from appropriate regions in Ontario fill out the board of directors, while Chelsea Polkinghorn is our youth rep at this time, and Elize Hartley, is our elder. The names may change from time to time, but a breakdown of "who" OCAP is, "where they are", geographically in Ontario, and goals of the Association have to be put in perspective.

Continuous Ministerial changes in Government, (both Federal and Provincial), have led to a continuous questioning of "who are you", and therefore a letter of introduction is both necessary for these Bureaucrats, and the various ministers whom we correspond with.

OCAP was formed to represent Métis, off reserve status/non status Indians and other people who reside or born in Ontario, who can prove through genealogy that they are descendents of Aboriginal people in Ontario, to the two levels of Governments. (Federal and Provincial). OCAP is a member of CAP, (Congress of Aboriginal Peoples). CAP is recognized by the Federal government in Canada as a representative of Aboriginals on a national level. The provincial territorial organizations, (PTO's) form the Assembly of which CAP oversees.

Membership comes from all across the province from Kingston to Kenora, with a core of members living in most of the small communities in between. Because we are a province wide association, our executive and board members reside in all areas of Ontario.

OCAP has an executive, and because it continues to lack core funding from government, all functions of this Association are run on a volunteer basis. Some grants help out, which allow some consultation, but core funding from the Federal Government is both lacking and difficult to attain. This has to change because how can a government recognize our parent association without recognition of OCAP?
That is not to say that various ministries do not consult with us, only that most costs involved are paid for from personal accounts.

The Ministry of Natural Resources, OPG., Ontario Hydro, The CEAA, (both federal and Provincial), and the mining sector, along with some municipalities have consulted with our representatives and OCAP continues to be active in correspondence with other Métis groups as well as the ones mentioned above. We do interact with Indian Affairs, and continue to request that they sit at a table with us for recognition purposes.

OCAP has a defined membership criteria, which is checked for proven genealogy and upon acceptance, are given a card with picture, to use as evidence of Aboriginal citizenship, as well as belonging to OCAP. This allows these members to attend meetings and vote on various topics, apply for small business loans through the Aboriginal Business Corporation, (ABC), as well as some funding for post secondary schooling. It also is a way of self identity when dealing with job applications for minority groups as well as identification to field officers from the MNR.

OCAP , at this time, does not have a harvesting agreement with the province, but continues to ask for meetings with the province, to start correspondence and other matters which OCAP has entrenched rights in, in the Canadian Constitution.

OCAP has various fronts in which it continues to be involved and to name a few, they are family services, homelessness, harvesting, schooling, consultations with various mining and forest companies on land use, and environmental impacts and many other aboriginal issues for our members. Representing these individuals, who choose to belong to OCAP, to various government agencies is very high on our priority list.

Our Associations represent thousands in Ontario, through memberships and affiliations by local Métis associations and off reserve people in their regions where they live. Annual AGA's are in the springtime at Sault St. Marie and various government and other agencies are welcome to attend these. (look to OCAP website)

Our website can be accessed by going to the internet; google the Ontario Coalition of Aboriginal People and follow the link or www2o-cap.ca

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Follow Up Flag: Follow up
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Open House 5 – Baseline Results

OSISKO
HAMMOND REEF GOLD

A Fresh Outlook on Mining.

PROJECT ALTERNATIVES AND LAYOUT

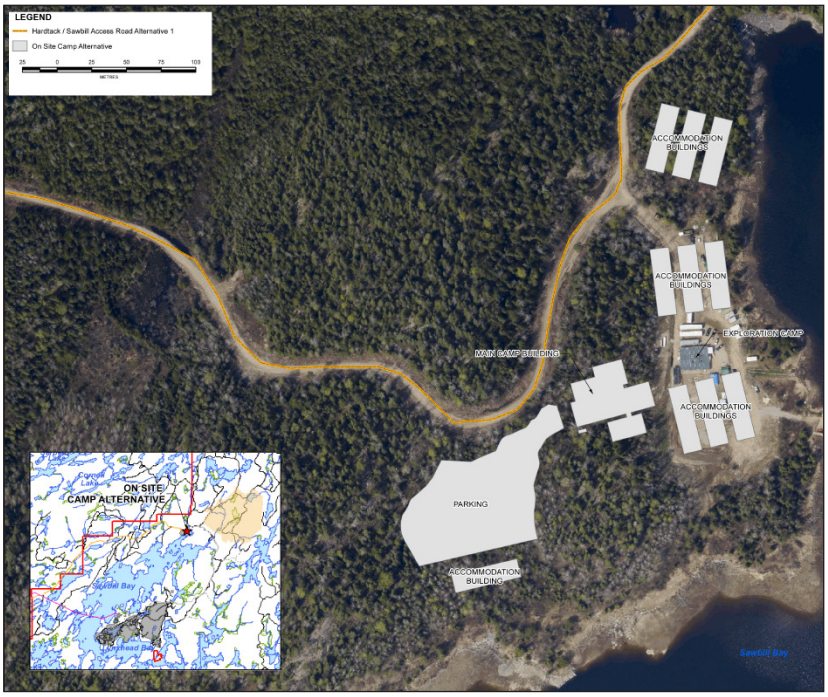
The Hammond Reef Gold Project is continuing to move forward in the permitting process as we finish baseline studies and begin to move towards an assessment of potential effects of the Project.

Over the past several months our engineering team has been working together with our environmental consultant, Golder Associates to finalize the Project layout and design details. The updated Project Layout map provides the footprint that will be assessed by our Environmental Assessment team.

Please keep in mind that the Project are still in the design stage and some details may continue to change as the Project planning process moves forward.

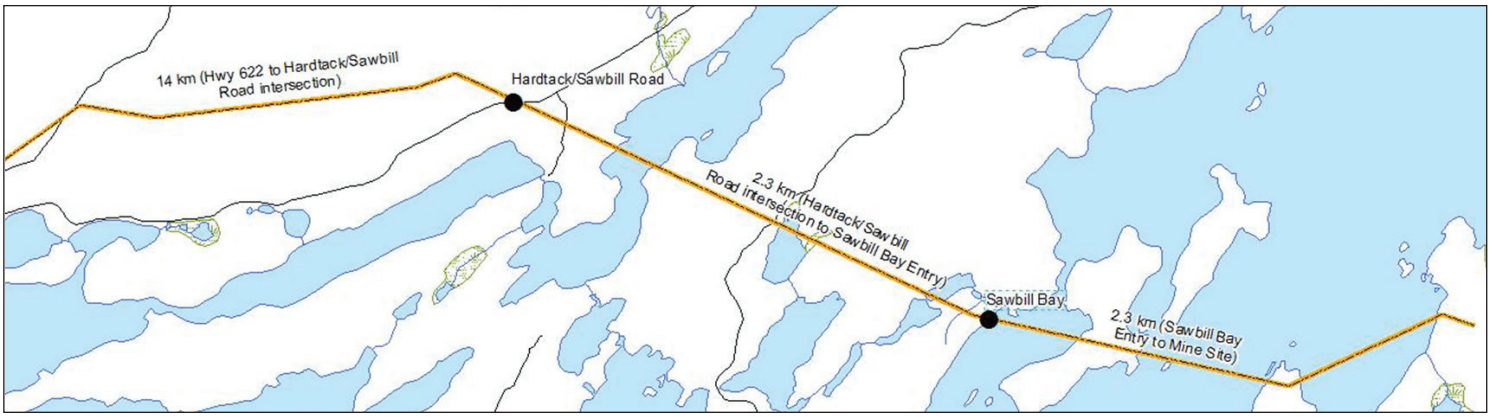
ON SITE CAMP ALTERNATIVES

Osisko envisions that during operations, workers at the mine site will be a combination of daily commuters who opt to live in the town of Atikokan and travel to the Site as well as workers living elsewhere who will lodge at the Site during their work rotation. The camp will be designed for about 1,000 workers.



ELECTRICITY ALTERNATIVES

- 230 kV transmission line
- 100 MW of power per year
- Total length of 20 km
- Estimate 85 towers
- First 14 km composed of wood structures
- Second 6 km section will use steel towers to allow longer spans
- Considering natural gas for heating (15 MW of 100 MW)

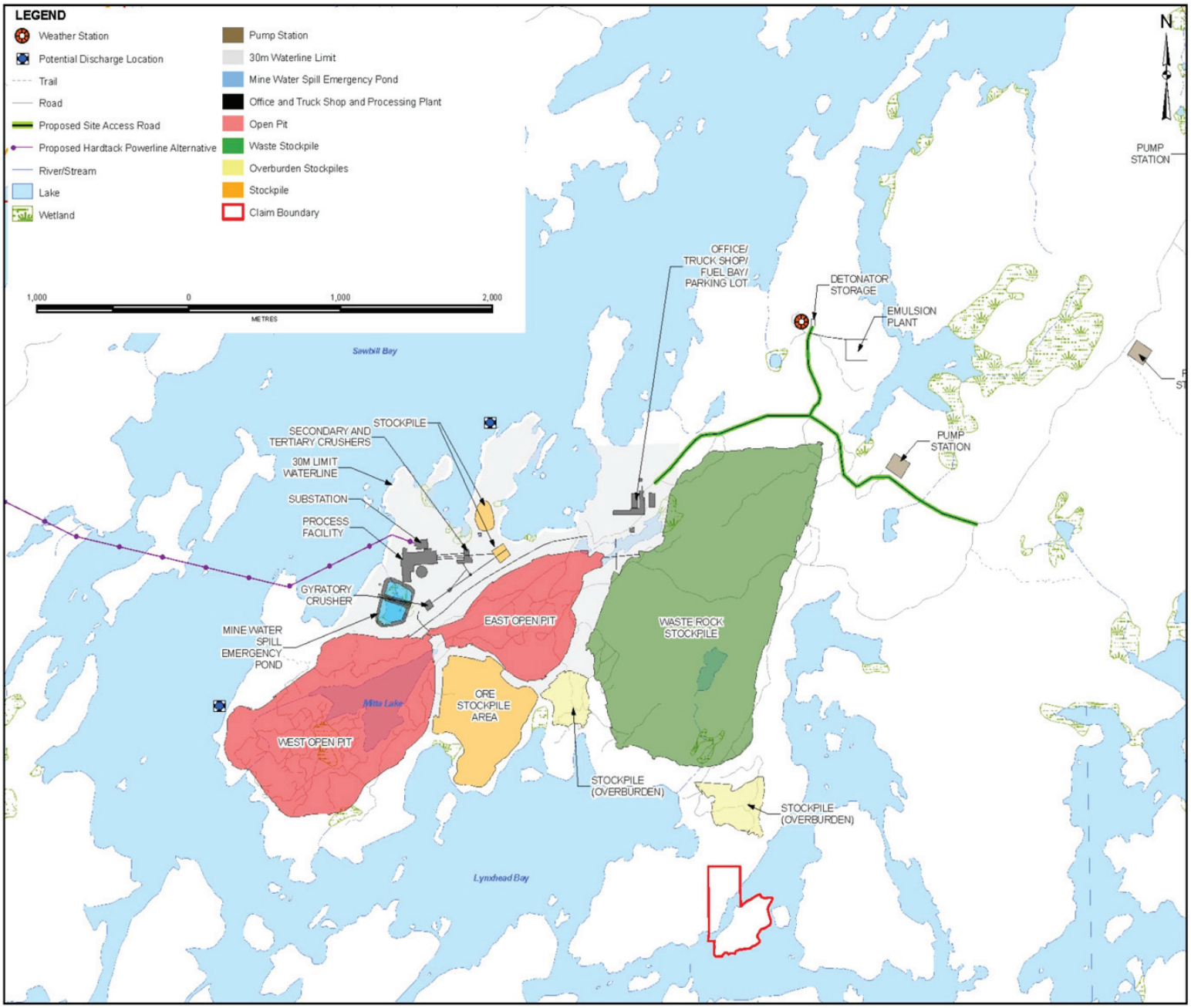


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A Fresh Outlook on Mining.

PROJECT ALTERNATIVES AND LAYOUT



ASSESSMENT CRITERIA AND EVALUATION

STUDY AREAS

Each component of the Environmental Assessment will determine study areas within which the potential effects of the Project will be assessed.

Mine Study Area (MSA): the area containing the footprint of the Mine, the Waste Rock Management Facility, the Processing Plant, the Tailings Management Facility, and the Support and Ancillary Infrastructure.

Local Study Area (LSA): an area around the Mine Study Area with natural linkages where impacts could be expected.

Regional Study Area (RSA): an area beyond the Local Study Area which will encompass the maximum geographic area that impacts from the Project are anticipated.

Linear Infrastructure Study Area (LISA): the area containing the footprint of the access road and project transmission line. The LISA is represented by a Y shaped area that extends 30 m on either side of the central line of the access road and the Project transmission line.

ASSESSING POTENTIAL EFFECTS

The effects of the Project activities on the identified VECs will be assessed through the criteria listed in the table below. In order to determine the significance of a potential effect, three levels are associated to each criterion: low, medium and high.

Assessment Criteria	Level		
	Low	**Medium**	**High**
Geographic Extent (of effect)	Effect is within the Project Site (i.e. Mine Study Area or Linear Infrastructure Study Area)	Effect extends into the Local Study Area	Effect extends into the Regional Study Area
	Low	**Medium**	**High**
Frequency (of effect)	Conditions or phenomena causing the effect to occur infrequently (i.e., several times per year)	Conditions or phenomena causing the effect to occur at regular, although infrequent intervals (i.e., several times per month)	Conditions or phenomena causing the effect to occur at regular and frequent intervals (i.e., daily or continuously)
	Low	**Medium**	**High**
Duration (of conditions causing effect)	Conditions causing effect are evident during the site preparation and construction phase, or decommissioning phase	Conditions causing effect are evident during the operations phase	Conditions causing effect extend beyond any one phase
	Low	**Medium**	**High**
Degree of Irreversibility (of effect)	Effect is readily (i.e., immediately) reversible	Effect is reversible with time	Effect is not reversible (i.e., permanent)

ASSESSMENT CRITERIA AND EVALUATION

VALUED ECOSYSTEM COMPONENTS

Biological Environment

- Wetlands
- Forest community
- Species at Risk
- Furbearers
- Moose
- Wild rice
- Marmion Reservoir
- Lizard Lake
- Streams and ponds draining the Project footprint
- Walleye
- Smallmouth Bass
- Baitfish Species



Physical Environment

- Soil quality
- Groundwater movement
- Groundwater quality
- Surface water movement
- Surface water quality
- Air quality
- Noise levels



Social Environment

- Economics
- Services and Infrastructure
- Land Use and Resources



Where a Project-VEC interaction is identified, an assessment will be carried out to predict the potential effects on the VEC, identify mitigation measures and determine the significance of the effect, using a defined criteria and indicators.

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PROJECT PHASES AND SCHEDULE

The Project will be completed in four phases: construction, operations, closure and post-closure. Each phase of the Project will be evaluated for a potential interaction with the Valued Ecosystem Components (VECs) identified for the physical, biological and social environment. Each Project phase has a defined list of activities and a planned schedule for completion.

CONSTRUCTION

The construction phase will begin once all relevant permits have been received. The construction phase is expected to last 30 months. Construction of the access road and the project transmission line will take priority, as overall Project construction and operations depends on having suitable electricity and access to the Project Site.

OPERATIONS

During the operations phase, the process of removing the ore through development of the open pits begins. The mining process will also generate waste rock and tailings. The operations phase is expected to last for 11 years

CLOSURE

The closure phase includes a list of activities that are designed to ensure that the Mine Site is left in a manner that reduces the potential impacts on the social and natural environment. Project infrastructure will be removed and environmental monitoring will take place until it is shown that it meets all agreed closure conditions.

At closure, the following activities will occur:

- Cessation of mining operations.
- Progressive decommissioning of Project Site infrastructure.
- Project Site reclamation.

POST-CLOSURE

Activities during the post-closure phase will focus on monitoring programs and maintaining the integrity of the environment and of any retained infrastructure. Post-closure activities will extend 10 years after the closure of the Mine.

PROJECT PHASES AND SCHEDULE

- The earliest the EA could be complete is January 2013
- Construction is expected to take 30 months
- Operations are expected to last 11 years
- Decommissioning will take about 2 years
- Closure and rehabilitation will be ongoing

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Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

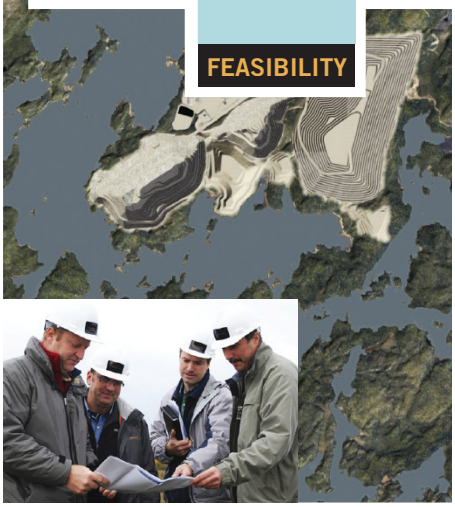
PROJECT PHASES AND SCHEDULE

2010	2011	2012	2013	2014	2015	2016	...	2028	2029	2030	2031	2032

P.-F.[1]

EA[2] AND PERMITTING

FEASIBILITY



CONSTRUCTION



OPERATIONS



Ongoing

Monitoring & management continues

CLOSURE & POST-CLOSURE



Construction Phase Activities

- Site preparation
- Soil removal and stockpiling
- Building of workers camp
- Operation of concrete batch plant
- Operation of mobile crushing and screening plant
- Upgrading/construction of access road
- Construction of electrical transmission line
- Transportation of people and materials
- Installation of temporary power and pumping
- Mitta Lake dewatering and discharge to Marmion Reservoir
- Sediment removal and stockpiling
- Soil removal and stockpiling
- Building of Processing Plant
- Dam foundation site preparation
- Construction of diversion ditching an seepage collection ditches around TMF
- Installation of temporary sediment control structures
- Construction of perimeter containment dam
- Construction of reclaim water pond and pump station
- Waste rock transfer and stockpiling
- Progressive building of Project facilities
- Construction of diversion ditches and seepage collection ditches
- Construction of Mine site roads
- Laydown of pipelines

Operations Phase Activities

- Building and infrastructure maintenance
- Vehicle fuelling and maintenance
- Surface water and erosion control
- Water management
- Domestic water and sewage management
- Domestic and industrial waste management
- Operation of mobile crushing and screening plant
- Transportation of people and materials
- Initial open pit mining
- Blasting
- Ore loading
- Overburden removal and stockpiling
- Top soil removal and stockpiling
- Ore transfer and stockpiling
- Operation of processing plant
- Tailings management
- Reclaim water management
- Waste rock transfer and stockpiling

Closure Phase Activities

- Decommissioning of Project facilities
- Site reclamation
- Tailings pond management
- Transportation of people and materials
- Water management

Post-closure Phase Activities

- Tailings pond management
- Water management
- Transportation of people and materials

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LAND AND RESOURCE USE QUESTIONNAIRE

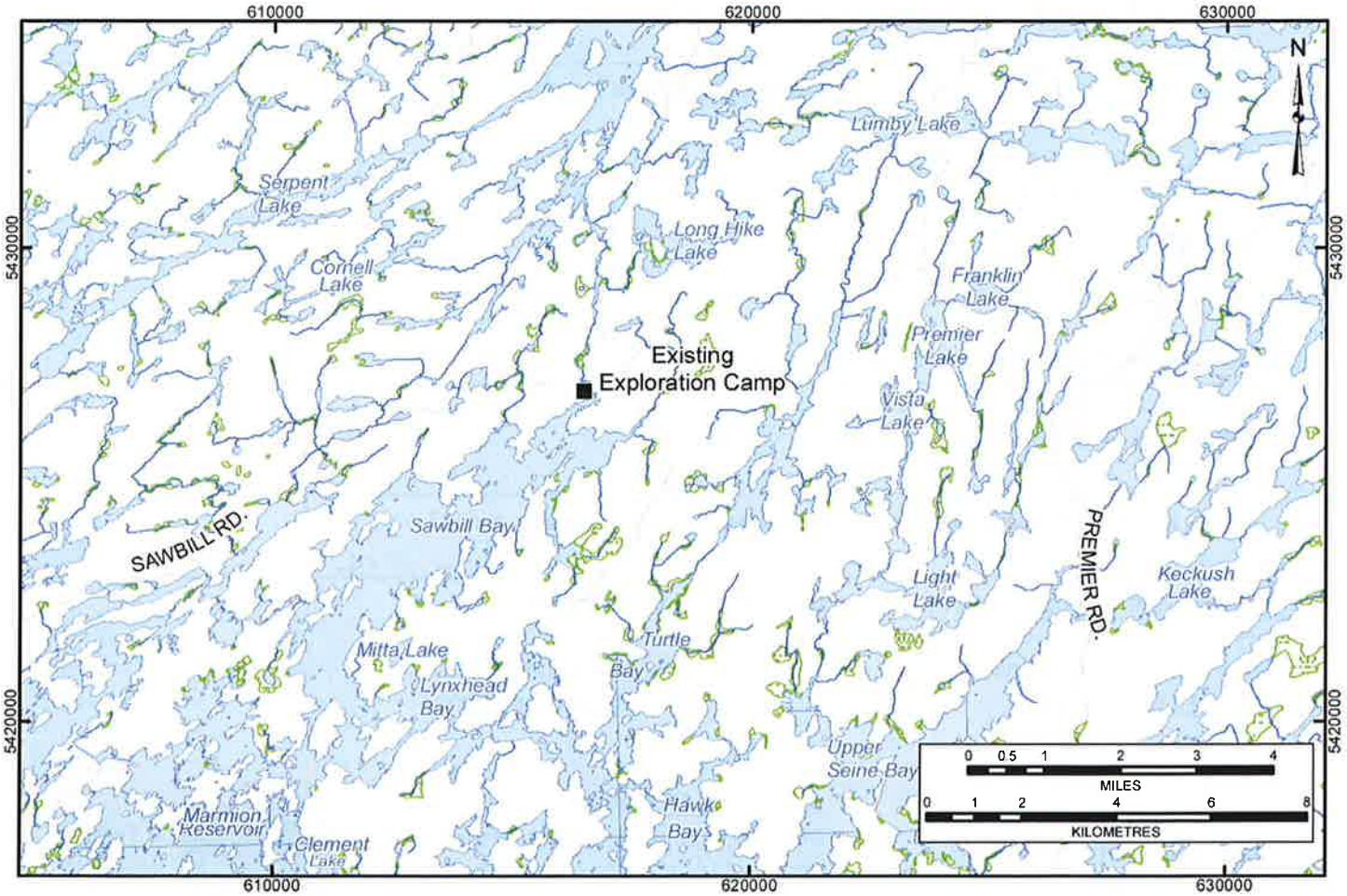
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FISHING | HUNTING | HARVESTING

1. Which of these activities do you practice on the study area? You can indicate more than one.

- ☐ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Pike, Bass Walley

b. **What part of the fish do you eat?**
FILLET

c. **How much fish do you eat in one meal?**
1 one

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
None

b. **What part of the animal do you eat?**
None

c. **How much of the animal do you eat in one meal?**
None

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

None

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
N/A

b. **What part of the plant do you eat?**
N/A

c. **What amount of plant/berries would you typically consume in a day?**
N/A

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

Thank you very much for your time! Please contact us if you have any questions

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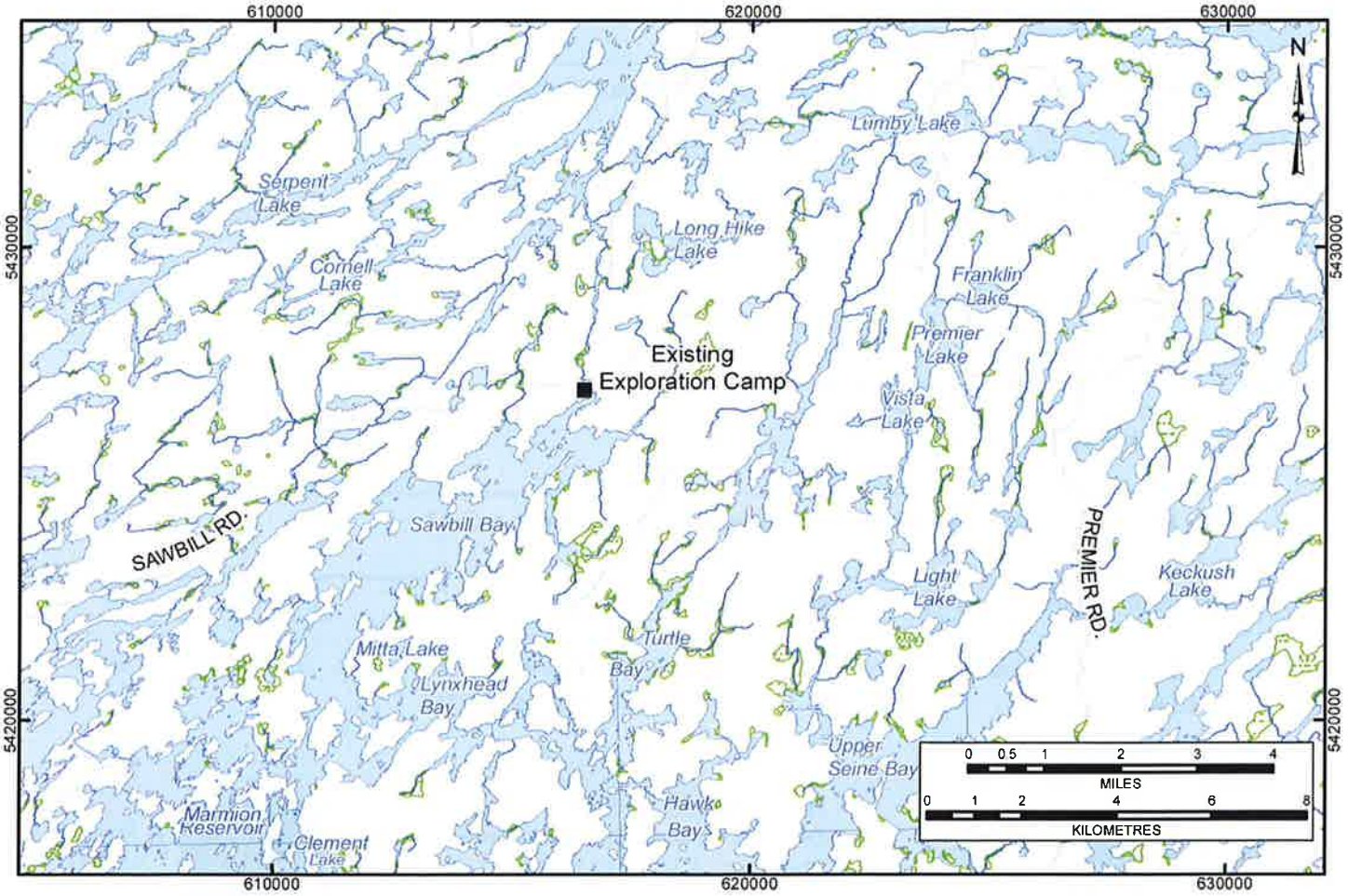
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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**

b. **What part of the fish do you eat?**

c. **How much fish do you eat in one meal?**

d. **How often do you eat the fish that you or others have caught?**

☐ More than once a week
☐ Once a week
☐ Once a month
☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

☐ More than once a week
☐ Once a week
☐ Once a month
☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

☐ More than once a week
☐ Once a week
☐ Once a month
☐ A couple times a year

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Don't use this area

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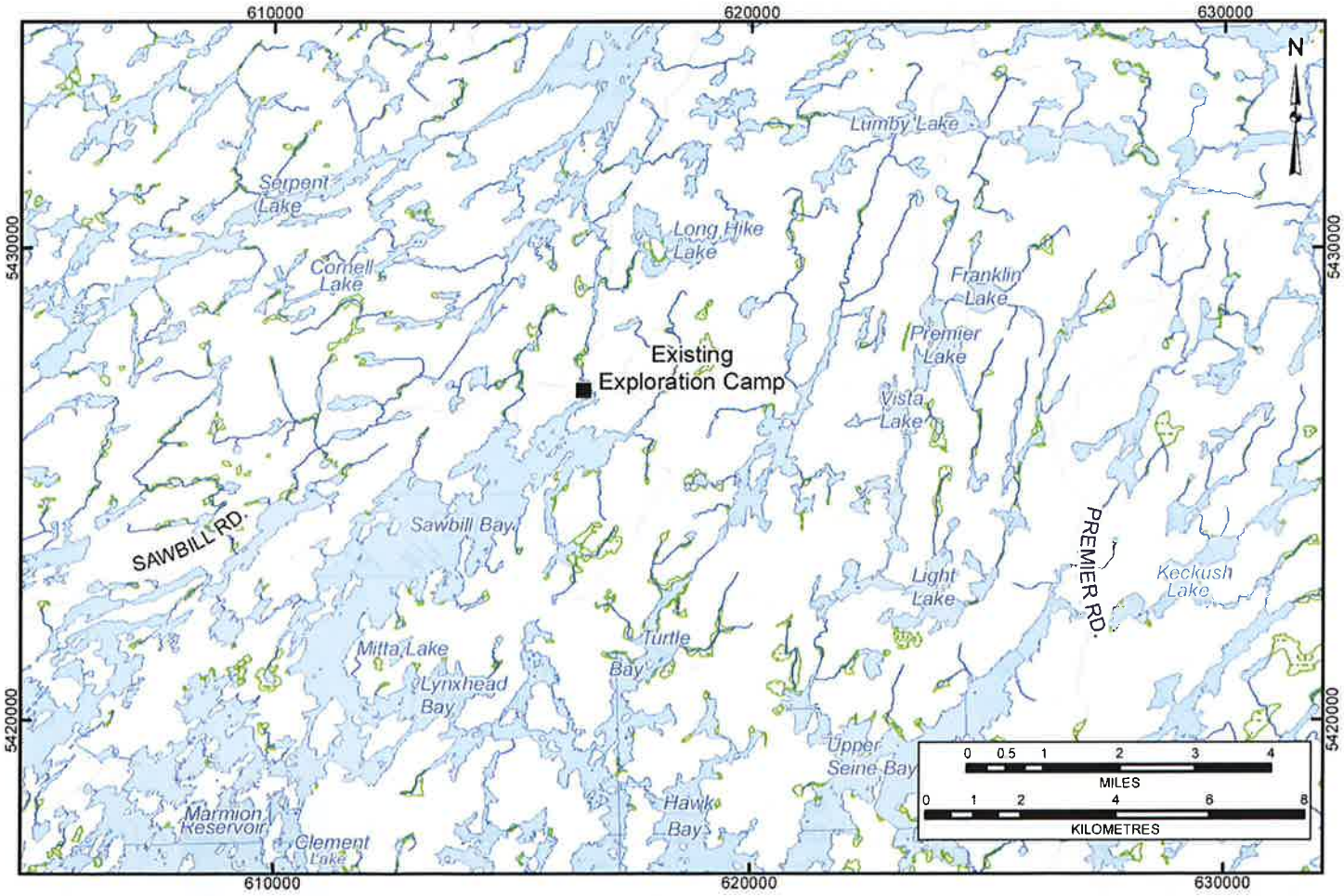
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- ☑ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?** Pickerel

b. **What part of the fish do you eat?** Fillets

c. **How much fish do you eat in one meal?** 2 Kilo

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?** None

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?** Blueberry

b. **What part of the plant do you eat?** Berries

c. **What amount of plant/berries would you typically consume in a day?** ½ Kilo

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

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LAND AND RESOURCE USE QUESTIONNAIRE

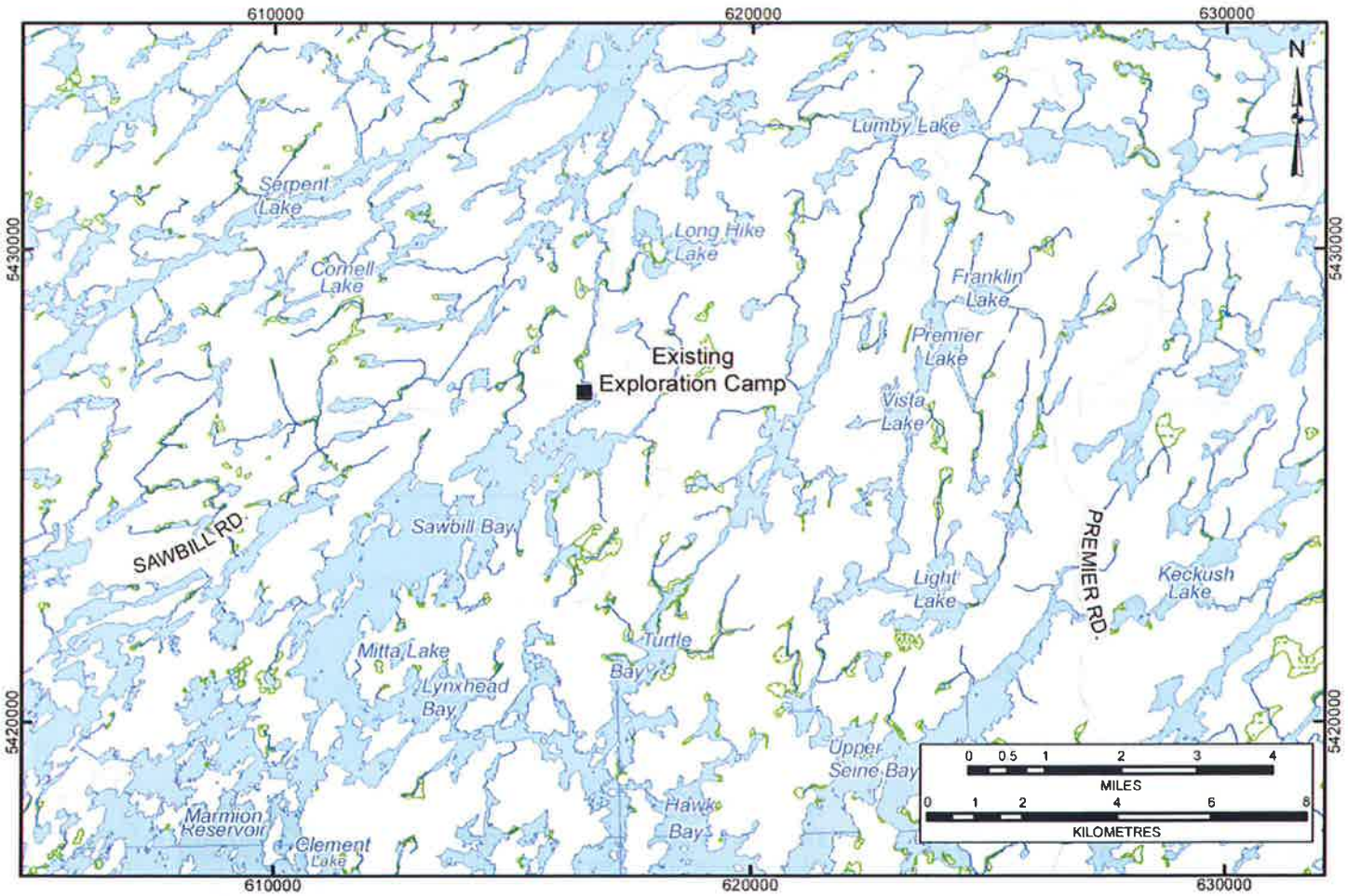
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- ☒ Fishing
- ☐ Hunting
- ☒ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Walleye, Bass

b. **What part of the fish do you eat?**
Filets

c. **How much fish do you eat in one meal?**
2 filets

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
NONE

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
Blueberries

b. **What part of the plant do you eat?**
Berries

c. **What amount of plant/berries would you typically consume in a day?**
Cup

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

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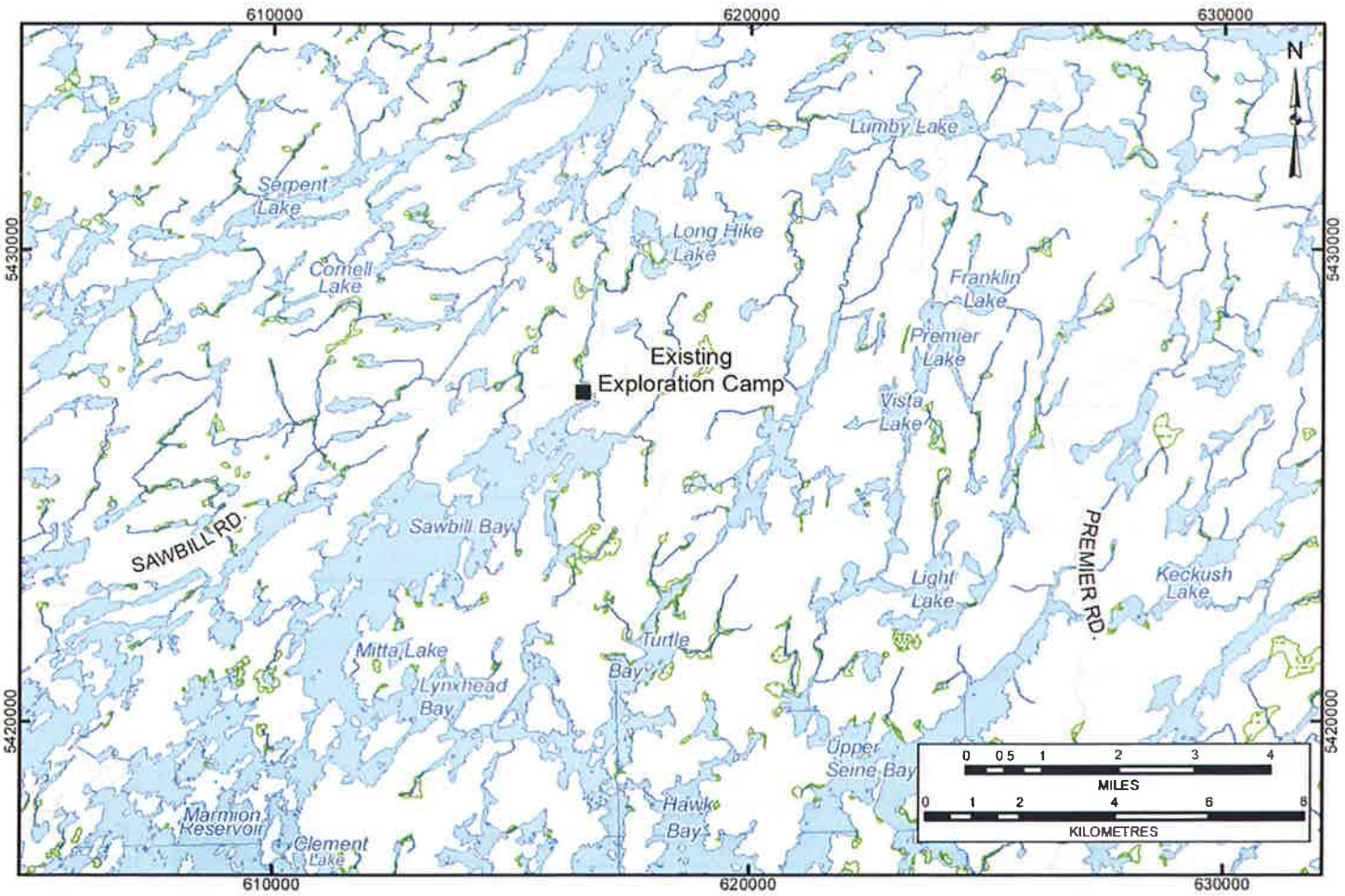
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FISHING | HUNTING | HARVESTING

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- ☒ Fishing
- ☐ Hunting
- ☒ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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http://www.osisko.com/en/properties/hammond-reef.html
Open House - August 18, 2012

If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Wal-eye or Bass

b. **What part of the fish do you eat?**
Filets

c. **How much fish do you eat in one meal?**
2 filets

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☒ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
NONE

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☒ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
Blueberries

b. **What part of the plant do you eat?**
Berries

c. **What amount of plant/berries would you typically consume in a day?**
1 cup.

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☒ A couple times a year

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LAND AND RESOURCE USE QUESTIONNAIRE

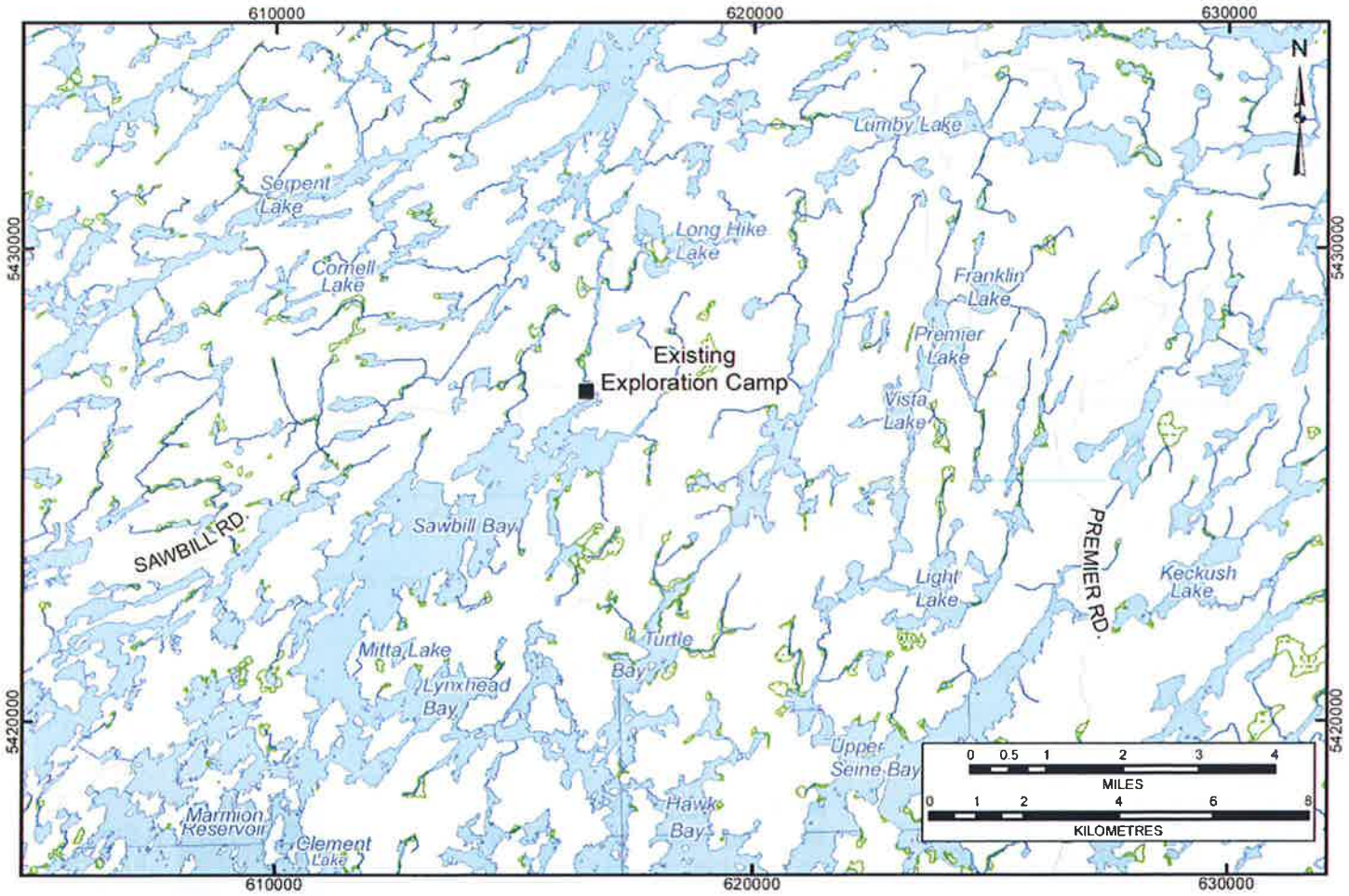
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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**

Walleye

b. **What part of the fish do you eat?**

c. **How much fish do you eat in one meal?**

Monthly

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

blueberries

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

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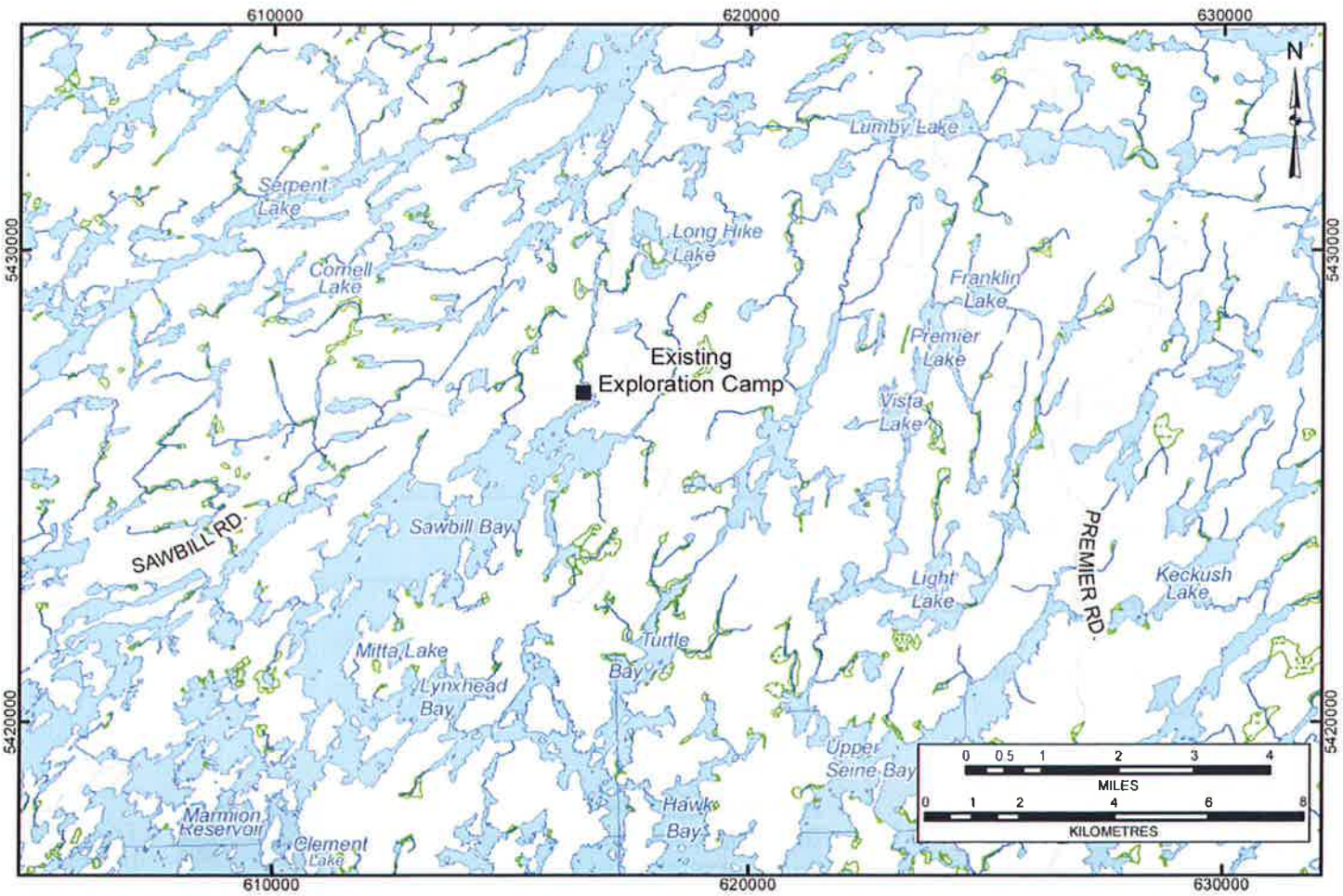
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FISHING | HUNTING | HARVESTING

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- ☑ Fishing
- ☑ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Walleye

b. **What part of the fish do you eat?**
Fleshy Part

c. **How much fish do you eat in one meal?**
3 pieces

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
moose

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**
one steak, hamburger etc.

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
Blueberries

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**
less than 1 c.

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

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LAND AND RESOURCE USE QUESTIONNAIRE

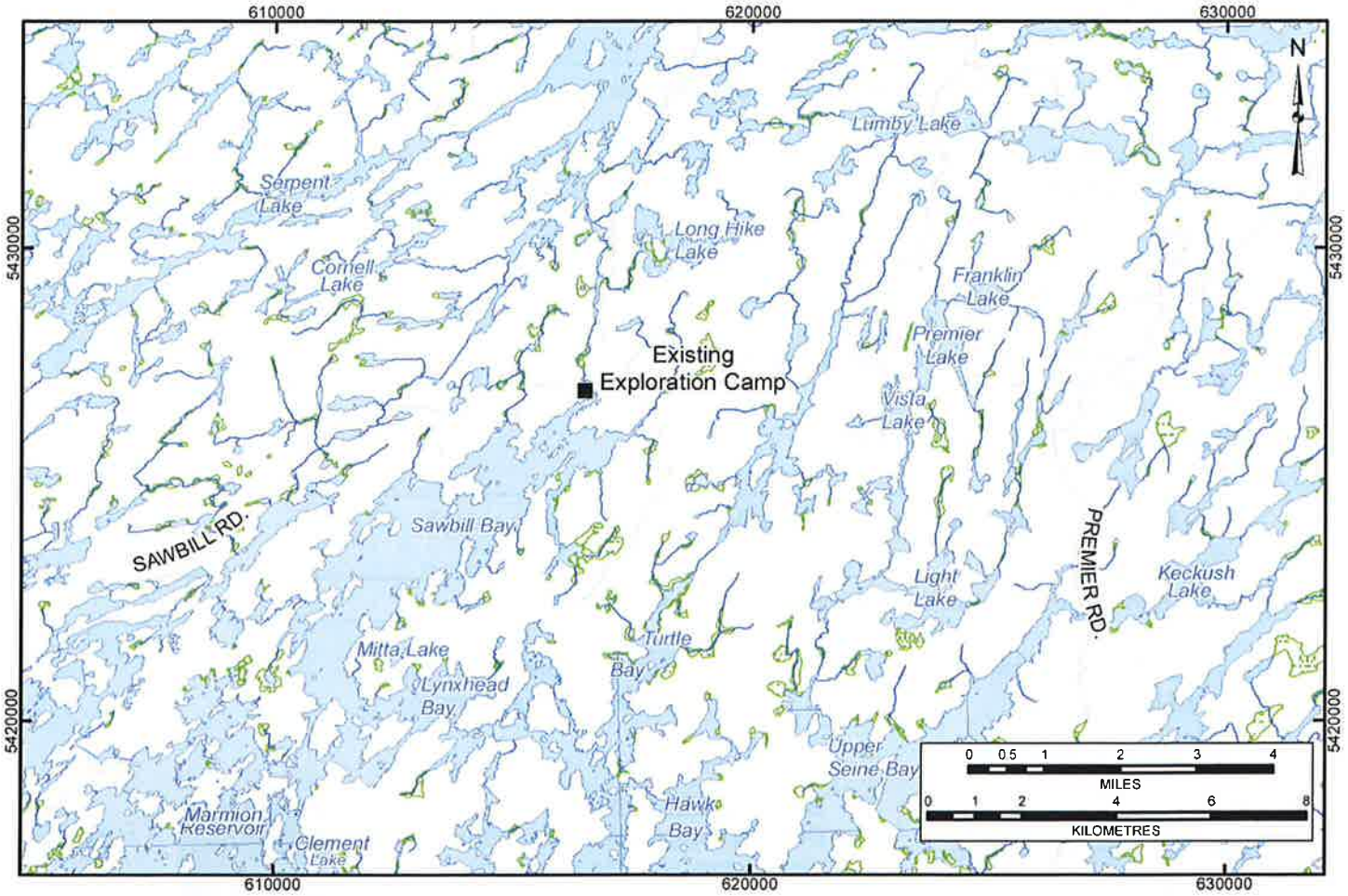
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- ☐ Harvesting plants / collecting berries

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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
WALLEYE & BASS

b. **What part of the fish do you eat?**
FILLETS

c. **How much fish do you eat in one meal?**
3 FISH

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
DEER & MOOSE

b. **What part of the animal do you eat?**
ALL

c. **How much of the animal do you eat in one meal?**
1 POUND

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
BLUE BERRIES

b. **What part of the plant do you eat?**
BERRIES

c. **What amount of plant/berries would you typically consume in a day?**
HAND FUL

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

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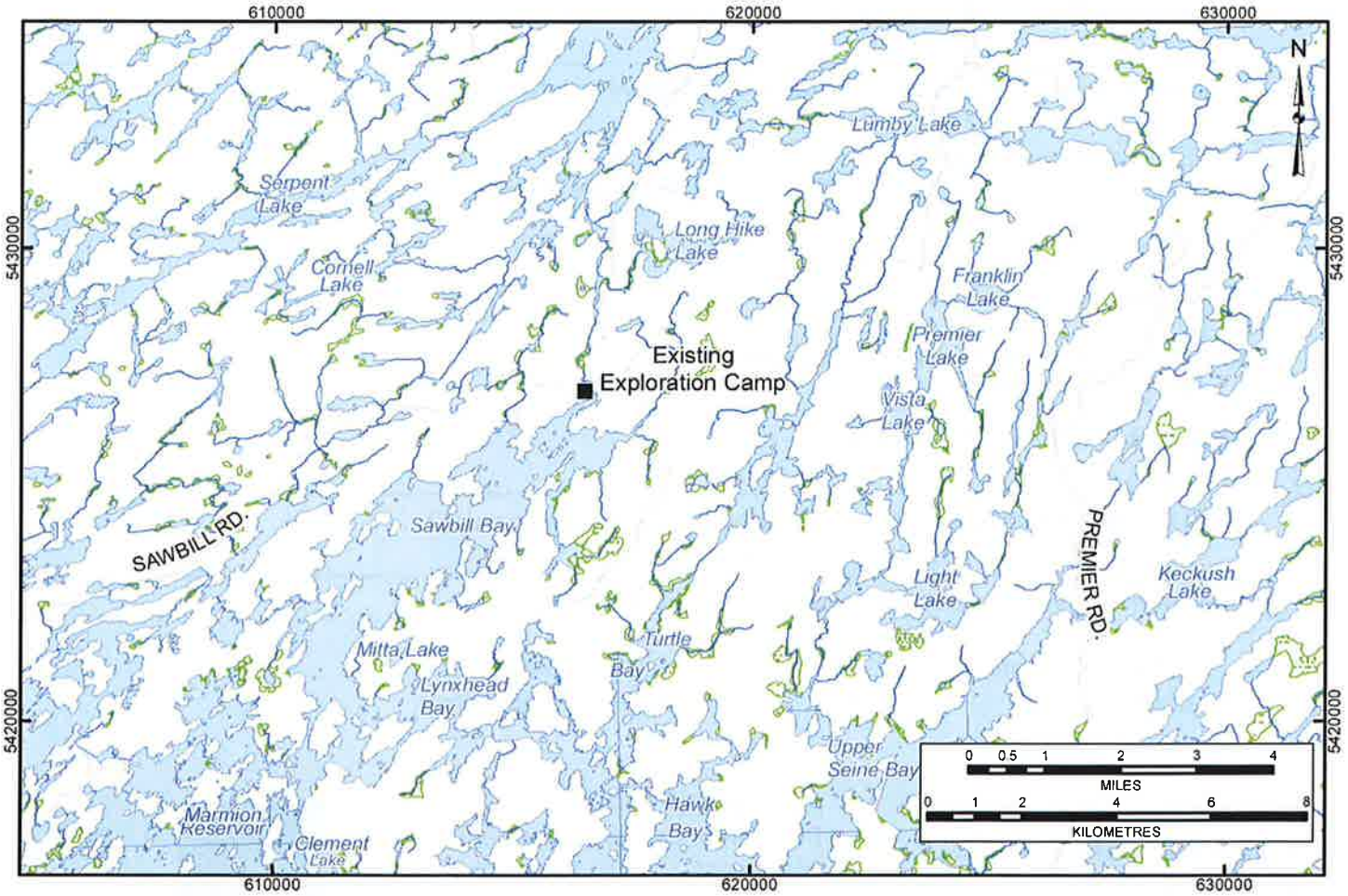
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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Walleye Bass

b. **What part of the fish do you eat?**

c. **How much fish do you eat in one meal?**
1 fillet

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ ~~A couple times a year~~

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
none

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**
8 oz

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ ~~A couple~~ times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
Blueberries

b. **What part of the plant do you eat?**
berry

c. **What amount of plant/berries would you typically consume in a day?**
1/4 cup in summer

d. **How often do you eat plants that you or others have harvested?**

- ☑ ~~More than once a week~~
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

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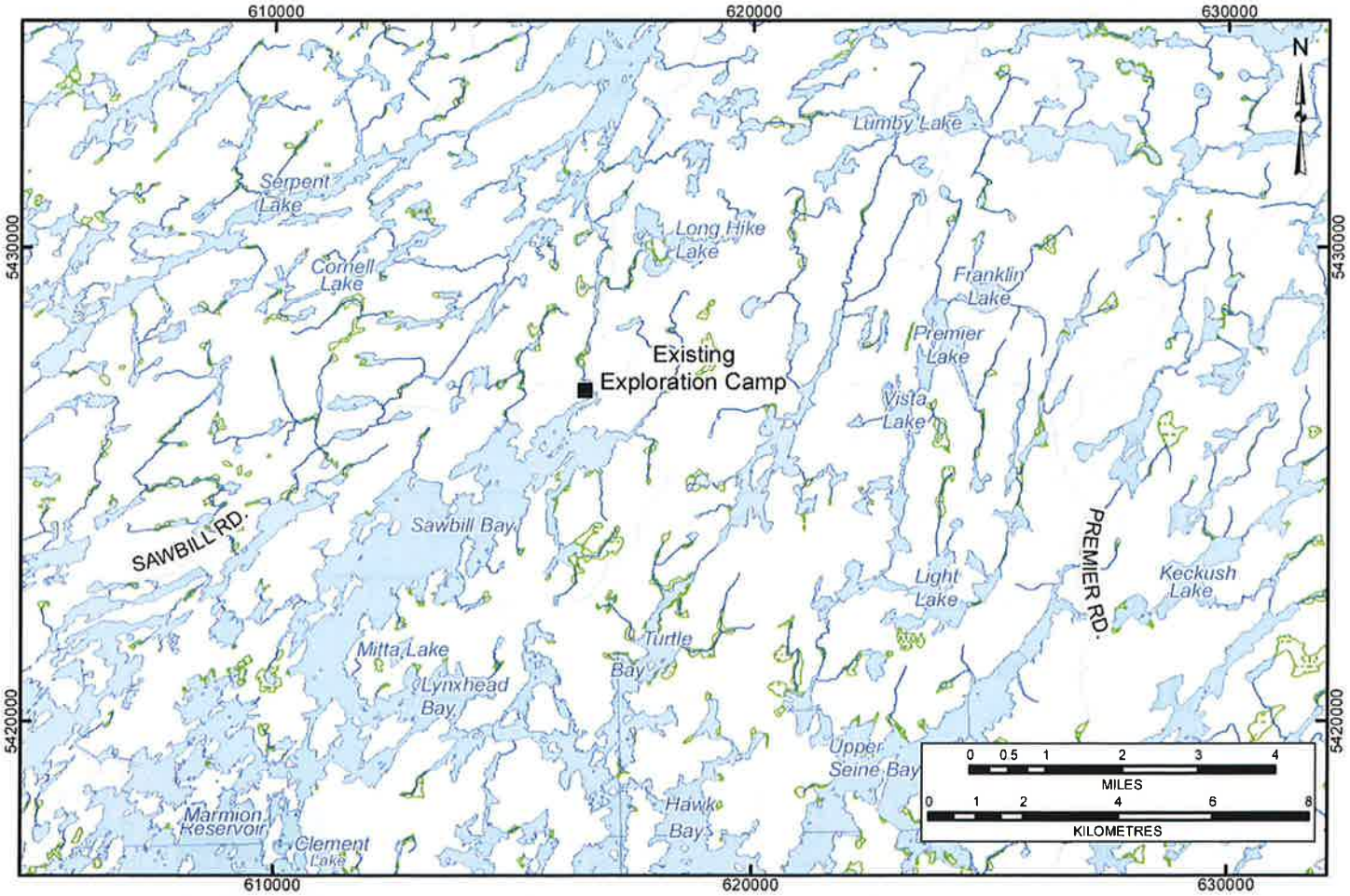
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- ☑ Fishing
- ☑ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
WALLEYE

b. **What part of the fish do you eat?**
FILLETS

c. **How much fish do you eat in one meal?**
2

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
DEER

b. **What part of the animal do you eat?**
ALL

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
BLUEBERRIES

b. **What part of the plant do you eat?**
Berries

c. **What amount of plant/berries would you typically consume in a day?**
1/2 CUP

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

Thank you very much for your time! Please contact us if you have any questions

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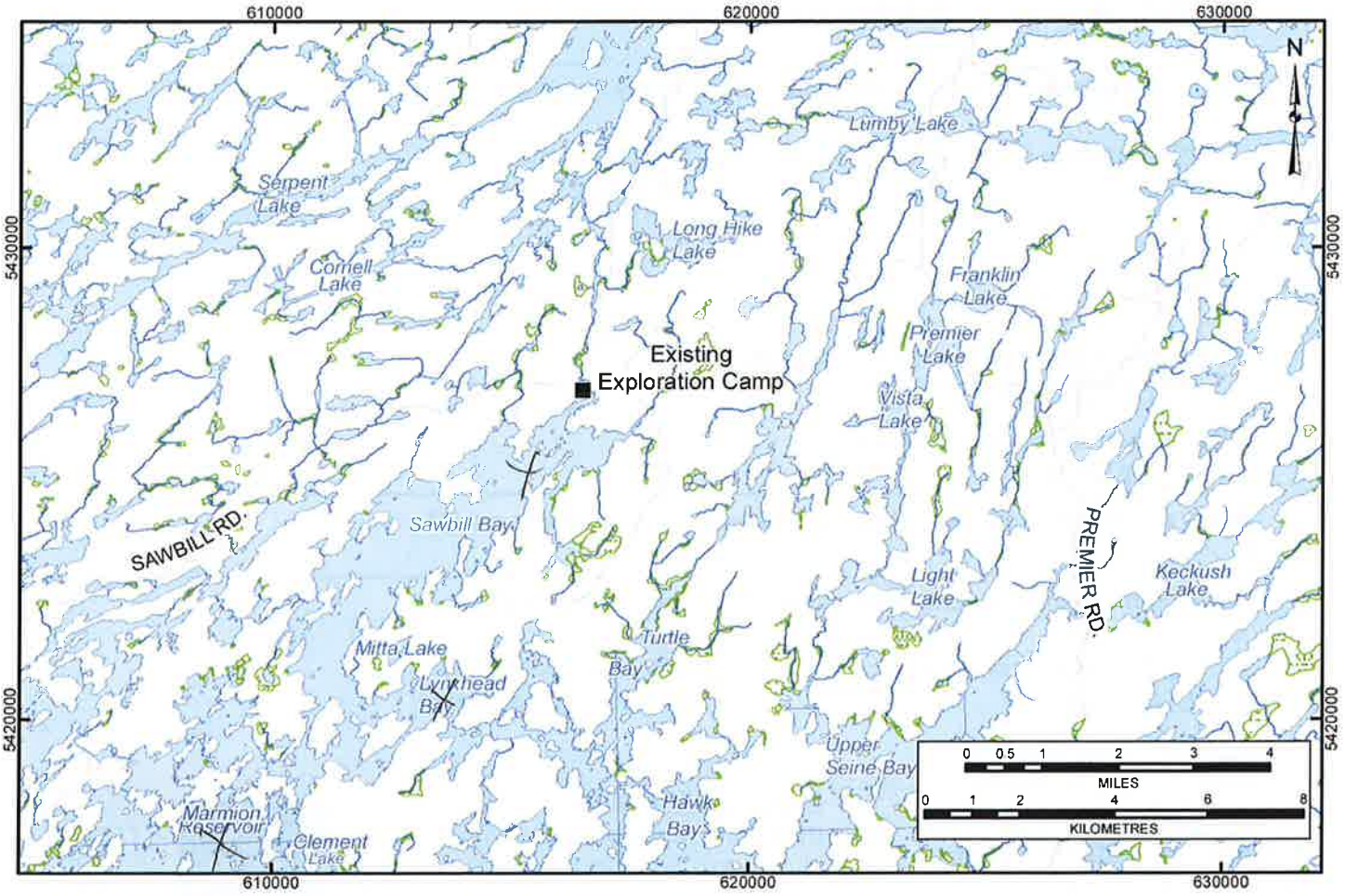
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FISHING | HUNTING | HARVESTING

1. Which of these activities do you practice on the study area? You can indicate more than one.

- ☑ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
WALLEYE

b. **What part of the fish do you eat?**
FILLETS

c. **How much fish do you eat in one meal?**
LOTS

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
MOOSE DEER PARTRIDGE

b. **What part of the animal do you eat?**
WHOLE THING

c. **How much of the animal do you eat in one meal?**
ALL BIRD

d. **How often do you eat animals that you or others have caught?**

- ☑ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
Blueberries

b. **What part of the plant do you eat?**
BERRY

c. **What amount of plant/berries would you typically consume in a day?**
1 CUP

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

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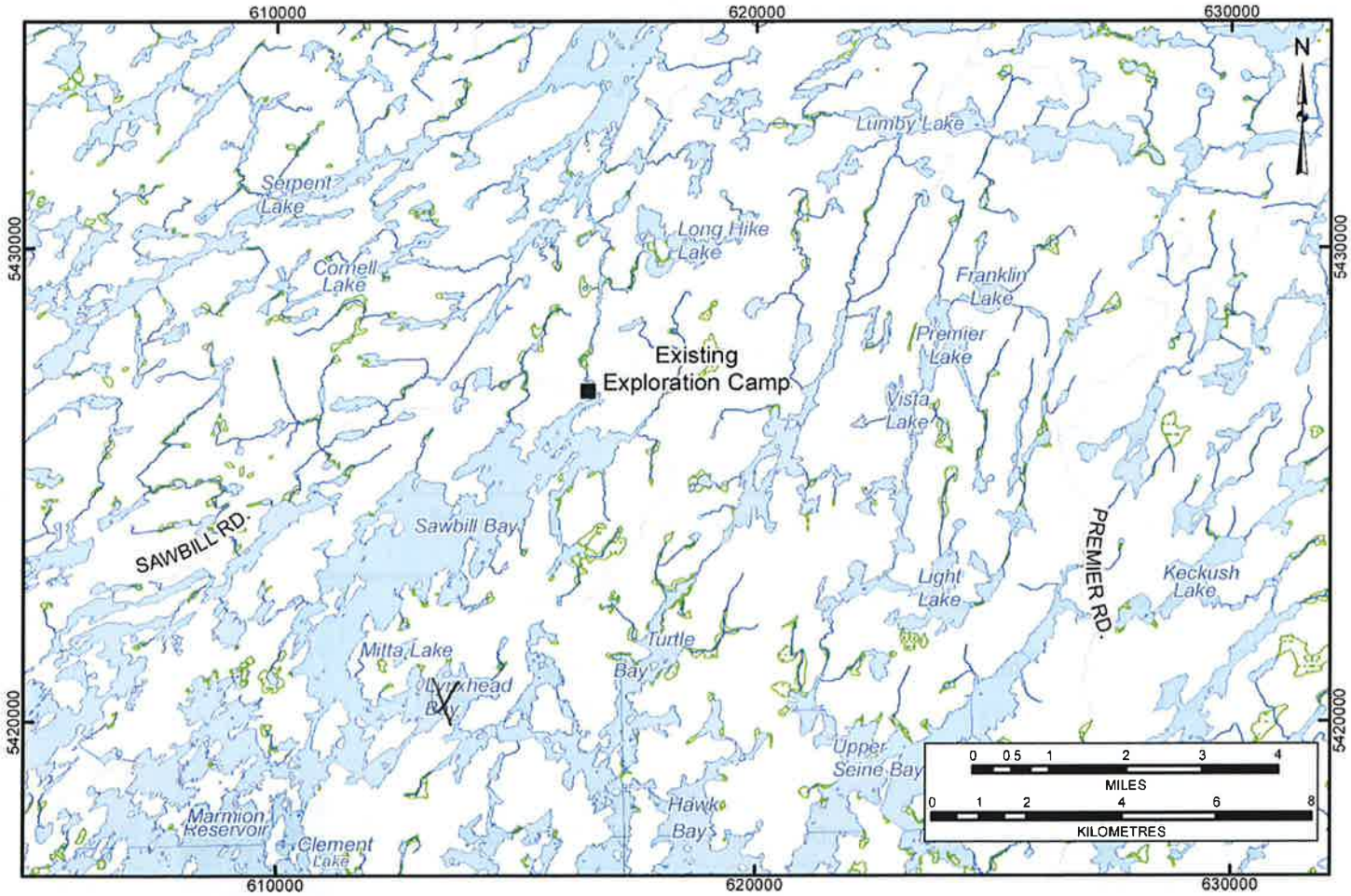
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FISHING | HUNTING | HARVESTING

1. Which of these activities do you practice on the study area? You can indicate more than one.

- [x] Fishing
- [ ] Hunting
- [ ] Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**

walleye

b. **What part of the fish do you eat?**

meat

c. **How much fish do you eat in one meal?**

2

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

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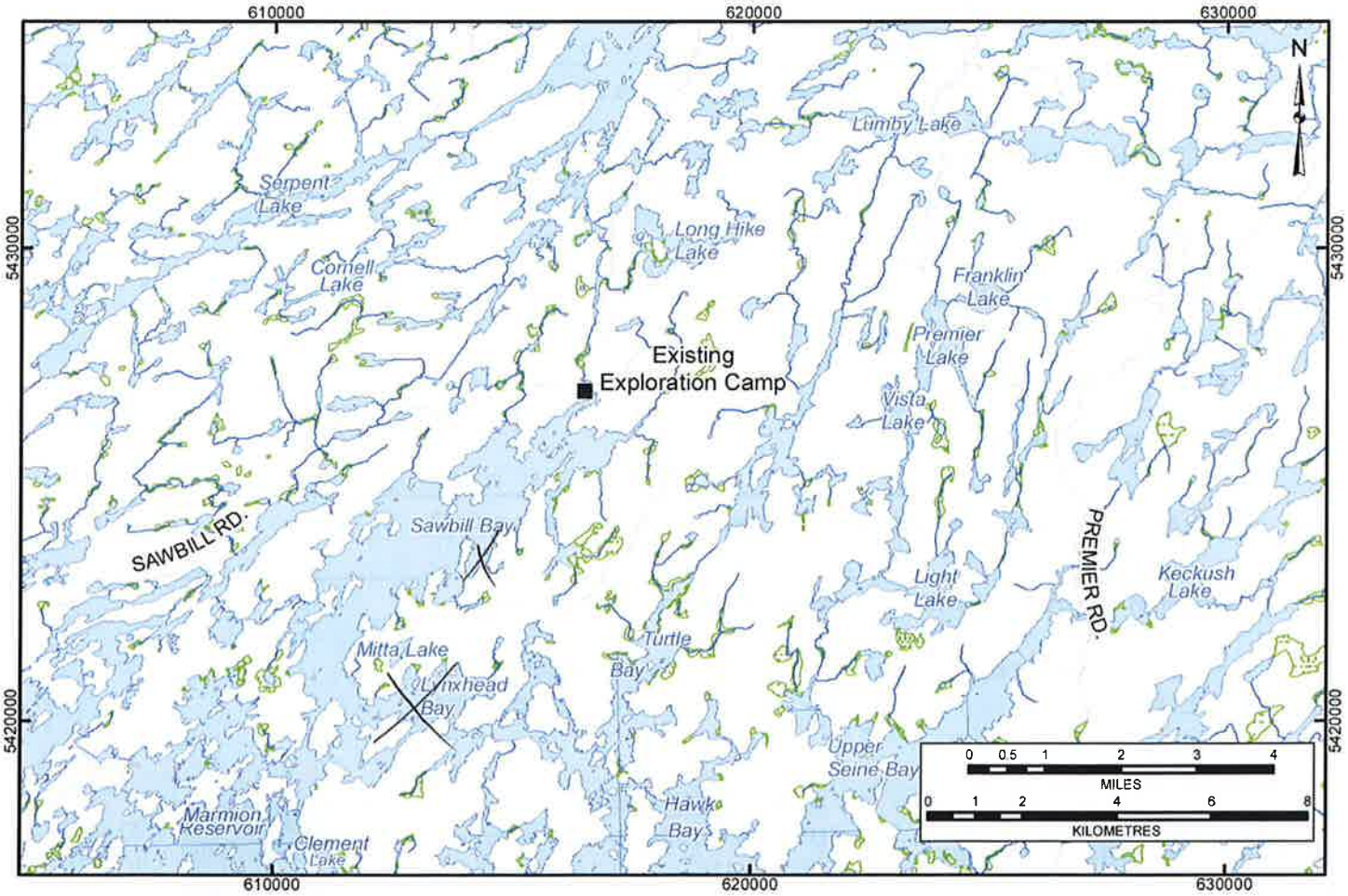
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FISHING | HUNTING | HARVESTING

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- ☑ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
WALLEYE

b. **What part of the fish do you eat?**
FILLET

c. **How much fish do you eat in one meal?**
2-3 FILLETS

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

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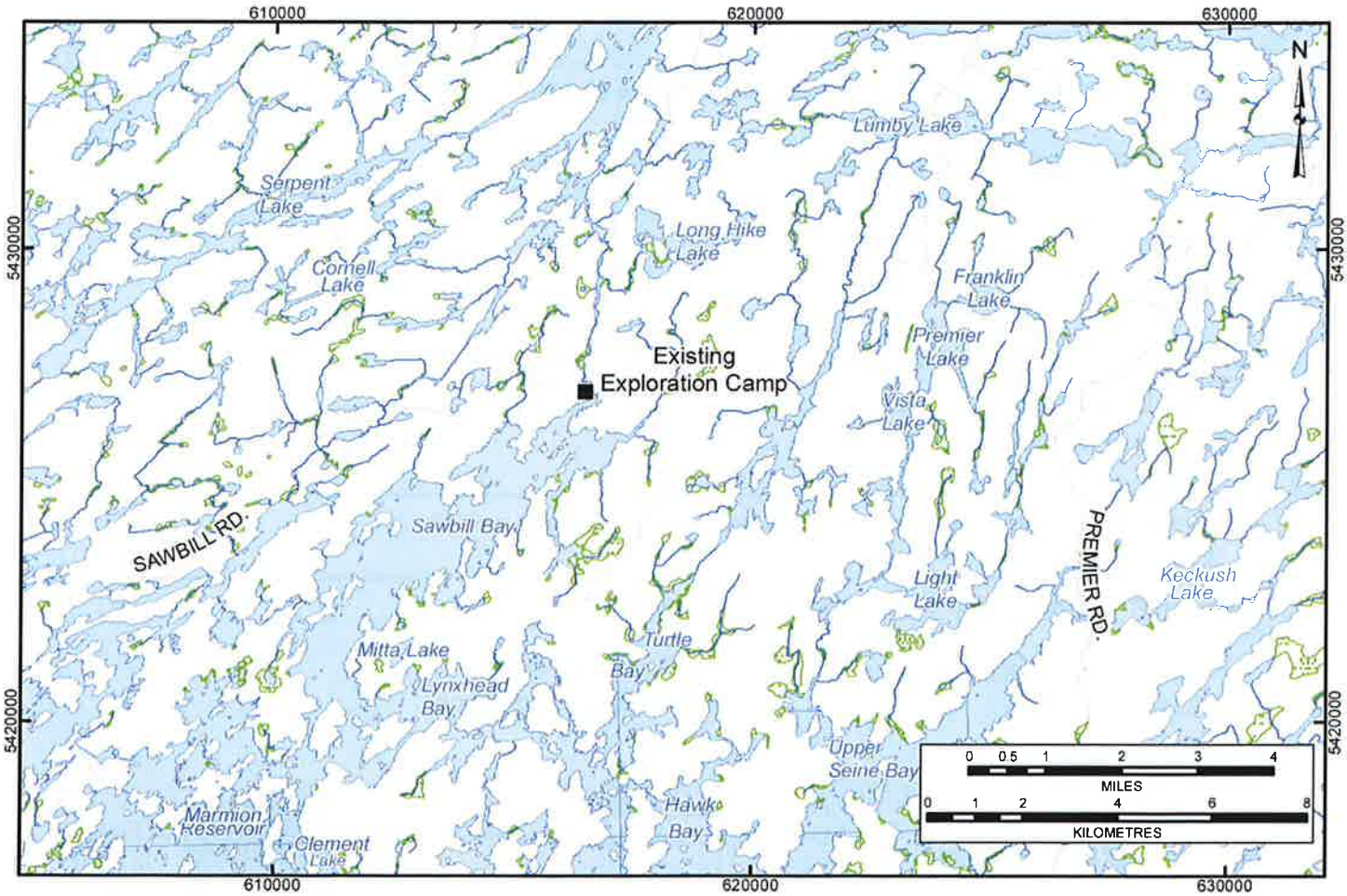
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1. Which of these activities do you practice on the study area? You can indicate more than one.

- ☐ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Walleye, Bass,

b. **What part of the fish do you eat?**
fillets

c. **How much fish do you eat in one meal?**
alot

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
Blueberries

b. **What part of the plant do you eat?**
Berry

c. **What amount of plant/berries would you typically consume in a day?**
1 cup

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

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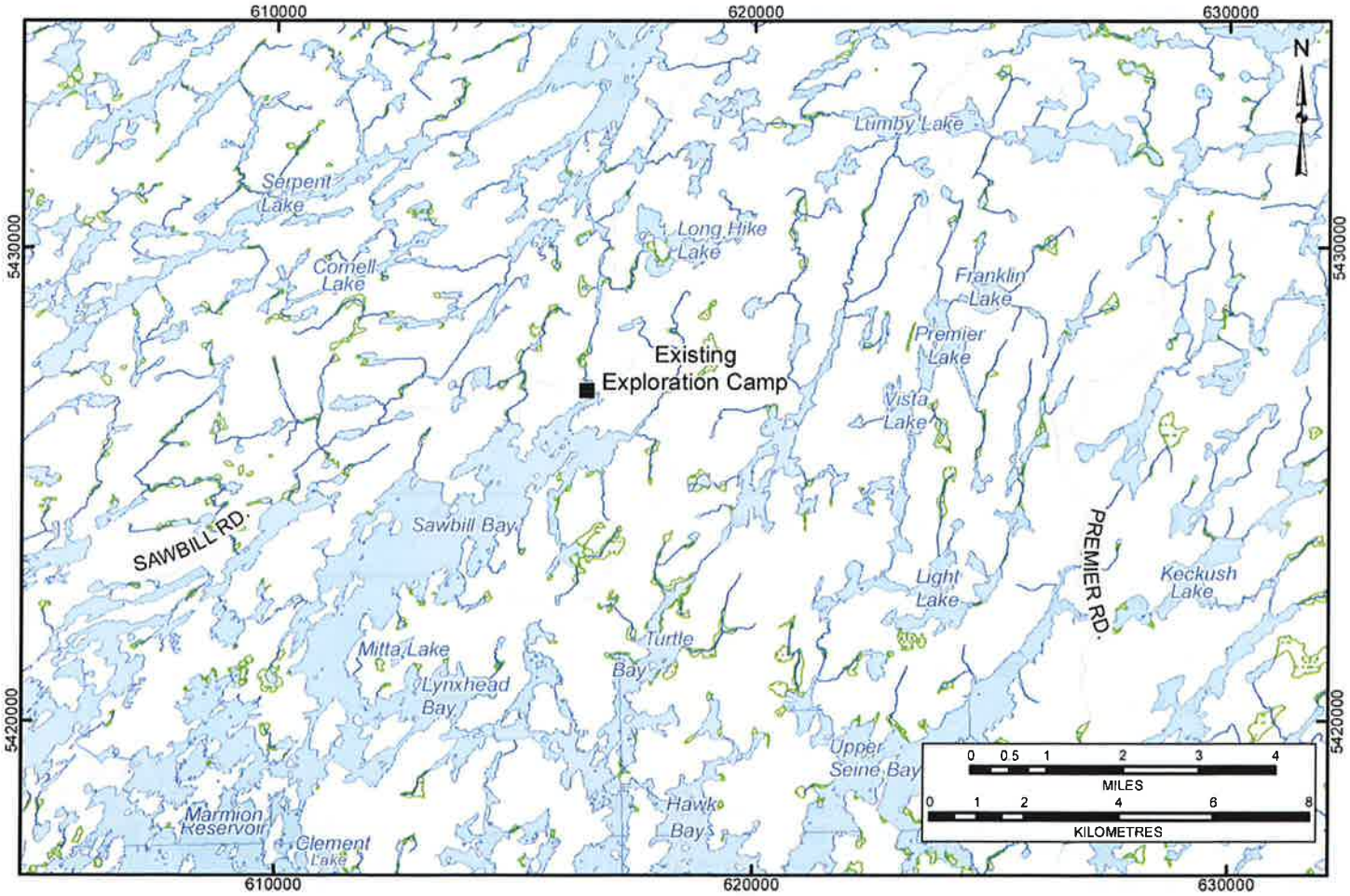
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FISHING | HUNTING | HARVESTING

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- ☑ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?** WALLEYE / BASS

b. **What part of the fish do you eat?** CHEEKS

c. **How much fish do you eat in one meal?** 1

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

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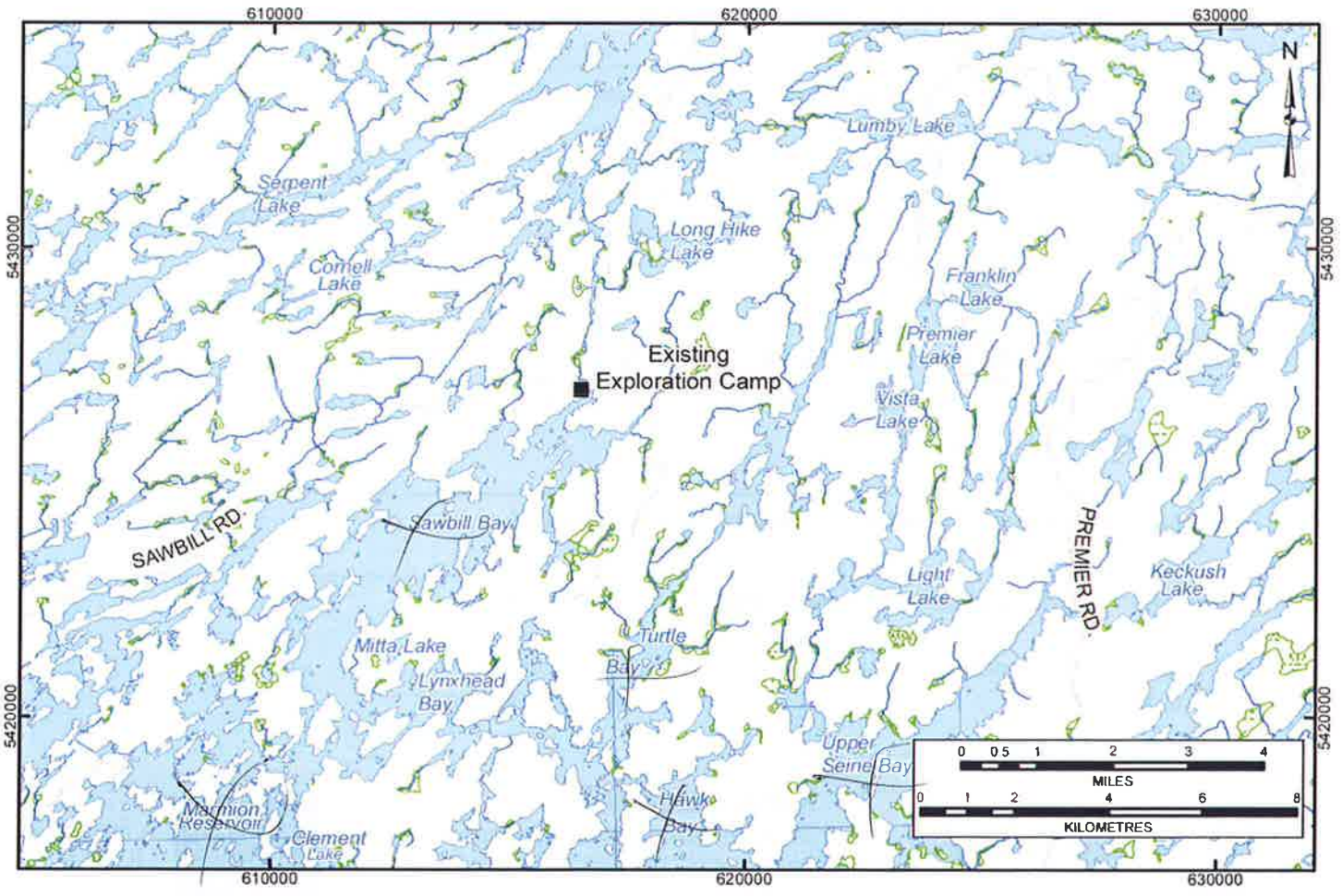
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FISHING | HUNTING | HARVESTING

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- ☑ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
WALLEYE ETC.

b. **What part of the fish do you eat?**
FILLETS

c. **How much fish do you eat in one meal?**

d. **How often do you eat the fish that you or others have caught?**

☐ More than once a week
☑ Once a month
☐ Once a week
☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

☐ More than once a week
☐ Once a month
☐ Once a week
☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

☐ More than once a week
☐ Once a month
☐ Once a week
☐ A couple times a year

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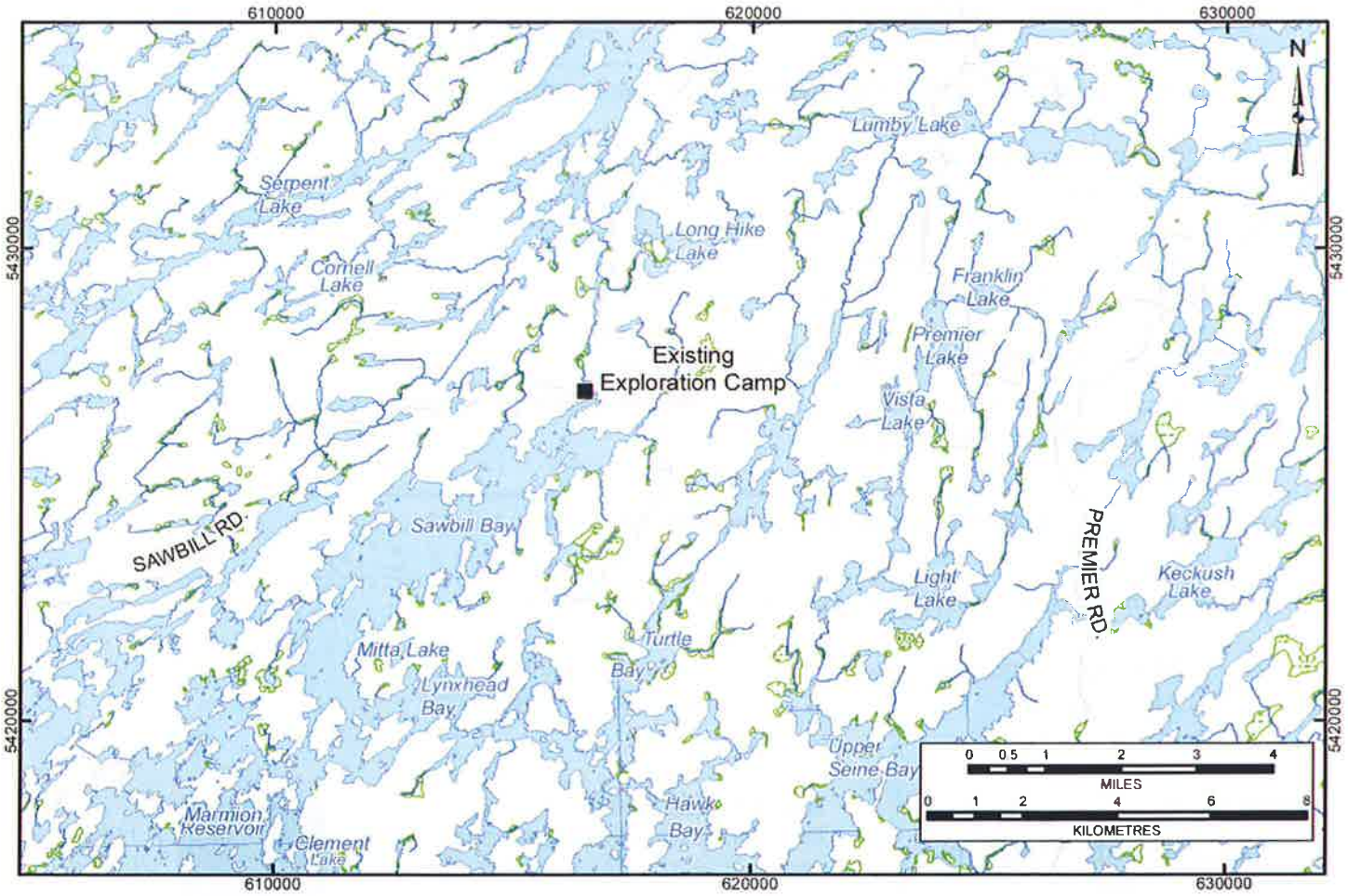
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FISHING | HUNTING | HARVESTING

1. Which of these activities do you practice on the study area? You can indicate more than one.

- ☐ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?** WALLEYE

b. **What part of the fish do you eat?** FILET

c. **How much fish do you eat in one meal?** 2

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?** —

b. **What part of the animal do you eat?** —

c. **How much of the animal do you eat in one meal?** —

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?** BLUEBERRIES

b. **What part of the plant do you eat?** FRUIT

c. **What amount of plant/berries would you typically consume in a day?** 1 CUP

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

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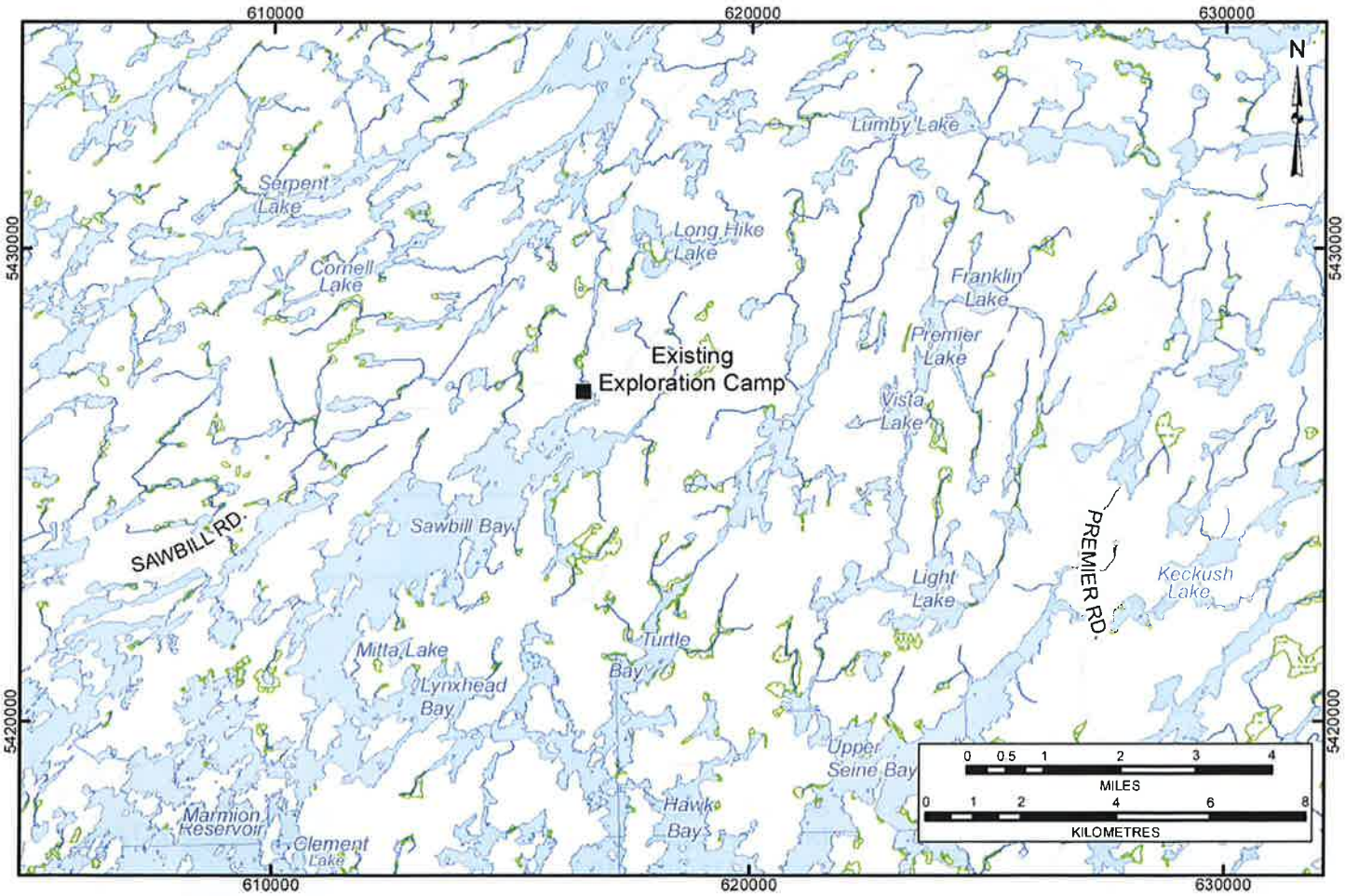
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FISHING | HUNTING | HARVESTING

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- ☐ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**

WALLEYE

b. **What part of the fish do you eat?**

WALLEYE

c. **How much fish do you eat in one meal?**

1

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

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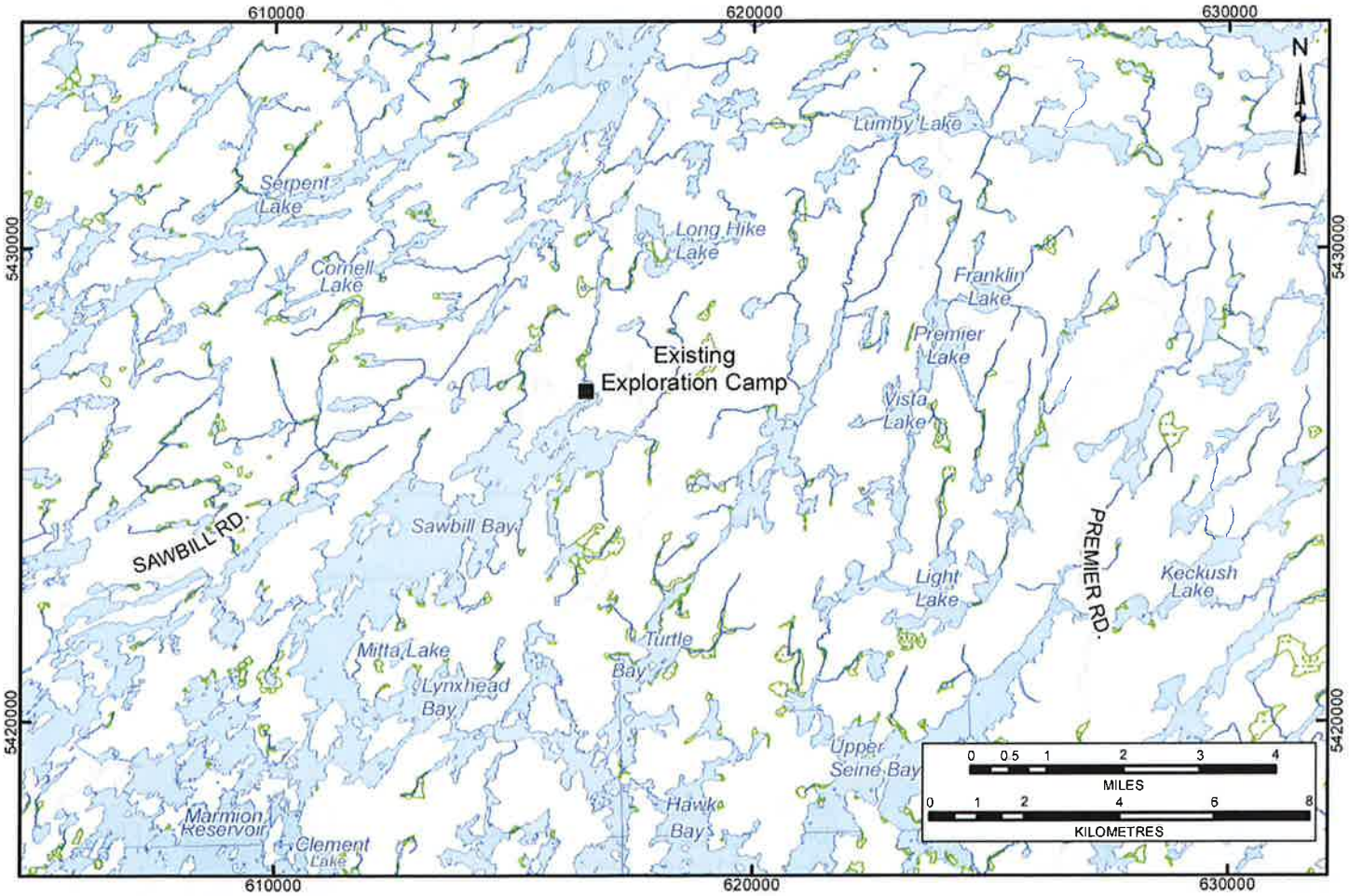
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1. Which of these activities do you practice on the study area? You can indicate more than one.

- ☐ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?** walleye

b. **What part of the fish do you eat?** fley

c. **How much fish do you eat in one meal?** 2

d. **How often do you eat the fish that you or others have caught?**

- ☑ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?** moose / deer

b. **What part of the animal do you eat?** meat

c. **How much of the animal do you eat in one meal?** 1 pound

d. **How often do you eat animals that you or others have caught?**

- ☑ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?** N/A

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

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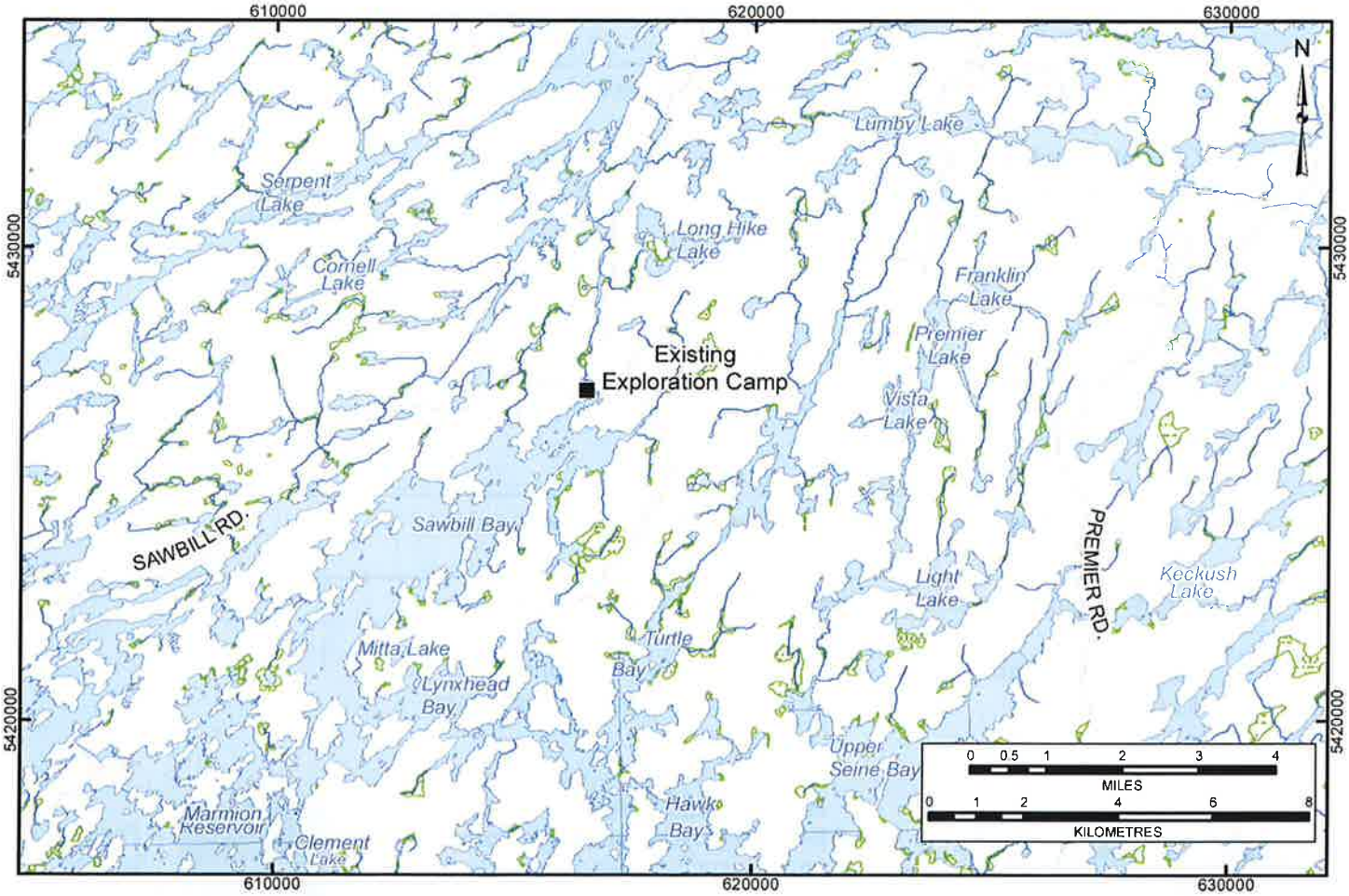
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1. Which of these activities do you practice on the study area? You can indicate more than one.

- ☒ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
bass, walleye

b. **What part of the fish do you eat?**
fillet

c. **How much fish do you eat in one meal?**
4

d. **How often do you eat the fish that you or others have caught?**

- [x] More than once a week
- [ ] Once a week
- [ ] Once a month
- [ ] A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- [ ] More than once a week
- [ ] Once a week
- [ ] Once a month
- [ ] A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- [ ] More than once a week
- [ ] Once a week
- [ ] Once a month
- [ ] A couple times a year

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LAND AND RESOURCE USE QUESTIONNAIRE

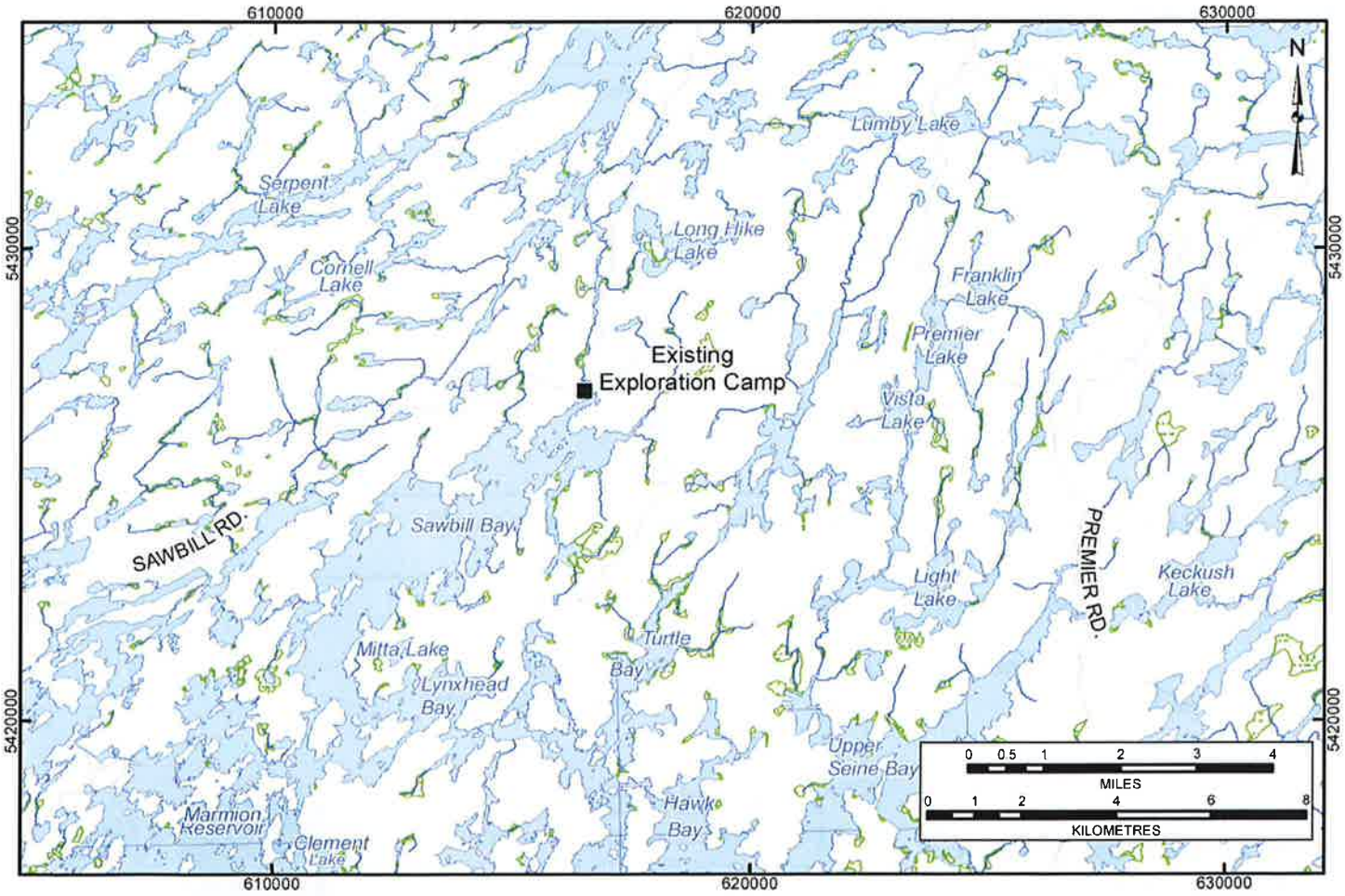
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FISHING | HUNTING | HARVESTING

1. Which of these activities do you practice on the study area? You can indicate more than one.

- [x] Fishing
- [x] Hunting
- [ ] Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
WALLEYE TROUT

b. **What part of the fish do you eat?**
FILETS

c. **How much fish do you eat in one meal?**
2

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
MOOSE + DEER

b. **What part of the animal do you eat?**
STEAKS - ROASTS - MADE INTO HAMB

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
BLUEBERRIES

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**
1/2 C

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

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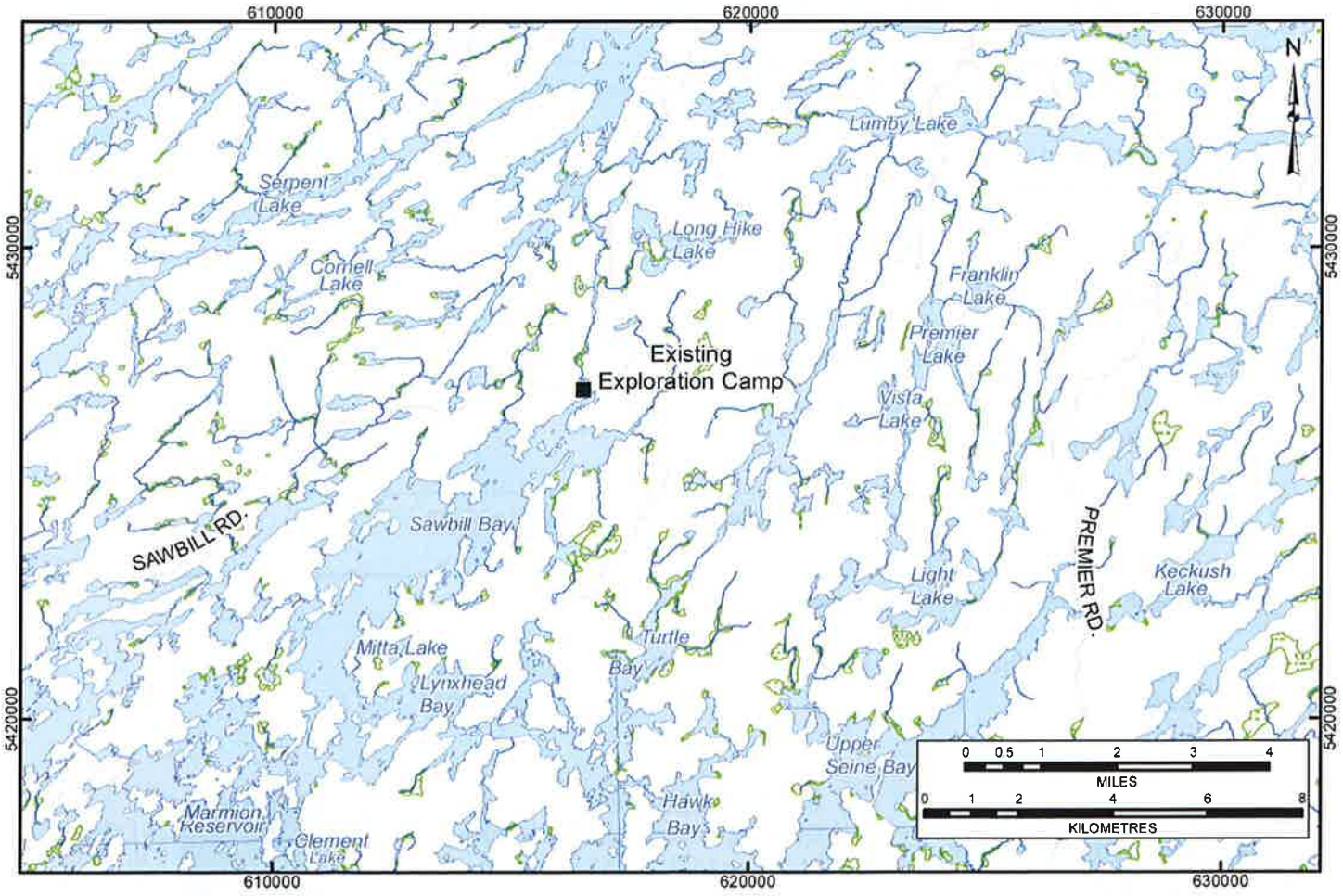
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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**

Pickerel

b. **What part of the fish do you eat?**

all

c. **How much fish do you eat in one meal?**

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**

none

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

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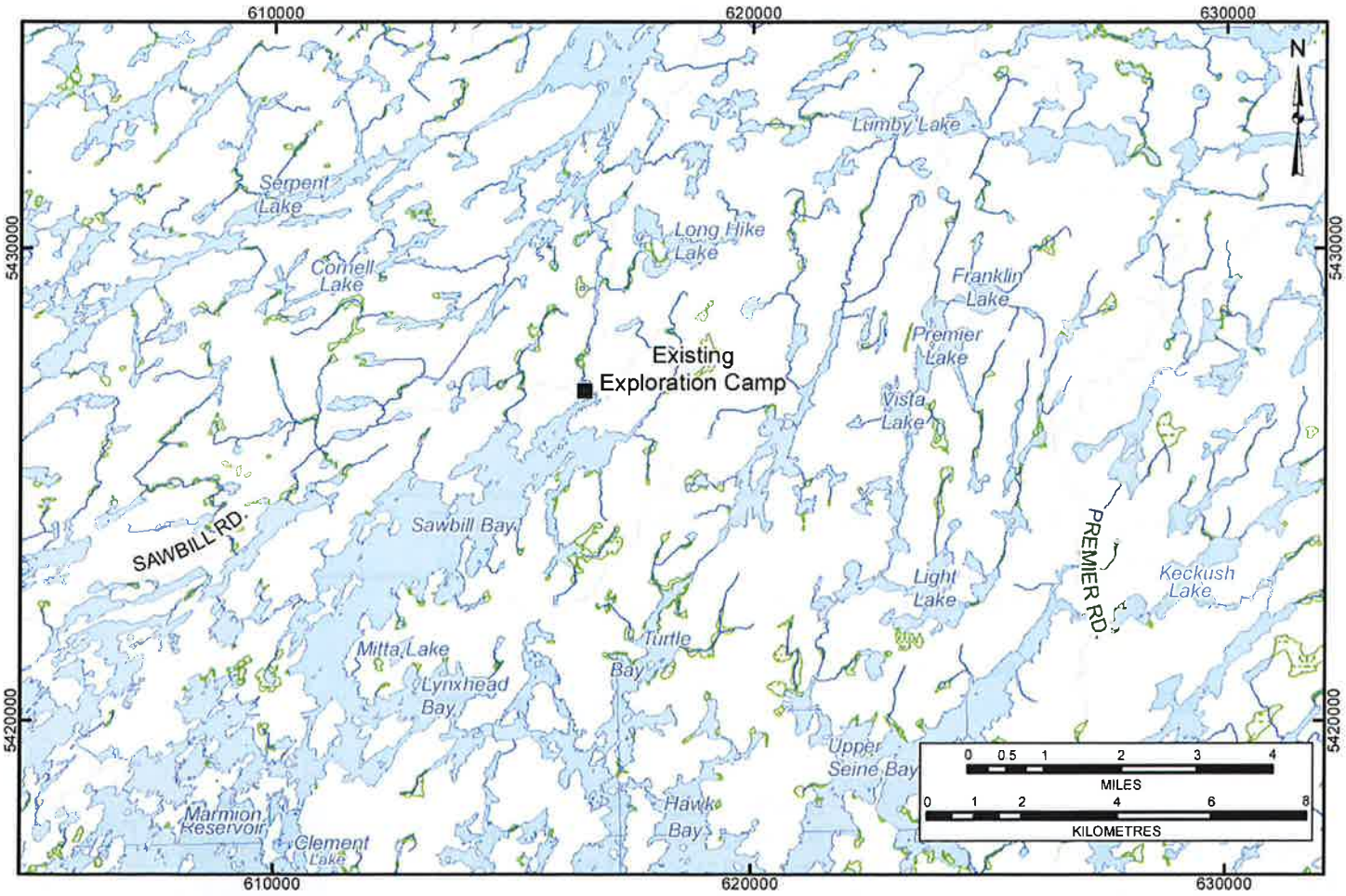
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- ☐ Fishing
- ☐ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Walleye, Pike Trout

b. **What part of the fish do you eat?**
all meat

c. **How much fish do you eat in one meal?**
4 fillets

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
Moose + Deer

b. **What part of the animal do you eat?**
All meat including Heart + liver

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
Raspberries, Strawberries, Blueberries

b. **What part of the plant do you eat?**
fruit

c. **What amount of plant/berries would you typically consume in a day?**
1 cup

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

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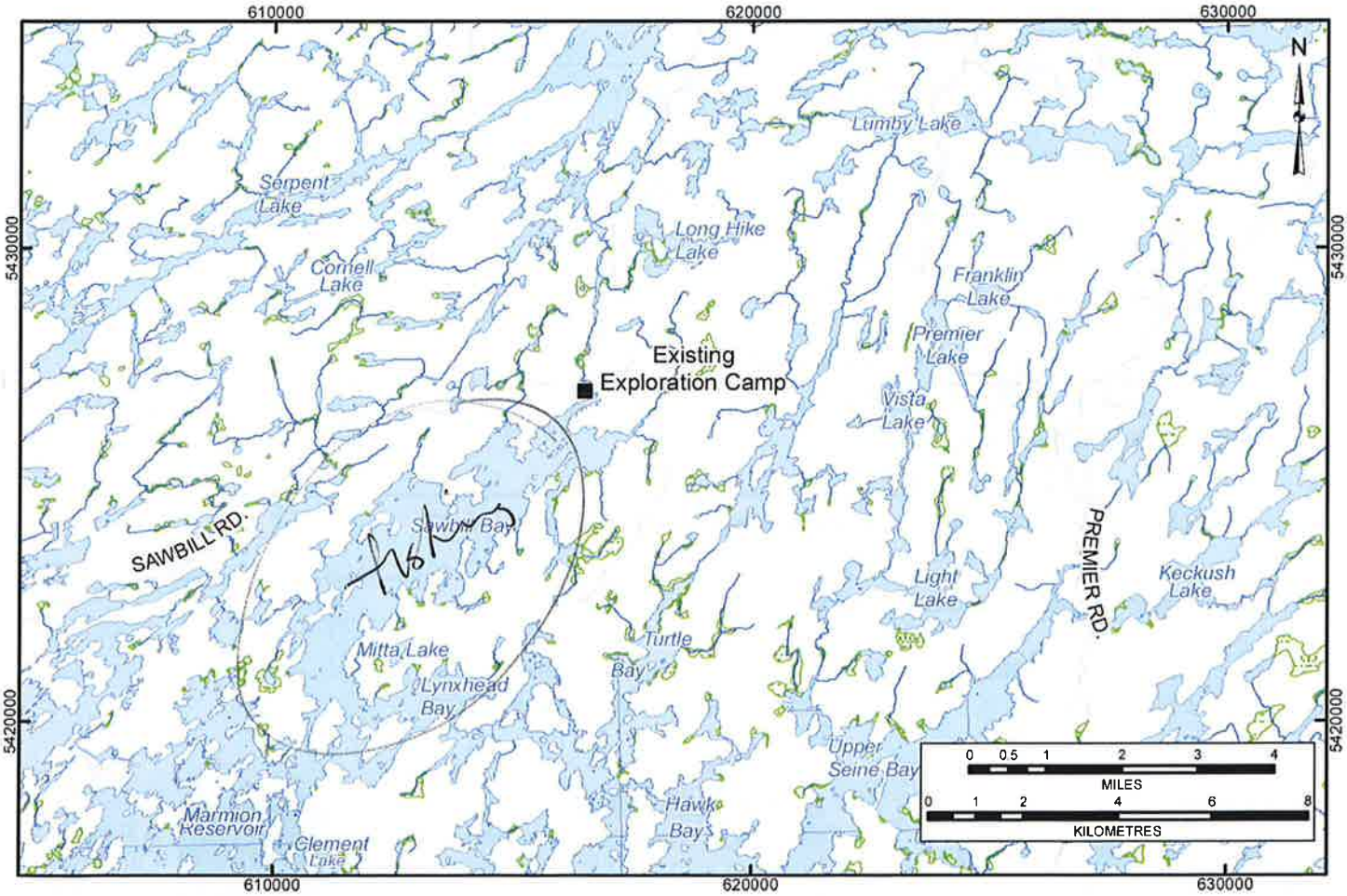
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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Walleye,

b. **What part of the fish do you eat?**
fillet

c. **How much fish do you eat in one meal?**
3

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
NIL

b. **What part of the animal do you eat?**
NIL

c. **How much of the animal do you eat in one meal?**
NIL

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
blueberries,

b. **What part of the plant do you eat?**
berries

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

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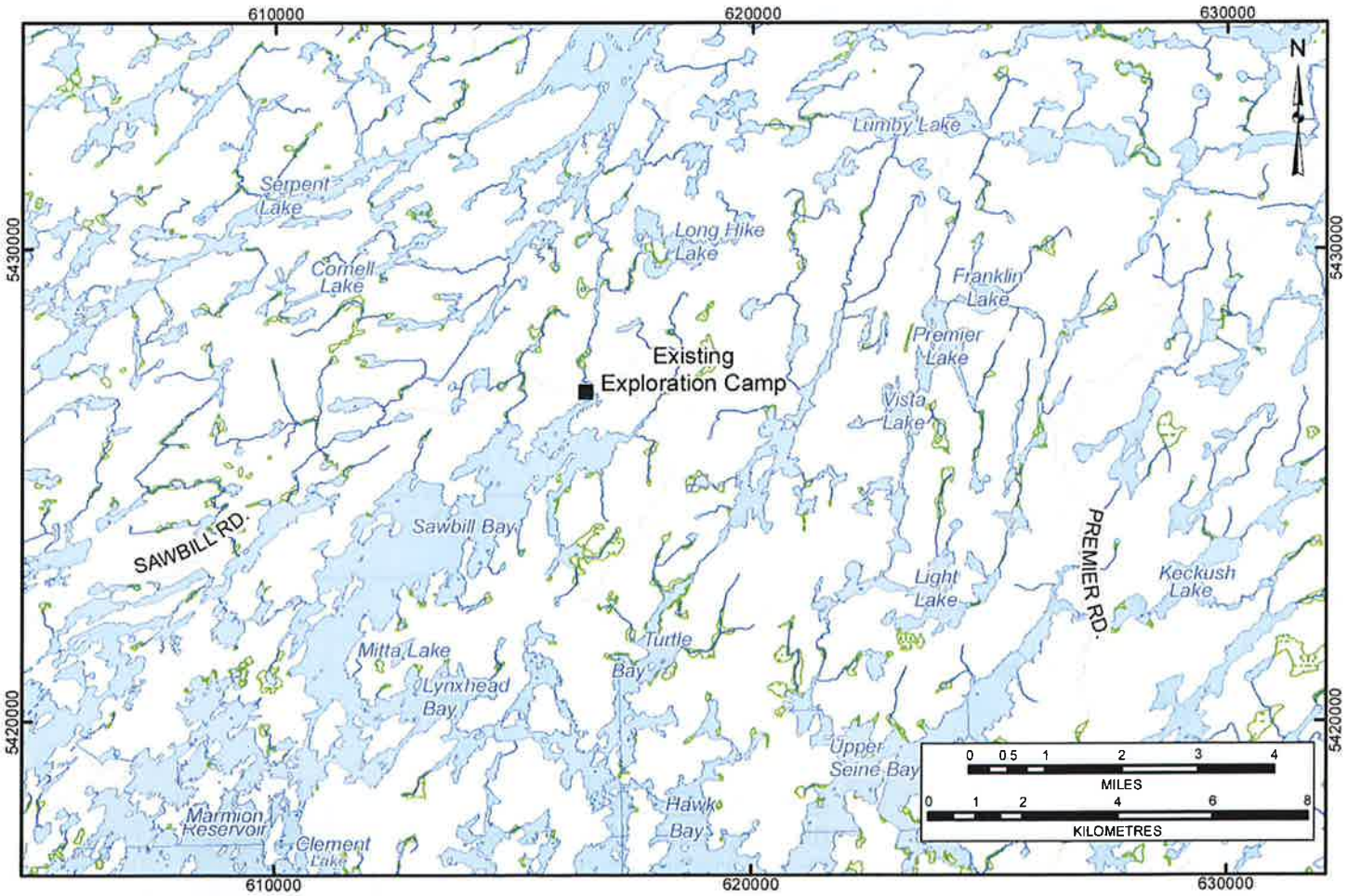
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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?** walleye

b. **What part of the fish do you eat?** Fillets

c. **How much fish do you eat in one meal?** 2 Fillets

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☑ Once a month
- ☐ Once a week
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a month
- ☐ Once a week
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?** Blueberries

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a month
- ☑ Once a week
- ☐ A couple times a year

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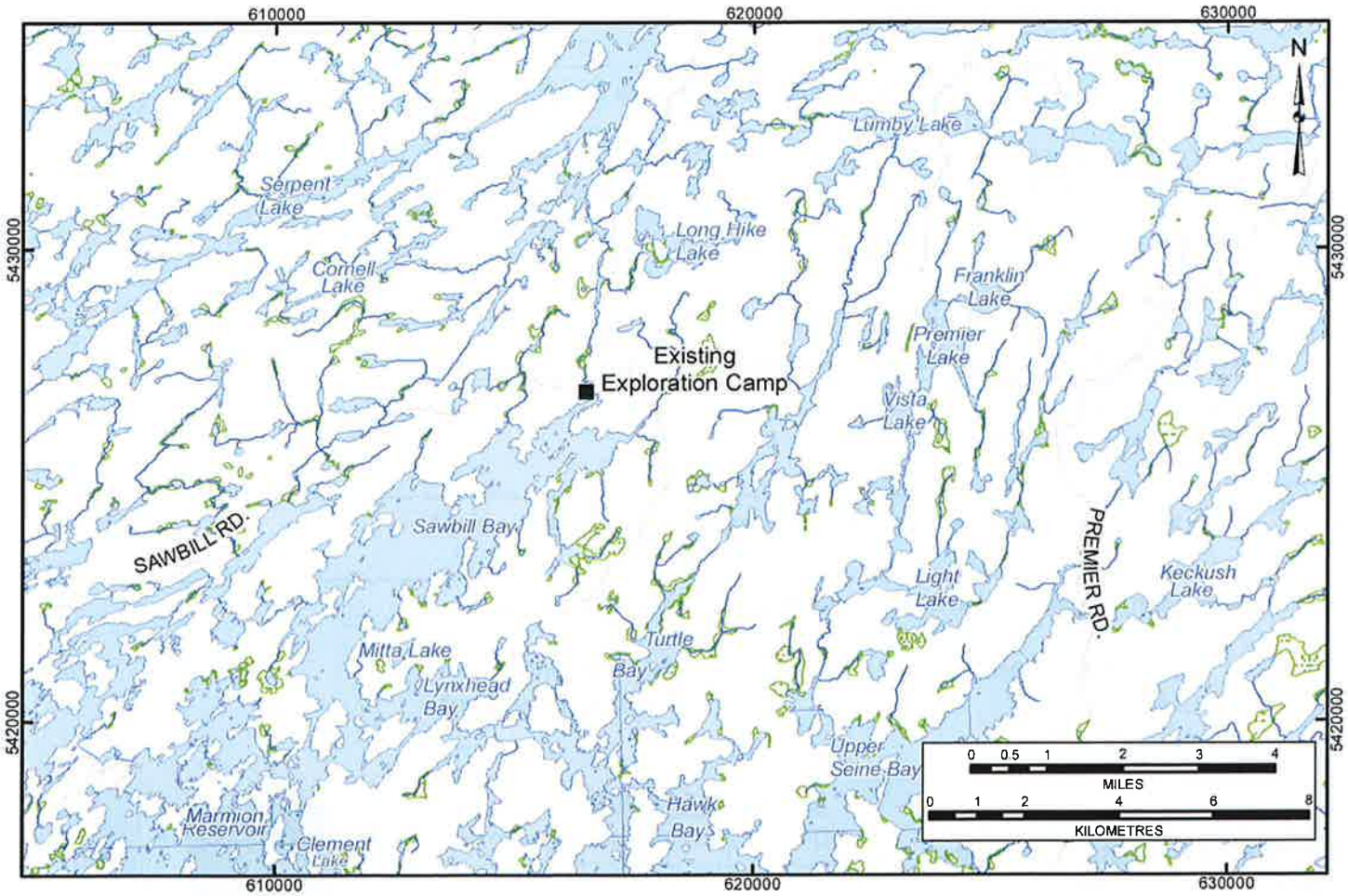
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- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?** n/a

b. **What part of the fish do you eat?** fillets

c. **How much fish do you eat in one meal?** 2 pieces

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?** n/a.

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?** 2 pieces

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?** n/a.

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

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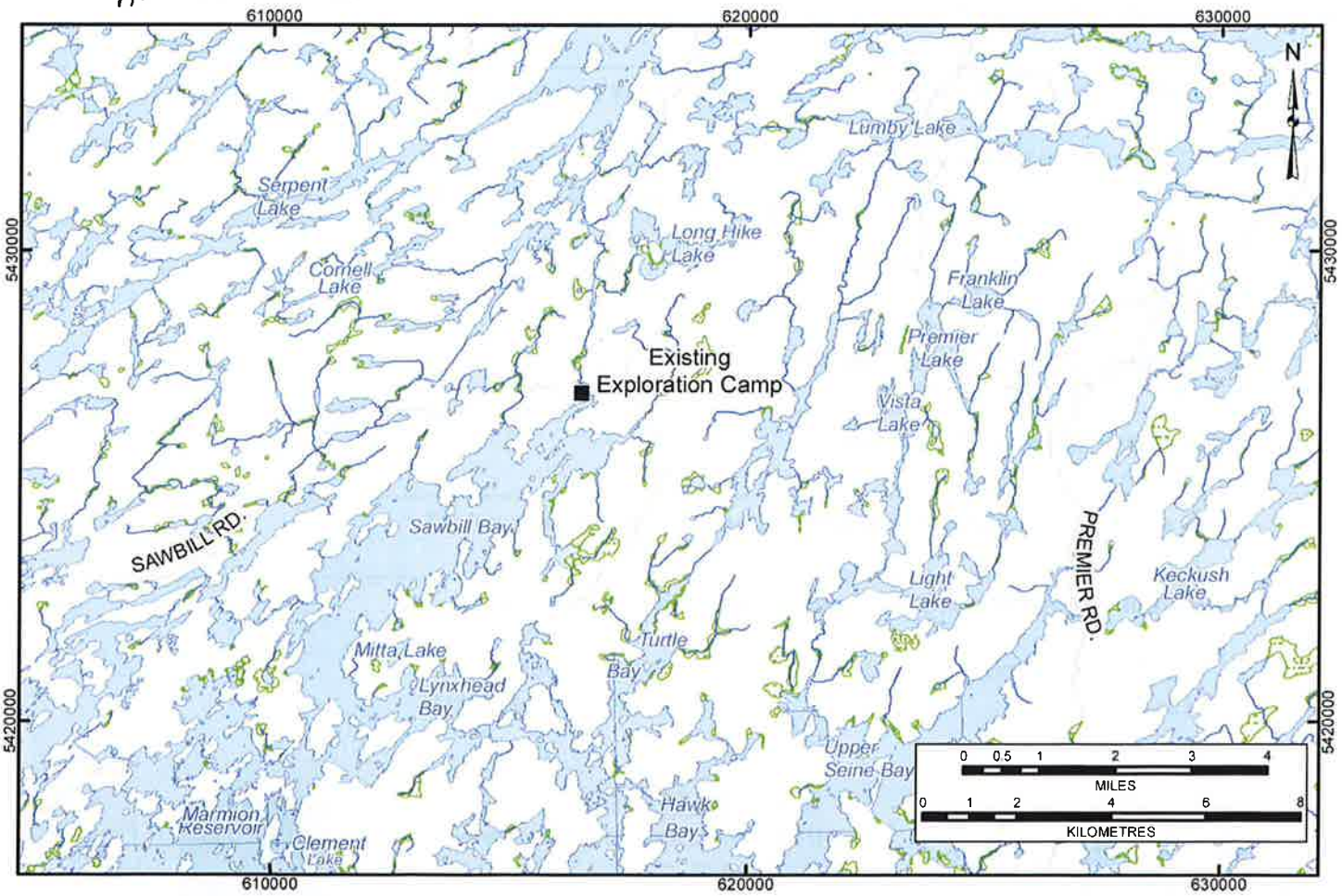
FISHING | HUNTING | HARVESTING

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- ☐ Fishing
- ☐ Hunting
- ☑ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":

not in this area



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
do not

b. **What part of the fish do you eat?**
~~do not~~ fillet

c. **How much fish do you eat in one meal?**
Several pieces

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ ~~A~~ couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
Do not

b. **What part of the animal do you eat?**
Do nt

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ A couple times a year

do not

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
Blue berries

b. **What part of the plant do you eat?**
berries

c. **What amount of plant/berries would you typically consume in a day?**

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☑ ~~A~~ couple times a year

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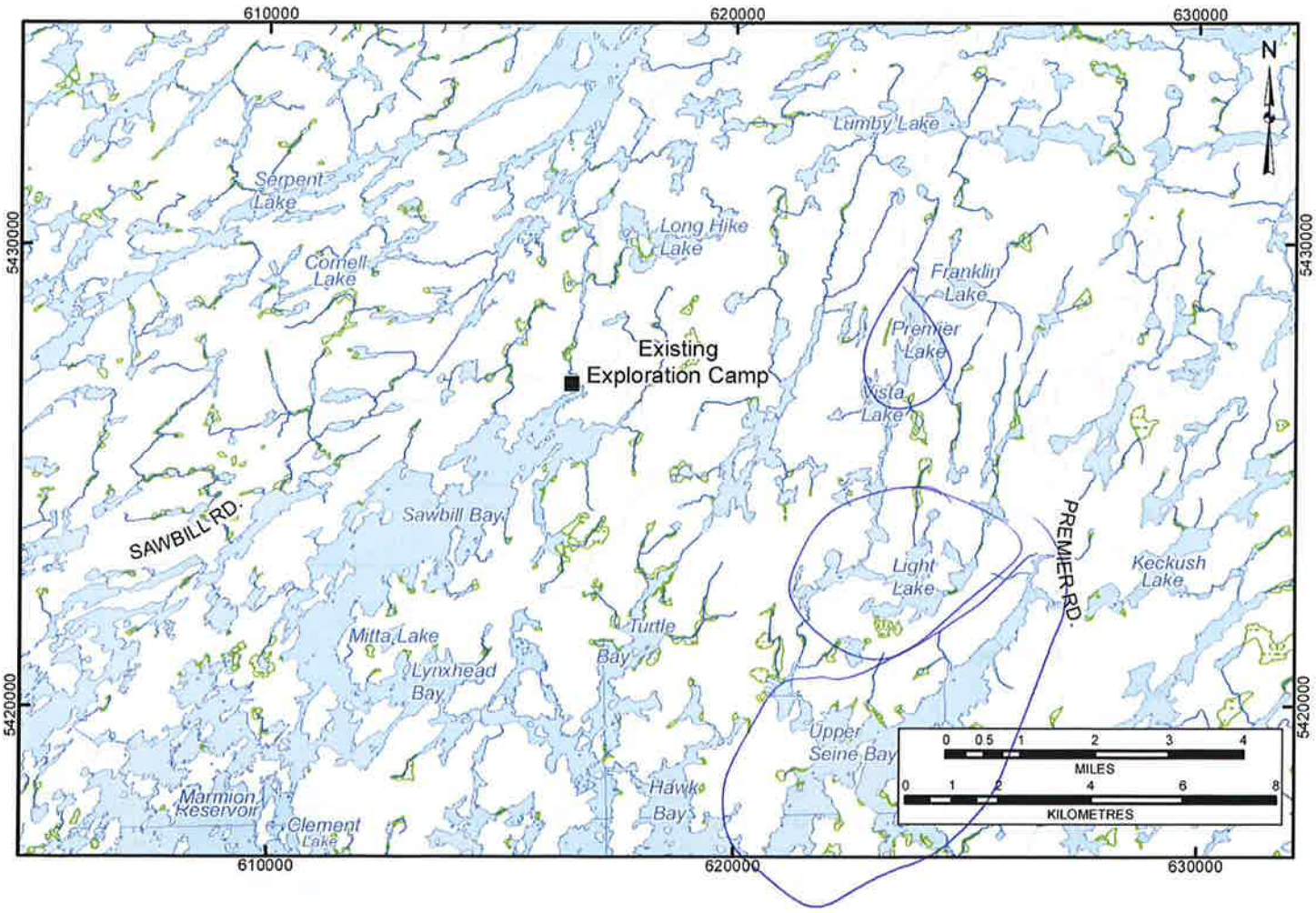
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2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Walleye / Bass / Northern

b. **What part of the fish do you eat?**
Flesh

c. **How much fish do you eat in one meal?**
½ Pound

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☒ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
Moose

b. **What part of the animal do you eat?**
Flesh

c. **How much of the animal do you eat in one meal?**
¼ Pound

d. **How often do you eat animals that you or others have caught?**

- ☒ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
Blue Berry's / Raspberry's / Pin cherry's

b. **What part of the plant do you eat?**
Fruit

c. **What amount of plant/berries would you typically consume in a day?**
1 Cup

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☒ Once a week
- ☐ Once a month
- ☐ A couple times a year

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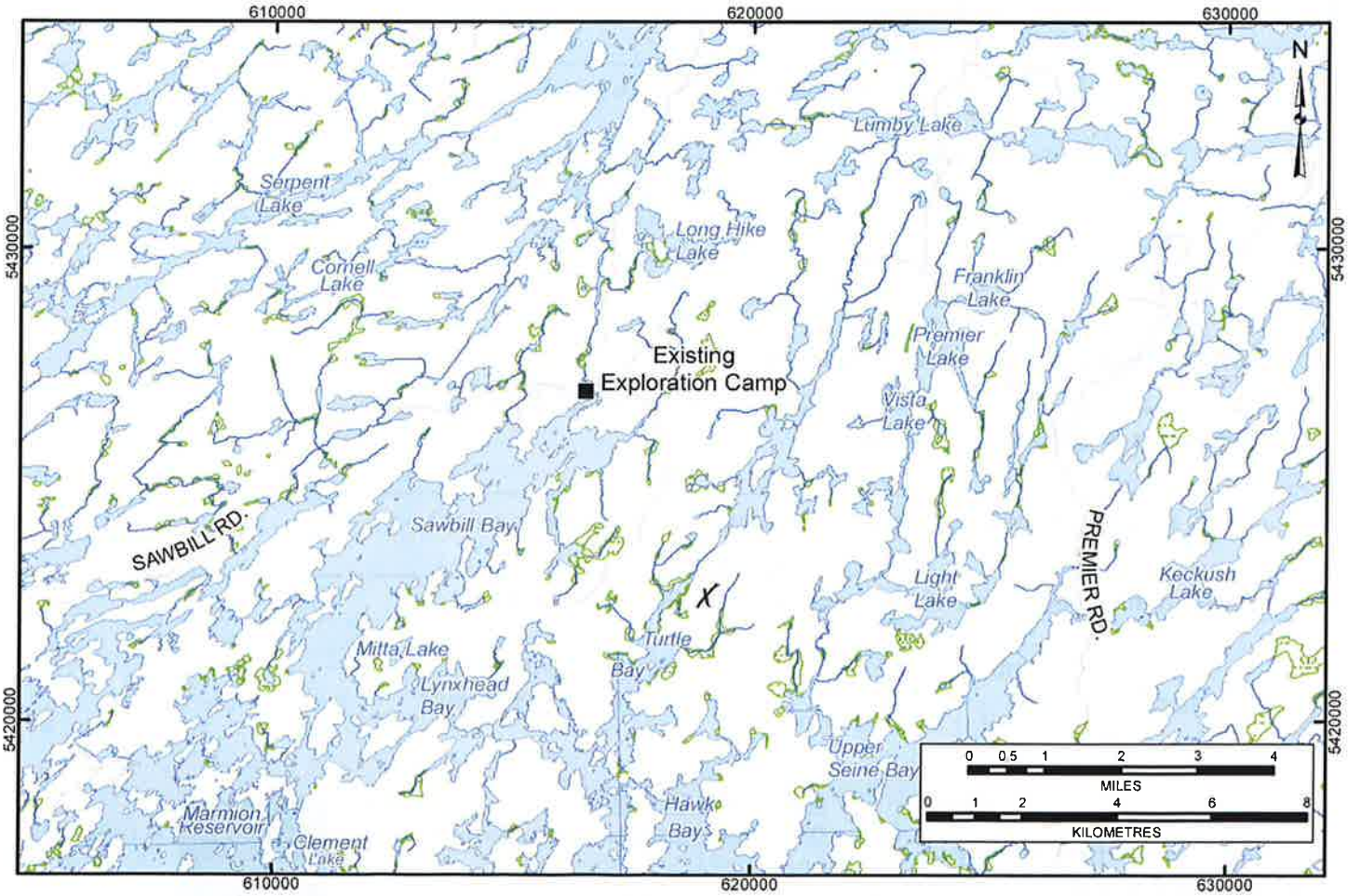
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b. **What part of the fish do you eat?**

c. **How much fish do you eat in one meal?**

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**

b. **What part of the animal do you eat?**

c. **How much of the animal do you eat in one meal?**

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☐ Once a week
- ☑ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?** BLUEBERRIES

b. **What part of the plant do you eat?**

c. **What amount of plant/berries would you typically consume in a day?** ¼ pd.

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
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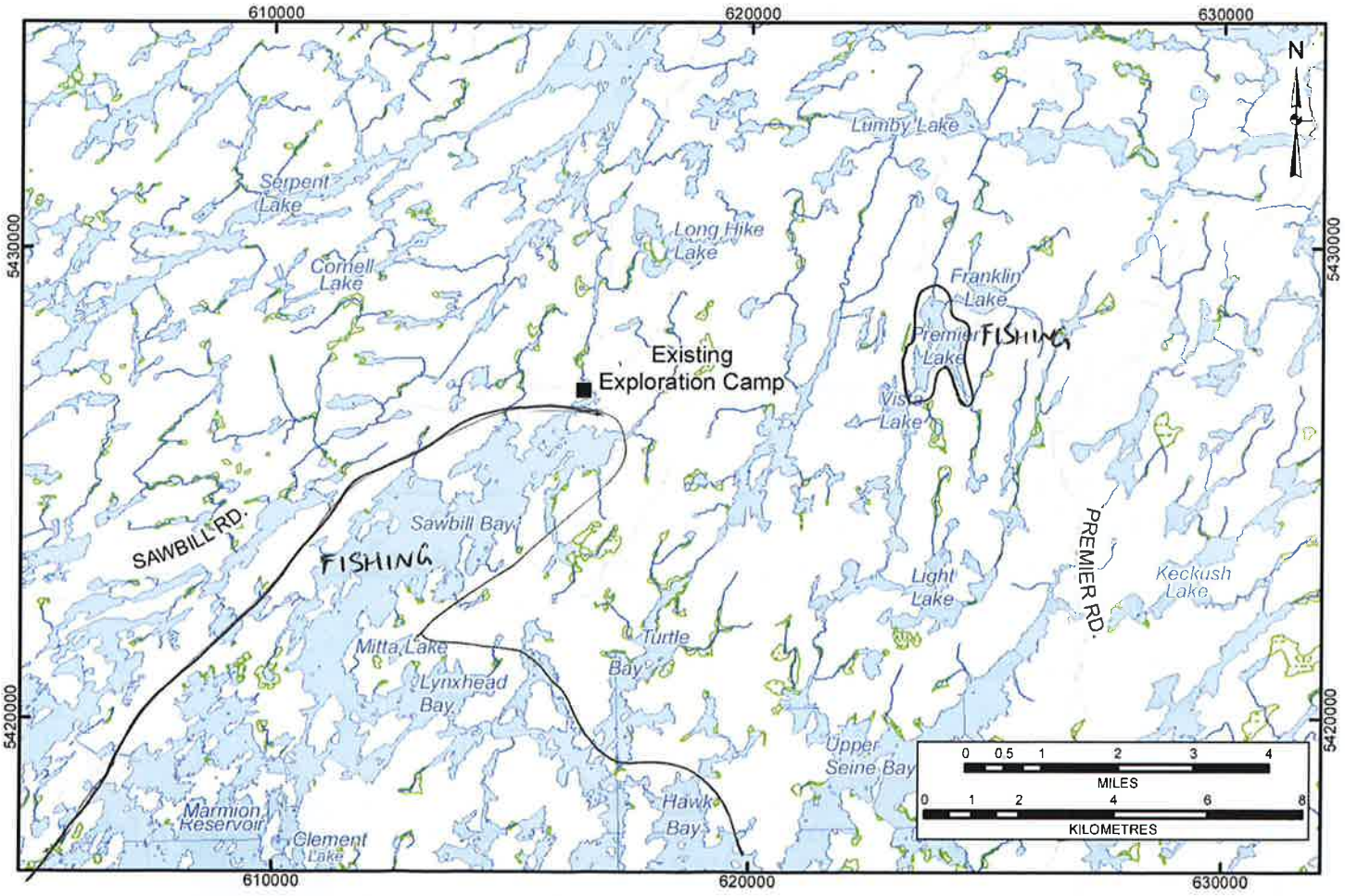
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- ☒ Hunting
- ☒ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
PIKE, PICKEREL, BASS, LAKE TROUT

b. **What part of the fish do you eat?**
FLESH

c. **How much fish do you eat in one meal?**
4 FILETS / PERSON – 8 FILETS PER MEAL

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☒ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
MOOSE, DEER, DUCK, GOOSE, PARTRIDGE

b. **What part of the animal do you eat?**
THE MEAT

c. **How much of the animal do you eat in one meal?**
1 STEAK / ROAST – AVG. PORTION SIZE

d. **How often do you eat animals that you or others have caught?**

- ☒ EVERY DAY
- ☐ More than once a week
- ☐ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
BLUEBERRIES – RASPBERRIES

b. **What part of the plant do you eat?**
THE BERRIES

c. **What amount of plant/berries would you typically consume in a day?**
8 LITRES ANNUALLY (SEASONAL HARVEST)

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☒ Once a week
- ☐ Once a month
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LAND AND RESOURCE USE QUESTIONNAIRE

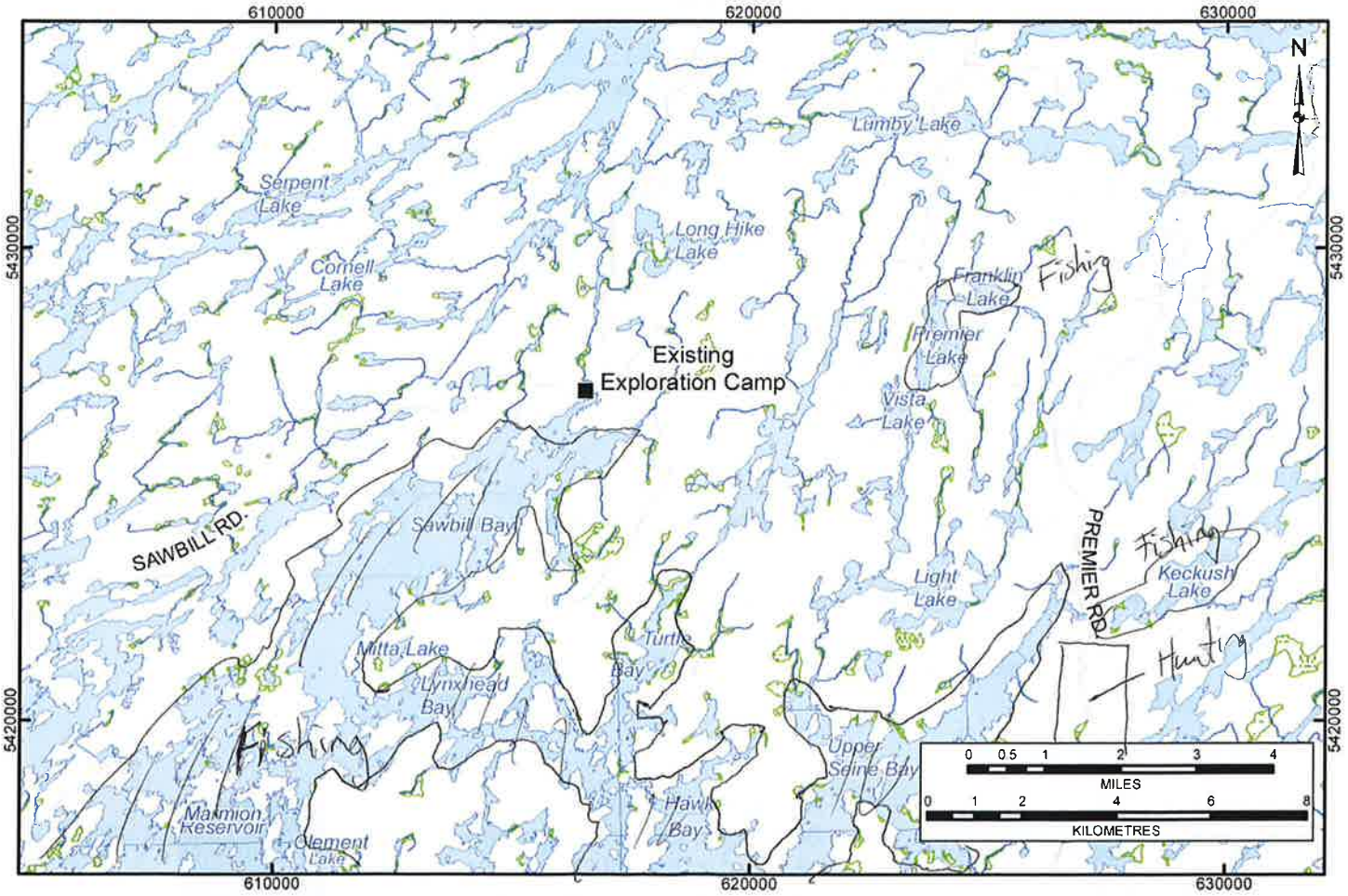
Please take a few minutes to let us know how you use the land and resources near the potential Hammond Reef Gold Project. This information will be compiled and used to inform the Environmental Assessment for the Project.

FISHING | HUNTING | HARVESTING

1. Which of these activities do you practice on the study area? You can indicate more than one.

- ☑ Fishing
- ☑ Hunting
- ☐ Harvesting plants / collecting berries

2. On the map below, please mark any fishing, hunting or harvesting areas with a circle or an "X":



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If you FISH, please answer the questions below:

a. **What types of fish do you usually catch?**
Walleye, pike, small mouth bass

b. **What part of the fish do you eat?**
fillet

c. **How much fish do you eat in one meal?**
1-2

d. **How often do you eat the fish that you or others have caught?**

- ☐ More than once a week
- ☒ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HUNT, please answer the questions below:

a. **What types of animals do you hunt?**
moose deer

b. **What part of the animal do you eat?**
flesh

c. **How much of the animal do you eat in one meal?**
average steak sized portion

d. **How often do you eat animals that you or others have caught?**

- ☐ More than once a week
- ☑ Once a week
- ☐ Once a month
- ☐ A couple times a year

If you HARVEST PLANTS / COLLECT BERRIES, please answer the questions below:

a. **What type of plant/berries do you harvest?**
blue berries raspberries

b. **What part of the plant do you eat?**
berry (fruit)

c. **What amount of plant/berries would you typically consume in a day?**
~ ½ cup

d. **How often do you eat plants that you or others have harvested?**

- ☐ More than once a week
- ☐ Once a week
- ☒ Once a month
- ☐ A couple times a year

Thank you very much for your time! Please contact us if you have any questions

Alexandra Drapack
Director, Sustainable Development
Phone: 416-363-8653 ext 110
Email: adrapack@osisko.com

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Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

OSISKO
HAMMOND REEF GOLD

YOU'RE INVITED

What: Public Open House

Who: Osisko Hammond Reef Gold Ltd.

Where: 105 Main Street in Atikokan

When: Saturday, August 18th, 10am to 3pm
Formal presentation at 11am

Please join us this Saturday and allow us to:

- Announce the approval of our Terms of Reference
- Announce the official start of the provincial Environmental Assessment
- Share the results of our baseline studies
- Get your input on land use in the Project area
- Answer your questions about the Project



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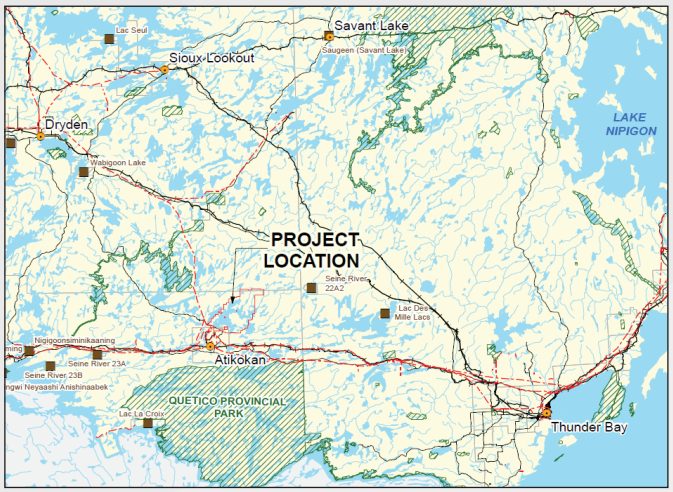
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HAMMOND REEF GOLD

Notice of Consultation Event

Osisko Hammond Reef Gold Project

Osisko Hammond Reef Gold Ltd. (OHRG) has initiated a study under the Environmental Assessment Act to develop and operate the **Osisko Hammond Reef Gold Mine** approximately 23 km northeast of Atikokan, Ontario. The Project involves the construction, operation and closure of an open pit gold mine and any ancillary activities and structures.



Progress to Date and Next Steps

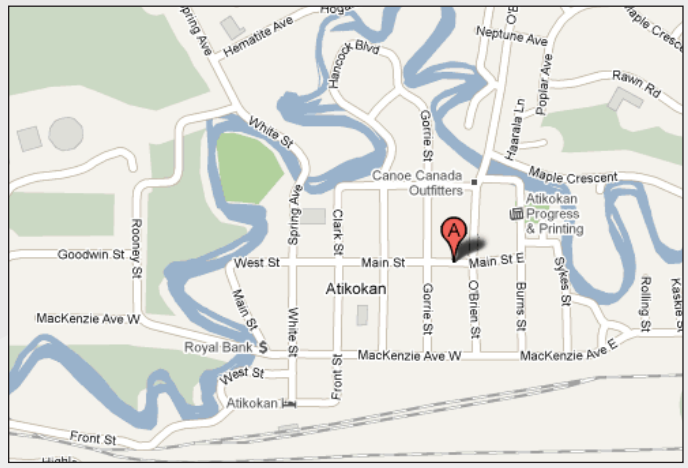
The provincial and federal Environmental Assessment (EA) processes are officially underway for the Project. The Terms of Reference (ToR) are currently pending acceptance by the provincial Minister of Environment. The Canadian Environmental Assessment Agency finalized and posted the federal Environmental Impact Statement (EIS) Guidelines on the Canadian Environmental Assessment Registry. Once the ToR and EIS Guidelines are both finalized, OHRG will prepare and submit a single EA Report that meet requirements outlined in both documents for review.

Public Open House

Members of the public, agencies and other interested persons are encouraged to actively participate in the planning of this undertaking by attending consultation opportunities or contacting staff directly with information, comments or questions. OHRG is planning to host a Public Open House to share the baseline study results and answer your questions about the Project to assist in the preparation of the EIS/EA Report. Representatives from OHRG and their environmental consultant, Golder Associates will be in attendance to discuss the Project and answer your questions.

Location:

OHRG's Office 105 Main Street Atikokan, ON



Date: August 18, 2012
Time: 10 am to 3 pm

Your feedback is important to us! Please come out and take part in the EA planning process.

Project Contact

If you would like to be added to our project mailing list or have project-related questions, please contact:

Osisko Hammond Reef Gold Ltd.
Alexandra Drapack
Manager, Sustainable Development
155 University Avenue, Suite 1440
Toronto, ON M5H 3B7
Tel: (416) 363-8653 ext. 110
Email: adrapack@osisko.com

OSISKO HAMMOND REEF GOLD LTD.

Head Office:
1100, av. des
Canadiens-de-Montréal
Suite 300, P.O. Box 211
Montreal, Qc, H3B 2S2

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Under the Freedom of Information and Protection of Privacy Act and the Environmental Assessment Act, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

1-Welcome.pdf 1 2012-08-09 09:47:21

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HAMMOND REEF GOLD

WELCOME

Thank you for attending Osisko's fourth Open House for the Hammond Reef Gold Project.

We have invited you here today to:

- Announce the approval of our Terms of Reference
- Announce the official start of the provincial Environmental Assessment
- Share the results of our baseline studies
- Get your input on land use in the Project area
- Answer your questions about the Project

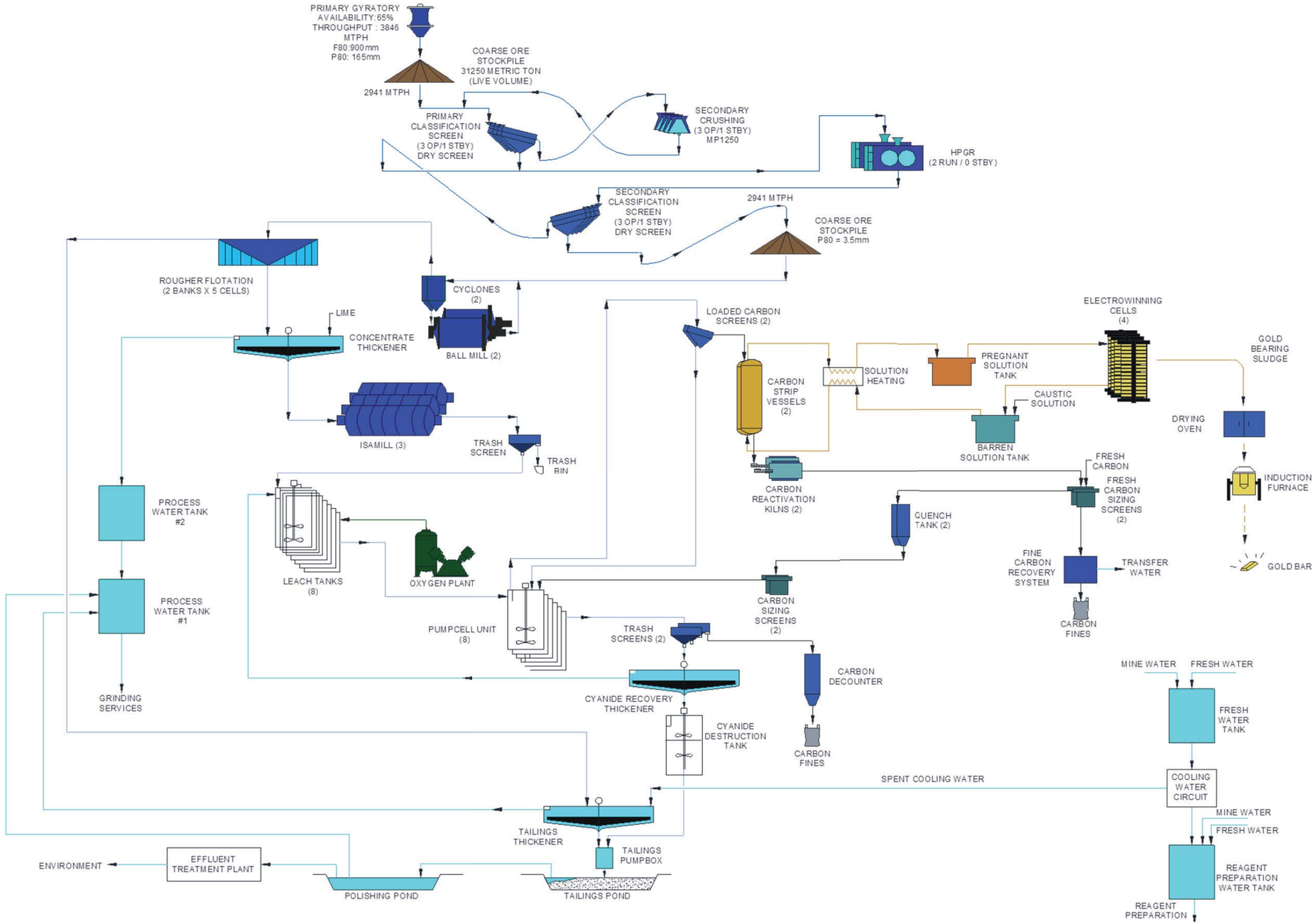
ENVIRONMENTAL ASSESSMENT UPDATE:

- Terms of Reference Approved July 4, 2012
- Officially Noticed for Commencement of EA July 30, 2012

Your Input is Important

Please let us know your thoughts and fill out a comment form before you leave.





DRAFT Process Flow Sheet for the Osisko Hammond Reef Gold Project August 2012

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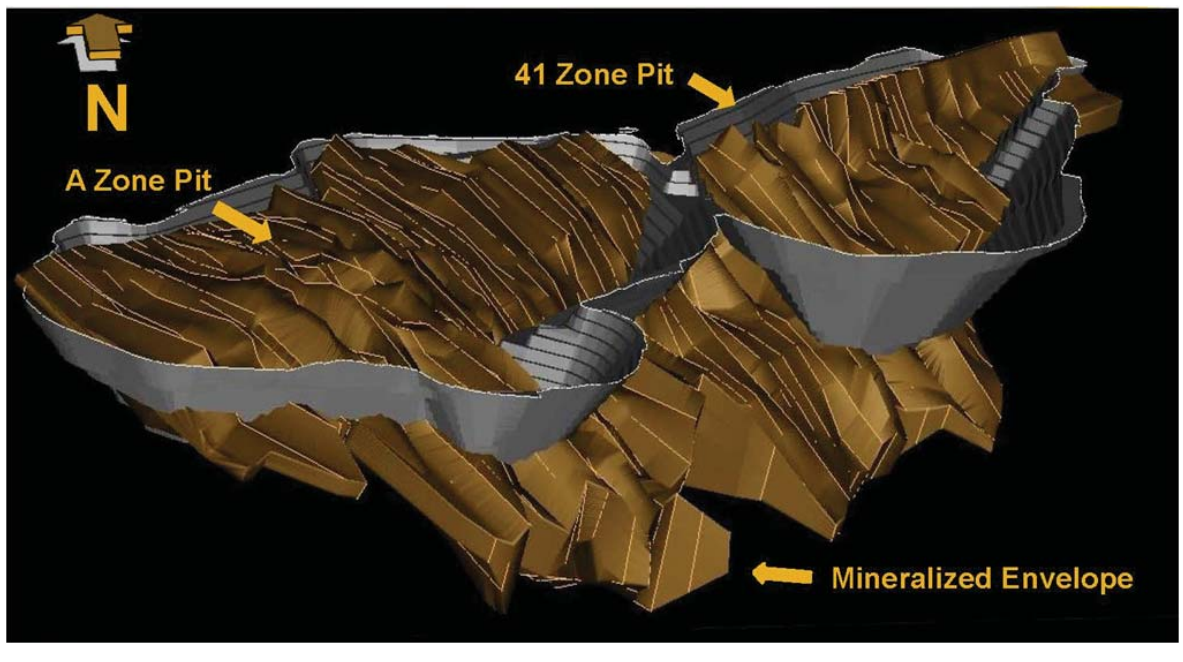
EXPLORATION UPDATE

Exploration and Resource Definition includes drilling hundreds of holes, collecting thousands of metres of core samples, and conducting tests on the rock that is collected. The goal of this stage is to determine the extent of the ore deposit and what the grade of the gold ore is. The results of this drilling will determine whether a mine can be built.

2012 Drilling Statistics

Month	Number of Drills	Total Meterage
December '11	12	13,944m
January	16	24,156m
February	16	30,207m
March	16	32,649m
April	16	23,006m
May	16	28,942m
June	7	17,330m
July	7 reduced to 2	6,286m

On July 31, 2012 the Resource Definition program was completed at Hammond Reef. Currently there are 2 drills remaining at Hammond Reef to complete a ground condemning program for the tailings location and the sites for buildings and other infrastructure. In addition to completion of the drill program, the Ministry of Environment approved OHRG's Terms of Reference for the Environmental Assessment. This means that the Environmental Assessment at Hammond Reef can officially begin. This is a very important milestone in the process to begin mine construction.



4-Project_Schedule.pdf 1 2012-08-09 09:49:05

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PROJECT SCHEDULE

- The earliest the EA could be complete is January 2013
- Construction is expected to take 30 months
- Operations are expected to last 11 years
- Decommissioning will take about 2 years
- Closure and rehabilitation will be ongoing

2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | ... | 2028 | 2029 | 2030 | 2031 | 2032

P.-F.[1]

EA[2] AND PERMITTING

FEASIBILITY

The mining feasibility study is an evaluation of a proposed mining project to determine if the mineral resource can be mined economically.



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.

A pre-feasibility study is used to determine whether or not to proceed with a detailed feasibility study and to determine areas within the project that require more attention.

CONSTRUCTION

The construction work for a comparable large-scale mining complex such as the one that would be needed at Hammond Reef is expected to take 30 months.



OPERATIONS

Operations are expected to last 11 years







CLOSURE

Ongoing

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.

Monitoring & management continues



[1] Pre-feasibility
[2] Environmental Assessment

4-Project_layout1.pdf 1 2012-08-09 09:50:22

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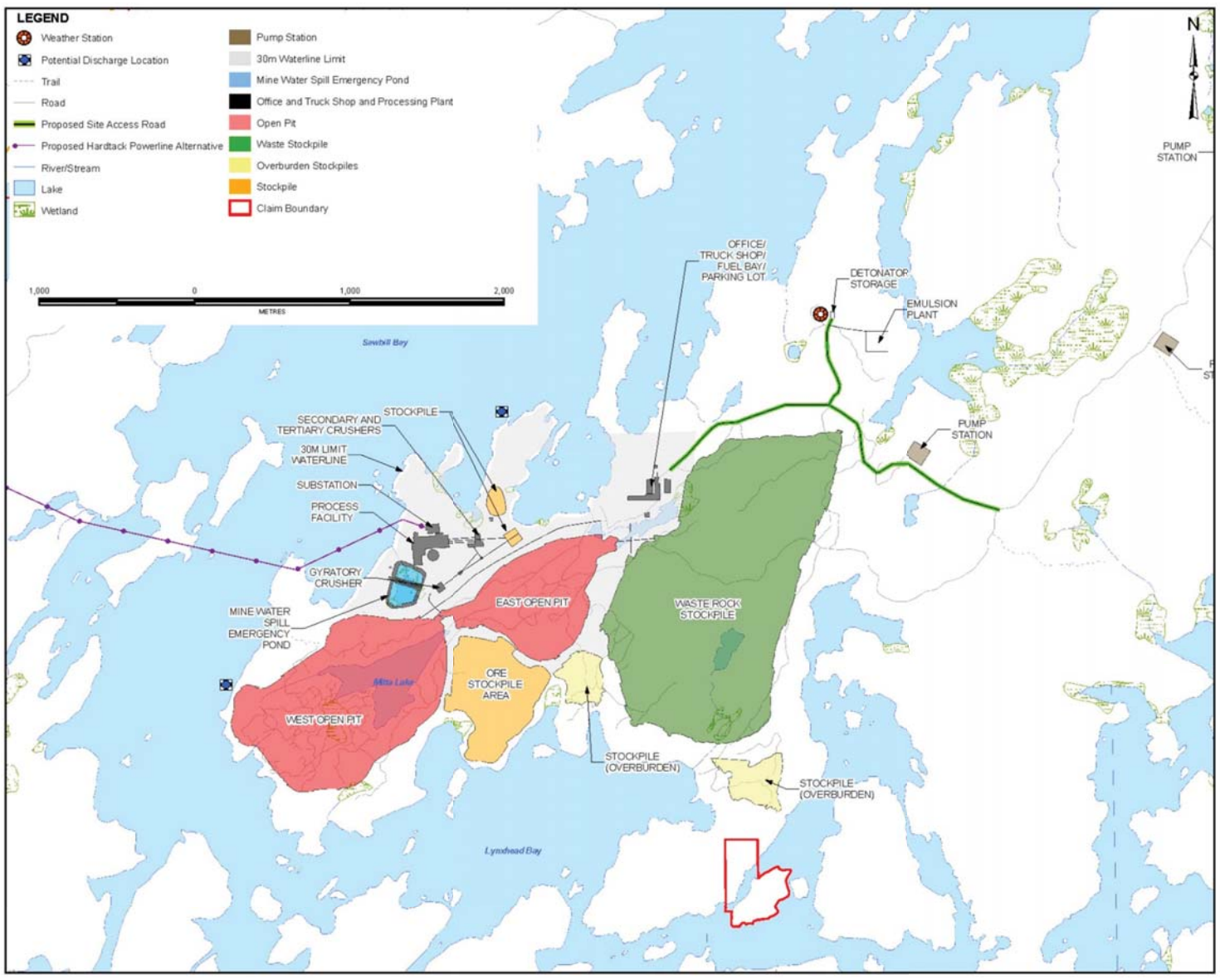
PROJECT LAYOUT UPDATE

Over the past several months our engineering team has been working together with our environmental consultant, Golder Associates, to finalize the Project layout and design details.

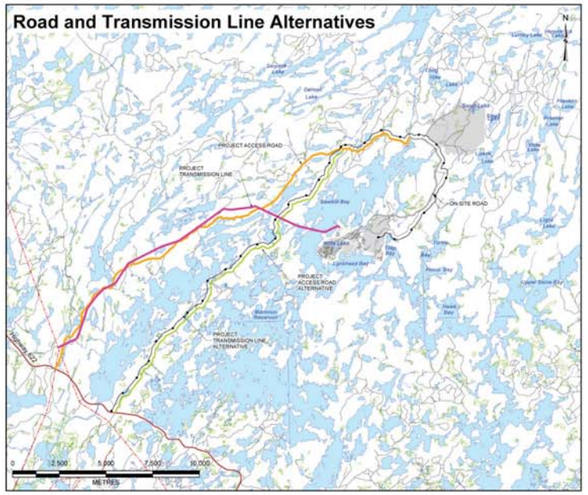
Key Updates

- The transmission line alignment now crosses Sawbill Bay as an overhead line The total distance is approximately 4 km, and is not expected to require any footings in the water
- The processing plant is now located to the north of the open pits
- The waste rock stockpile is now located closer to the open pits
- The option of a permanent camp for workers at the site

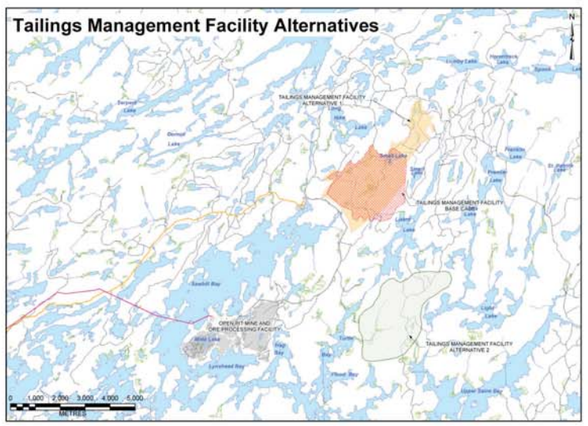
Please keep in mind that the Project is still in the design stage and some details may continue to change as the Project planning process moves forward.



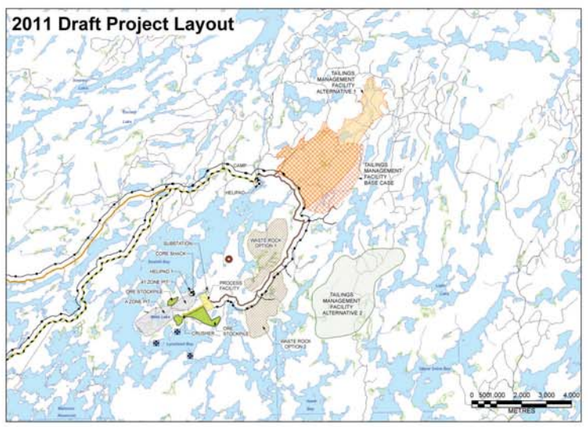
Road and Transmission Line Alternatives

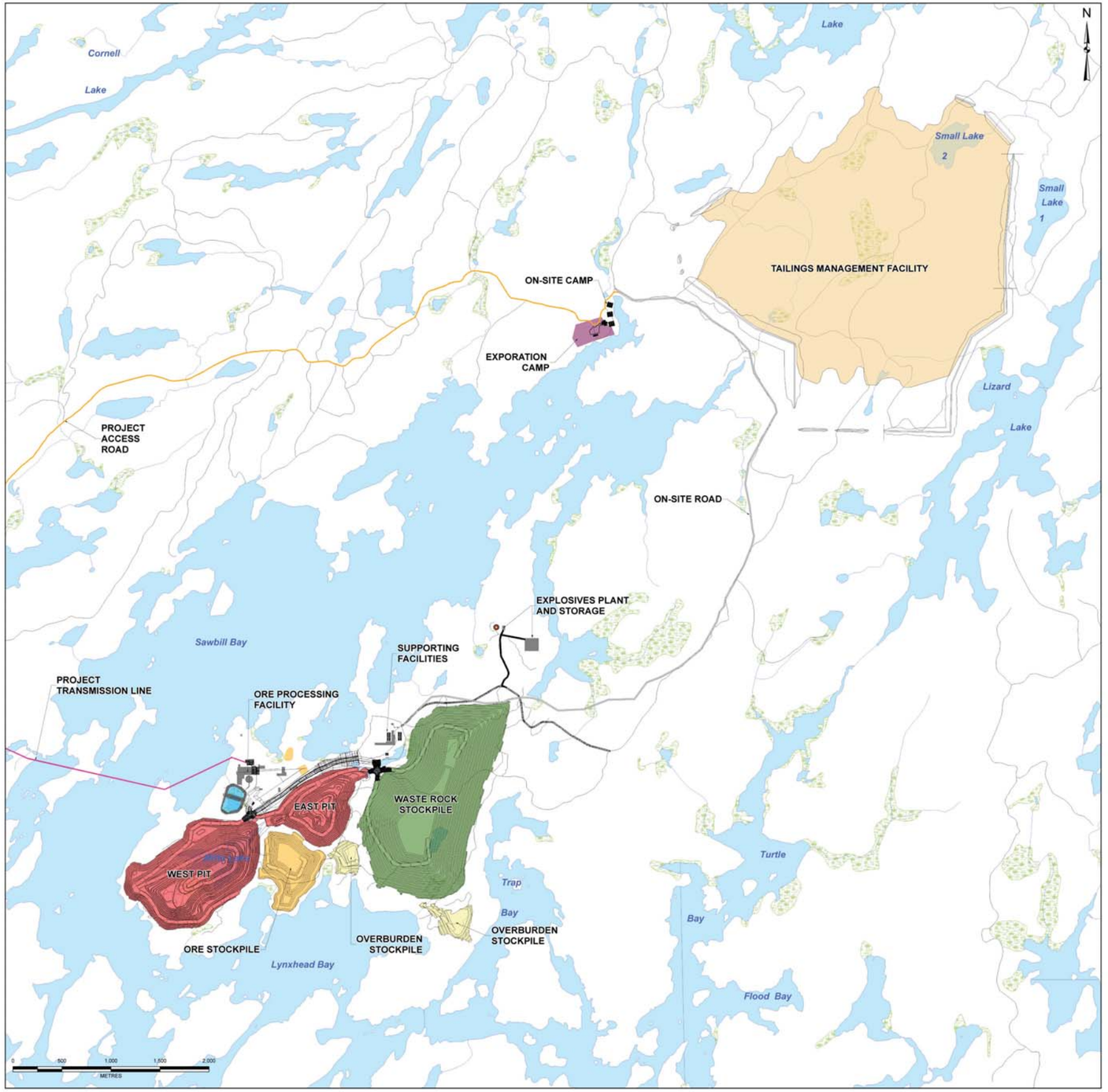


Tailings Management Facility Alternatives



2011 Draft Project Layout





Legend

- Weather Station
- Provincial Highway
- Road
- Power Transmission Line
- Existing Railway
- River/Stream
- Lake
- Wetland
- Project Transmission Line Alternative
- Project Access Road Alternative

Draft Project Components (2011)

- Potential Discharge Location
- Existing Site Access Road
- Hartttack / Sawbill Access Road Alternative 1
- Raft Lake Access Road Alternative 2
- Proposed Powerline Alternatives
- Tailings Management Facility Base Case
- Tailings Management Facility Alternative 1
- Tailings Management Facility Alternative 2
- Open Pit

- Waste Rock Storage Areas (Approximate)
- Ore Stockpiles
- Proposed Process Facility Footprint

Project Components (2012)

- On-Site Road
- Project Access Road
- Project Transmission Line

- Buildings
- Tailings Management Facility
- Open Pit Mine
- Waste Rock Stockpile
- Overburden Stockpile
- Ore Stockpile

Tailings Management Facility Alternatives

- Tailings Management Facility - Base Case
- Tailings Management Facility - Alternative 1
- Tailings Management Facility - Alternative 2

Projection: Transverse Mercator Datum: NAD 83 Zone: 15N

G:\Projects\2010\10-1118-0020_BrettResources_HammondReef\GIS\MXDs\Draft\Consultation\ProjectComponentPoster.mxd

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PROJECT COMPONENTS

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7-On_Site_Workers_Camp.pdf 1 2012-08-09 09:53:04

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ON SITE WORKERS CAMP

The Environmental Assessment Report will evaluate the pros and cons of including an on-site workers camp alternative as part of the Hammond Reef Project.

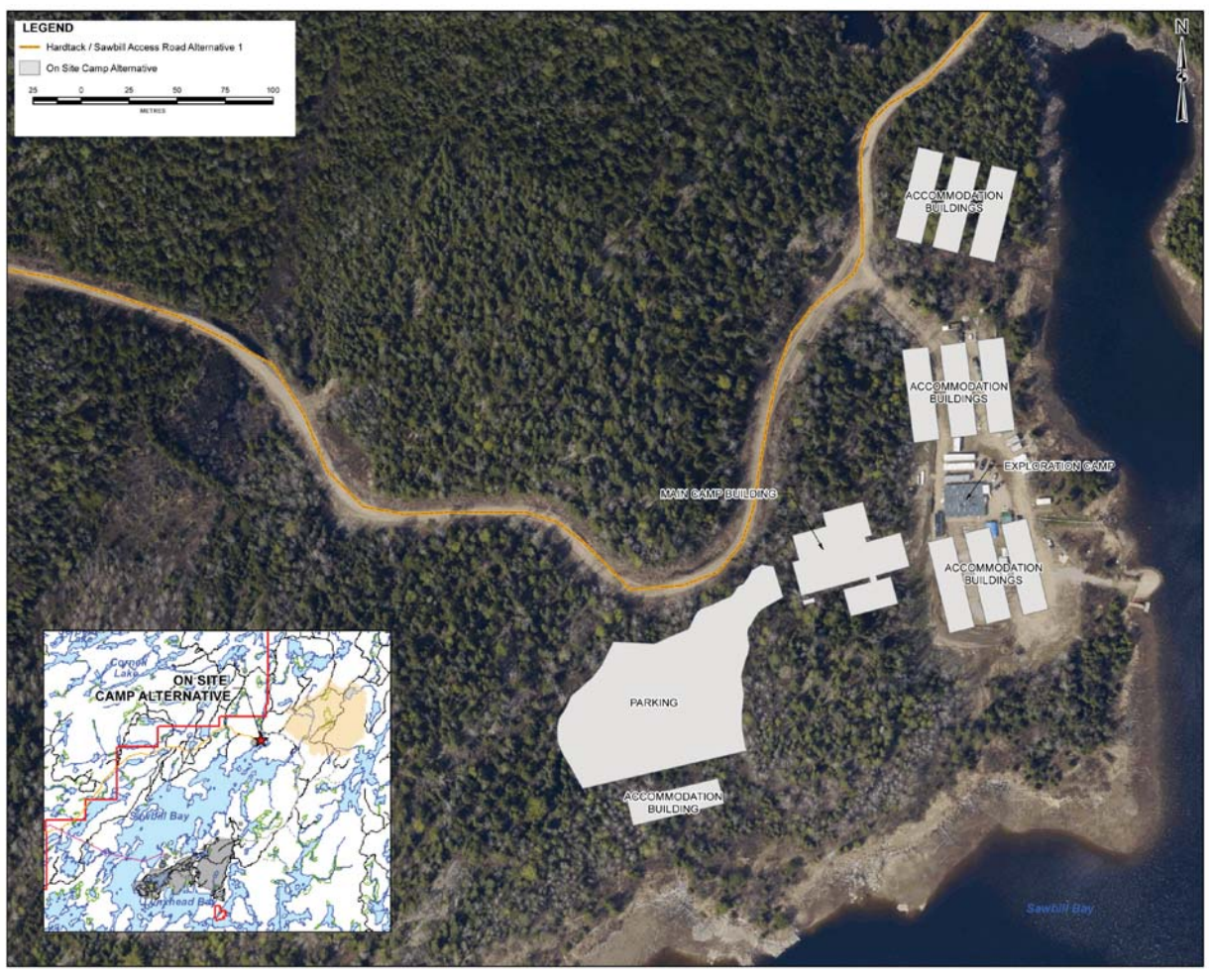
We have determined that an on-site camp alternative is needed because of:

- Estimated operations workforce of 500 people
- Small local population to draw from
- Skilled workforce will likely require recruiting workers from across Canada
- Numerous mining projects starting and will require workers at the same time (demand for skilled workers is high)
- Commuting time may be considered a drawback to potential employees
- Paid food and accommodation is a benefit to young workers

Combination Alternative:

Considers both workers wishing to live in Town, commuting daily by bus AND workers wanting a shift rotation allowing them to reside elsewhere in Canada.

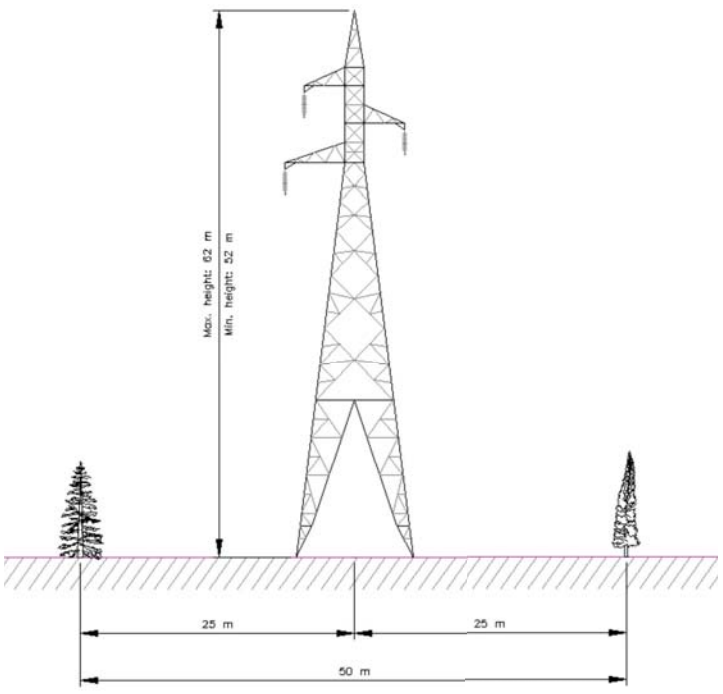
- We understand the importance of encouraging employees to reside in Atikokan.
- In Malartic, 50% of the workforce is comprised of residents of Malartic.
- Osisko policies will favour hiring of local residents, providing they meet the qualifications for the role.
- Osisko will encourage employees to reside in Atikokan.



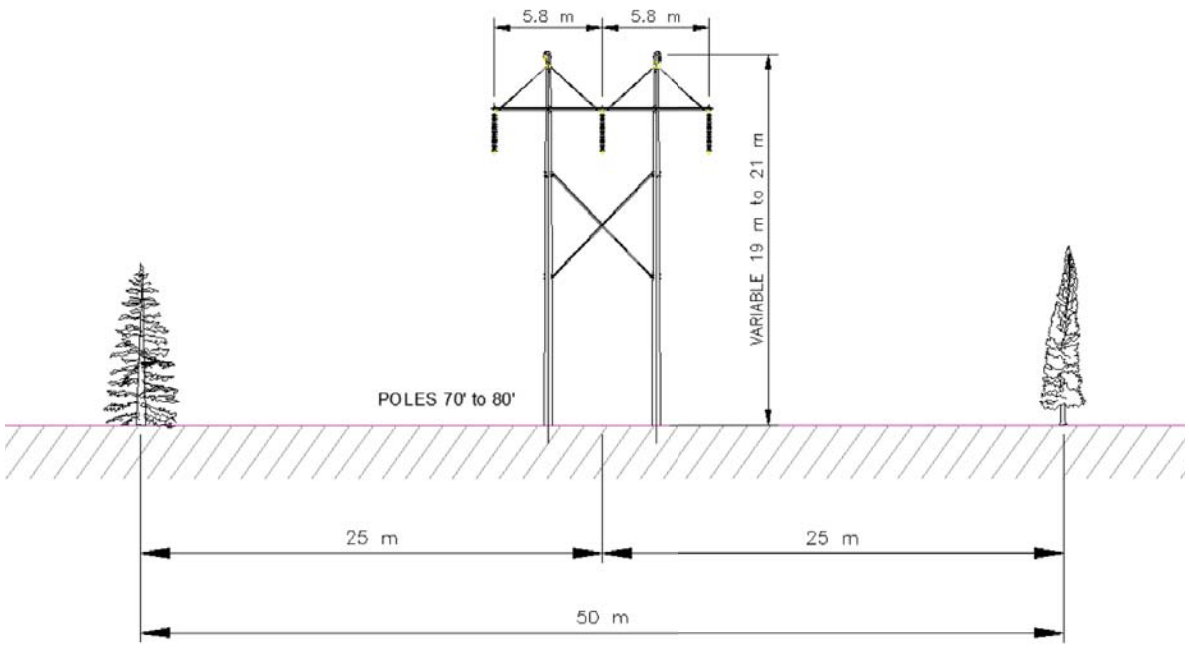
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ELECTRICITY USE

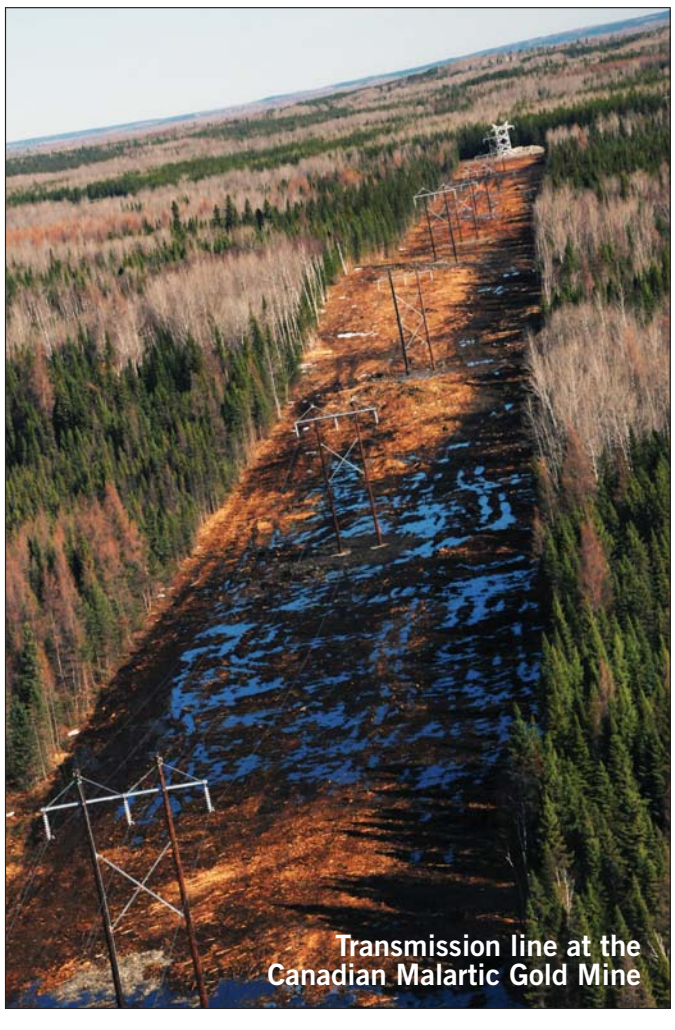
- 230 kV transmission line
- 100 MW of power per year
- Total length of 20 km
- Estimate 85 towers
- First 14 km composed of wood structures
- Second 6 km section will use steel towers to allow longer spans
- Considering natural gas for heating (15 MW of 100 MW)



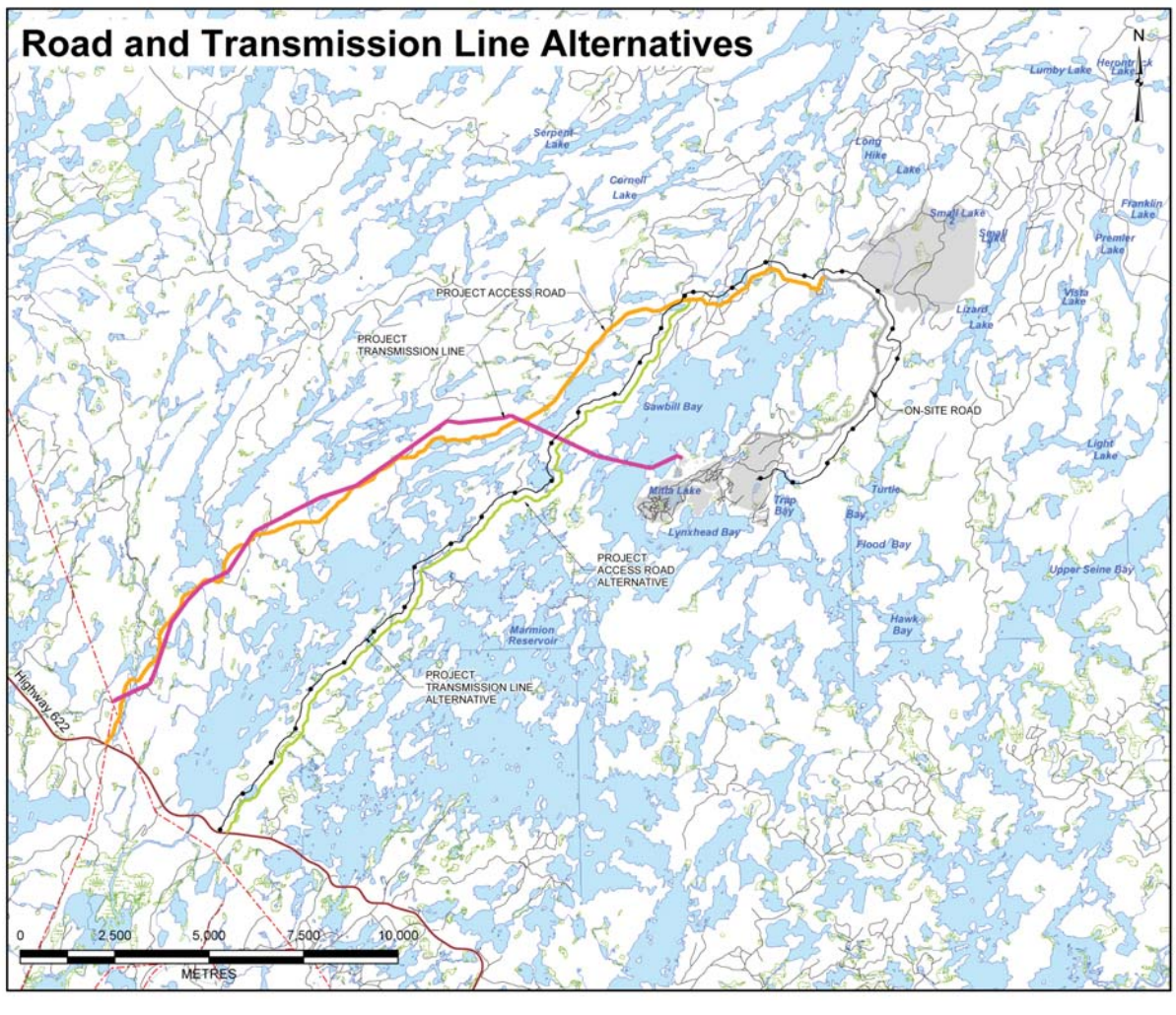
STEEL TOWER STRUCTURE



H-FRAME STRUCTURE



Transmission line at the Canadian Malartic Gold Mine



9-Land_Resource_Use.pdf 1 2012-08-09 09:54:16

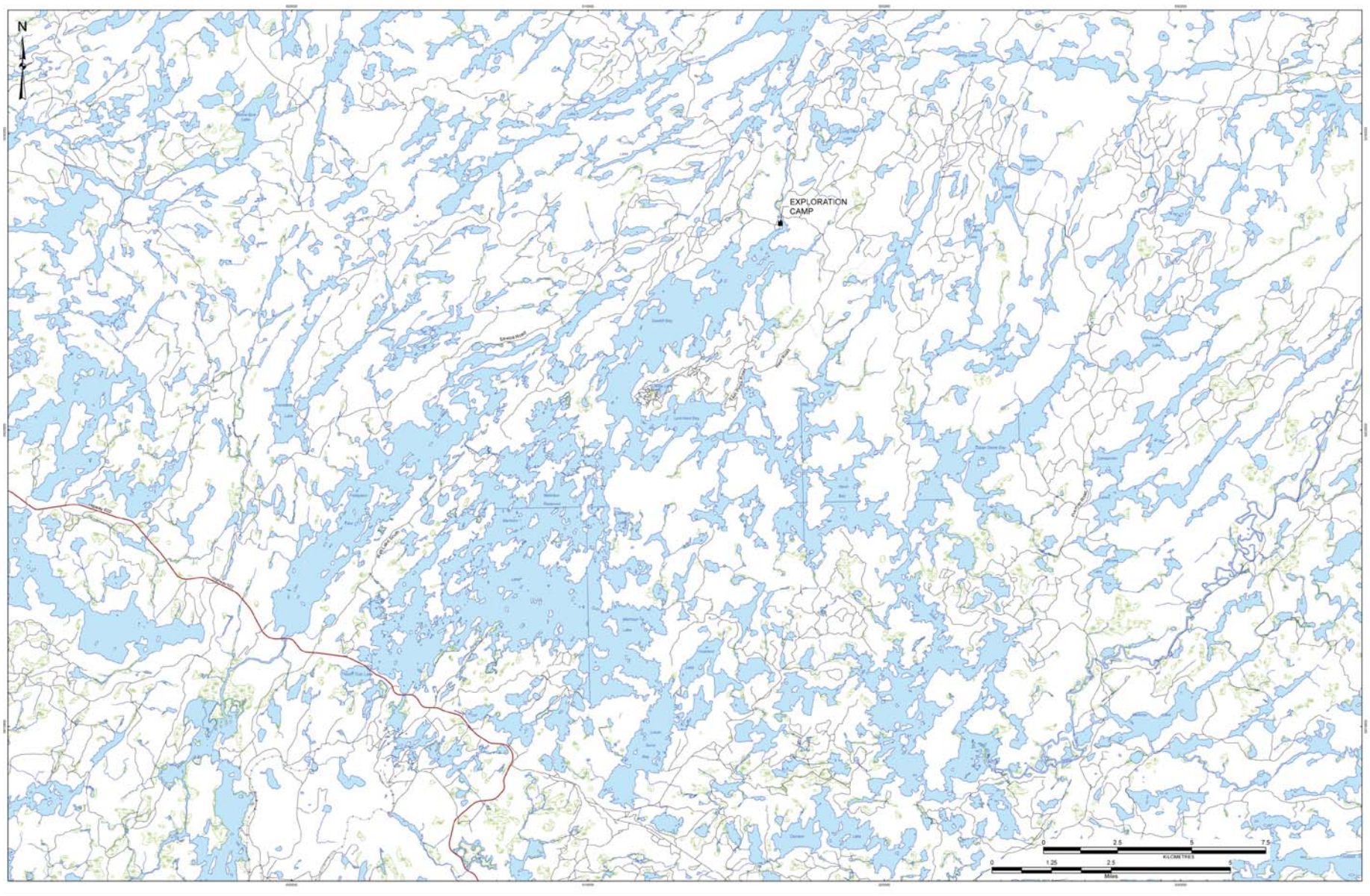
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LAND AND RESOURCE USE

We are interested to know if you eat country foods in the area of the Project.

- Do you pick blueberries?
- Do you hunt or fish?
- How often do you eat fish and game?

Please fill out a questionnaire and let us know how you use the land in the Project area.



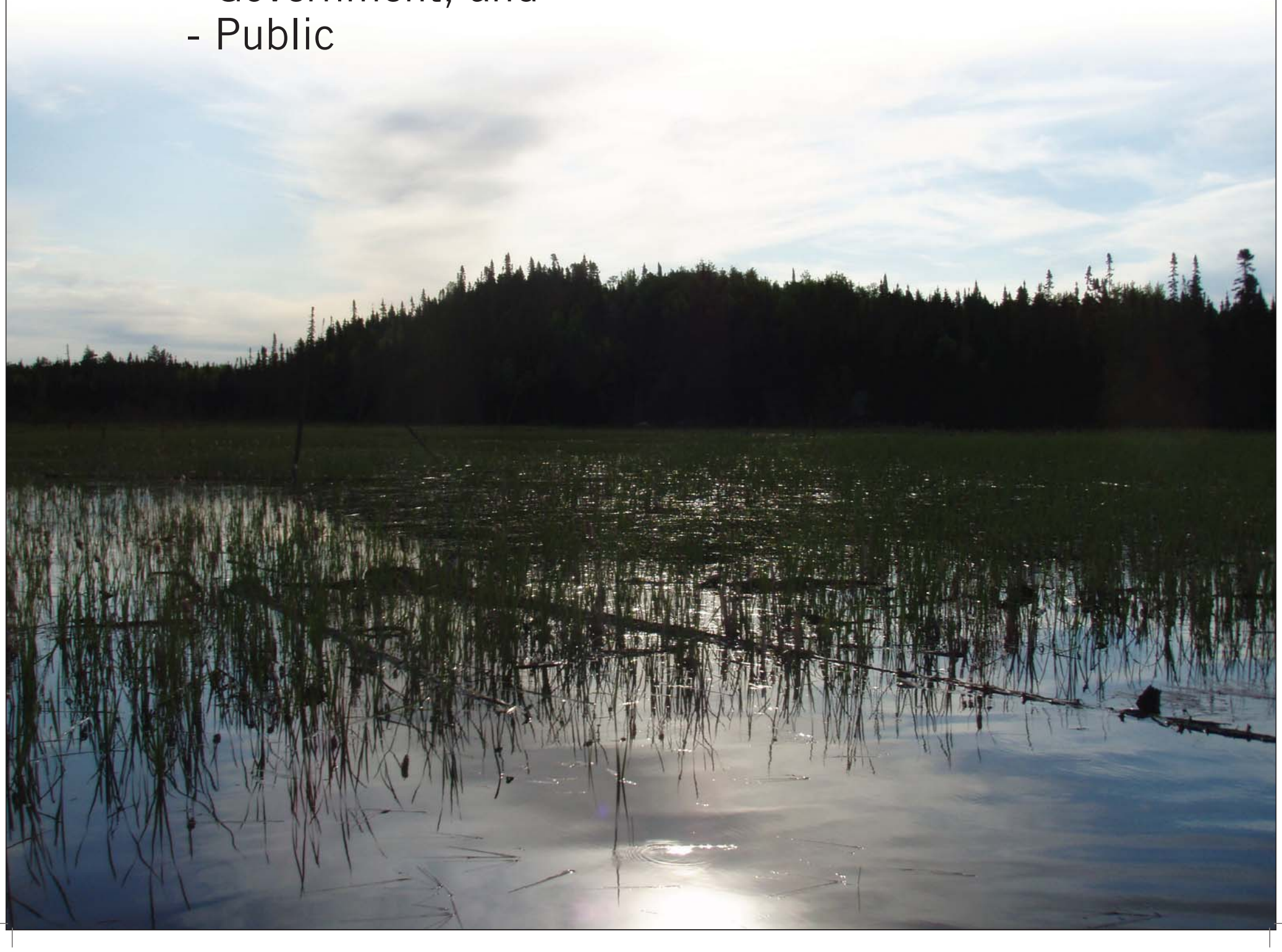
10-Next_Steps.pdf 1 2012-08-09 09:54:47

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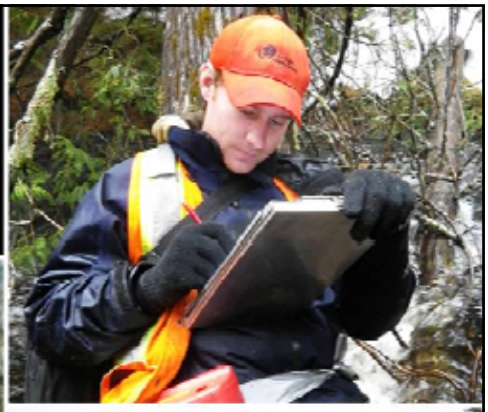
NEXT STEPS

- **Finalize Engineering and Feasibility Study**
- **Assessment of potential effects**
- **Publish Environmental Impact Statement / Environmental Assessment (EIS/EA) Report**
- **Obtain permitting**
- **On-going consultation and information sharing with:**

  - Aboriginal partners;
  - Government; and
  - Public



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Golder Associates

HAMMOND REEF

EA Update & Baseline Study Summary
August 18, 2012

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PRESENTATION OVERVIEW

- Project Components and Updated Project layout
- Updated Project alternatives
- Baseline study results
- Next Steps



PROJECT COMPONENTS AND PROJECT LAYOUT

3

Project Components

The Project consists of several major components that are associated with open pit gold mining including:

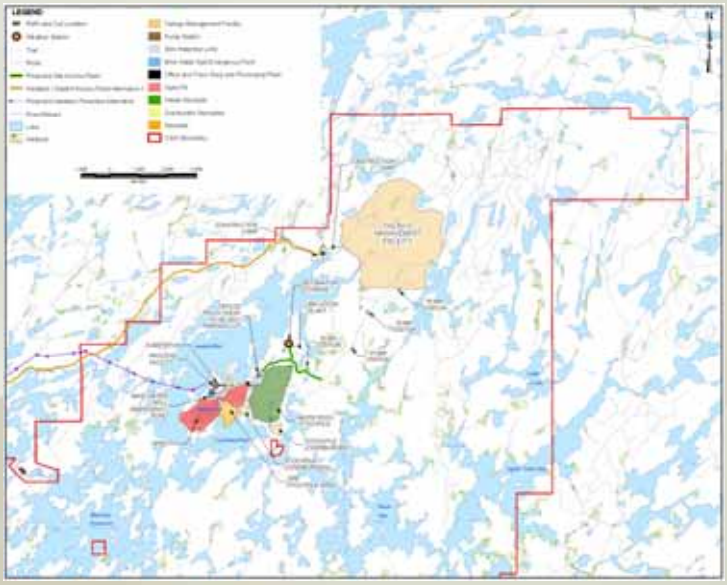
- An open pit mine with 2 pits, a waste rock stockpile and overburden stockpiles;
- An Ore Processing Facility and ore stockpiles;
- A Tailings Management Facility;
- An Access Road;.
- A Transmission Line; and
- On-site worker accommodations.

4

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Site Layout (2012)

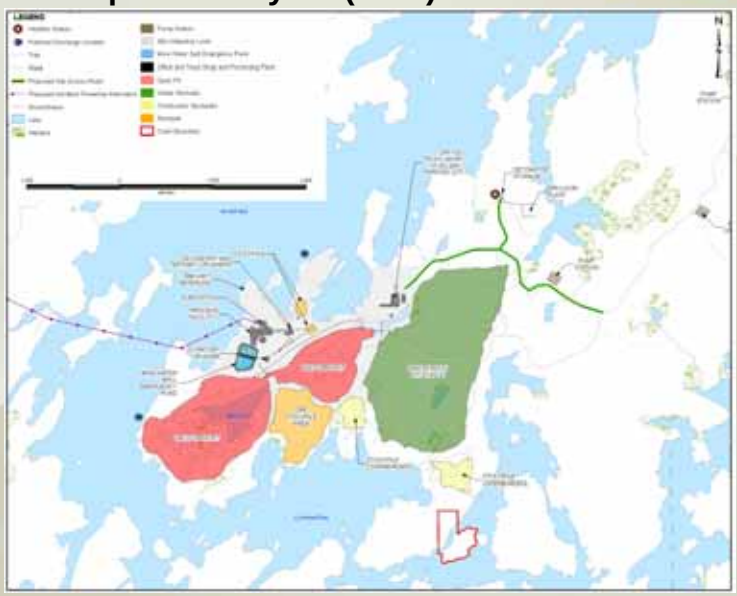


5

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Close-up – Site Layout (2012)



6

PROJECT ALTERNATIVES

7

Project Alternatives

The federal & provincial permitting processes require the consideration and evaluation of alternatives:

1. Alternatives to the Project
   - The Project vs. “Do Nothing”
2. Alternative Methods for the Project
   - Evaluation of benefits and drawbacks
   - Some methods have been screened out (shown in red)
   - Planning exercise that results in “best option” being built

8

Project Alternatives

Alternatives to the Project

The "do nothing" alternative will be used as a benchmark to help determine:

- The extent to which the alternatives address the opportunity
- The benefits of proceeding with the Project

Alternative Methods for the Project

- **Mine development**
  - Open pit mining – drain Mitta Lake
  - Underground mining
  - Open pit mining – avoid Mitta Lake
- **Ore processing**
  - Use of a synthetic cyanide destruction circuit
  - Use of natural cyanide destruction
  - Off site processing facility
  - Non-cyanide processing methods

9

Project Alternatives

Alternative Methods for the Project (continued)

- **Tailings Management**
  - Thickened tailings
  - Conventional tailings
  - Tailings location
  - Use of a low permeability liner
  - No installation of liner
  - Hogarth Pit
  - Lizard Lake
  - Northeast location
- **Power supply**
  - Align transmission line wtih existing road (Raft Lake or Sawbill Hardtack)
  - New transmission line alignment for shorter distance
  - Buy power from provincial grid
  - Use of natural gas
  - On site diesel generators
  - On site power generation

10

Project Alternatives

Alternative Methods for the Project (continued)

- **Water Supply**
  - Discharge to Sawbill Bay
  - Discharge to Lynxhead Bay
  - Source from Turtle Bay
  - Source from Hogarth Pit
  - Source from Marmion Basin
  - No recycling of water
  - Recycle as much waster as possible
- **Waste Rock**
  - Waste rock location
  - Recycling and/or re-purposing of waste rock by third party

11

Project Alternatives

Alternative Methods for the Project (continued)

- **Waste alternatives**
  - On site landfill
  - Off site landfill
- **Sewage treatment**
  - On site treatment
  - Off site treatment
- **Support facilities**
  - On site worker camp
  - Worker accommodation in Town
  - Combination --- on-site worker camp and commuters from Town
- **Access road**
  - Widening of Sawbill road
  - Widening of Raft Lake road

12

Why consider an on site camp?

- Estimated operations workforce of 500 people
- Small local population to draw from
- Skilled workforce will likely require recruiting workers from across Canada
  - Numerous mining projects starting and will require workers at the same time (demand for skilled workers is high)
- Commuting time may be considered a draw back to potential employees
- Paid food and accommodation is a benefit to young workers

Combination Alternative: Considers both workers wishing to live in Town, commuting daily by bus AND workers wanting a shift rotation allowing them to reside elsewhere in Canada.

13

Osisko's commitment

- We understand the importance of encouraging employees to reside in Atikokan.
- In Malartic, 50% of the workforce is comprised of residents of Malartic.
- Osisko policies will favour hiring of local residents, providing they meet the qualifications for the role.
- Osisko will encourage employees to reside in Atikokan.

14

Camp Layout (2012)



15

BASELINE STUDIES

16

BASELINE STUDIES

- Water quality
- Hydrology
- Ground water
- Geochemistry
- Air and noise
- Fish and fish habitat
- Vegetation and wildlife
- Socio-economics



WATER QUALITY

- 30 sampling locations, 8 water bodies
- Sampled five times since fall of 2010
- Acidic to near-neutral pH values
- Aluminum and iron concentrations were greater than the criteria
- Sporadic concentrations of total cadmium, chromium, cobalt, copper, lead, nickel, silver and zinc greater than the criteria
- Four total mercury concentrations greater than the criteria
- 20% or less of the observed phenol concentrations were greater than the criteria

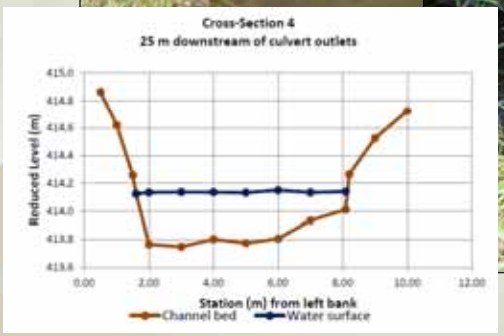




HYDROLOGY

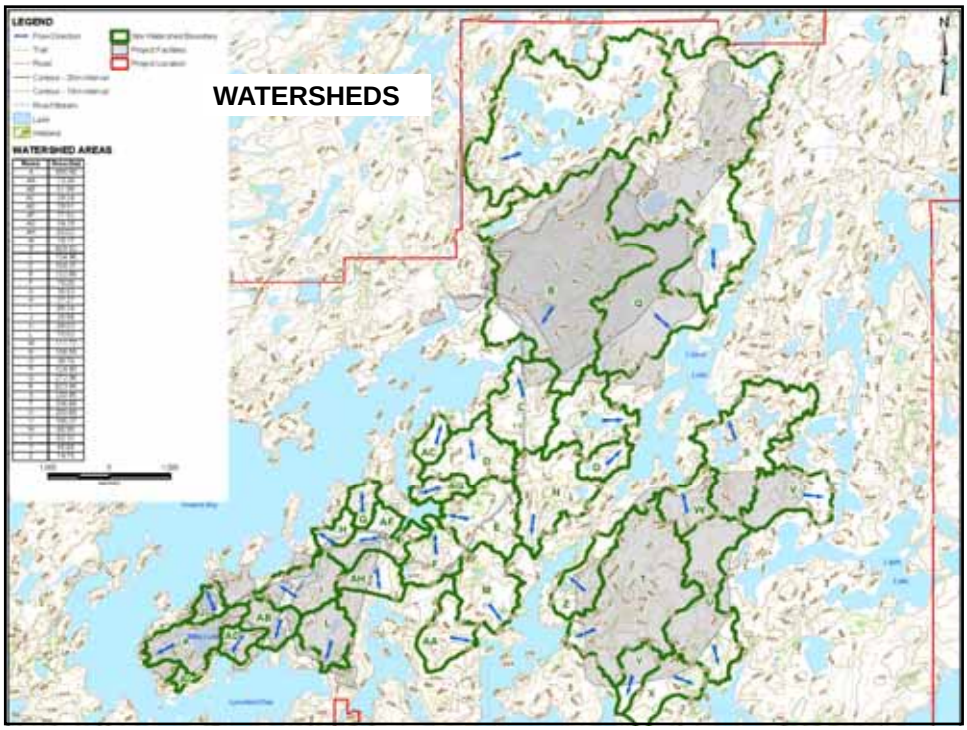






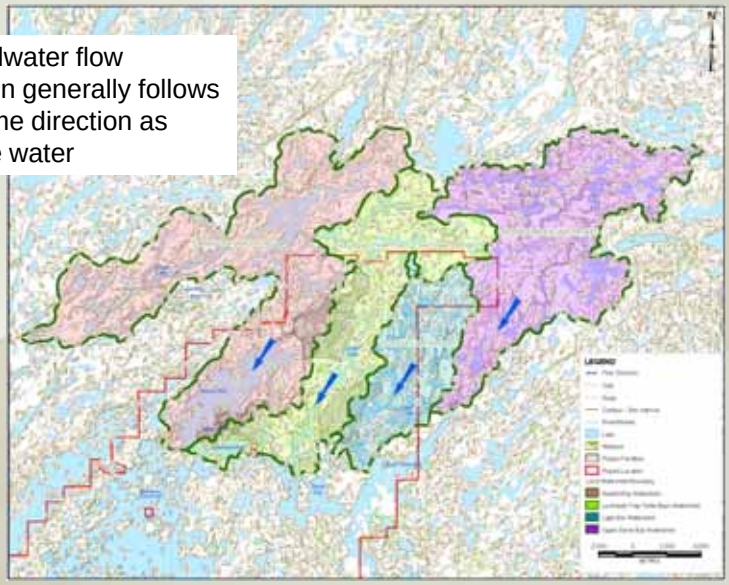
19

WATERSHEDS



GROUNDWATER

Groundwater flow direction generally follows the same direction as surface water



21

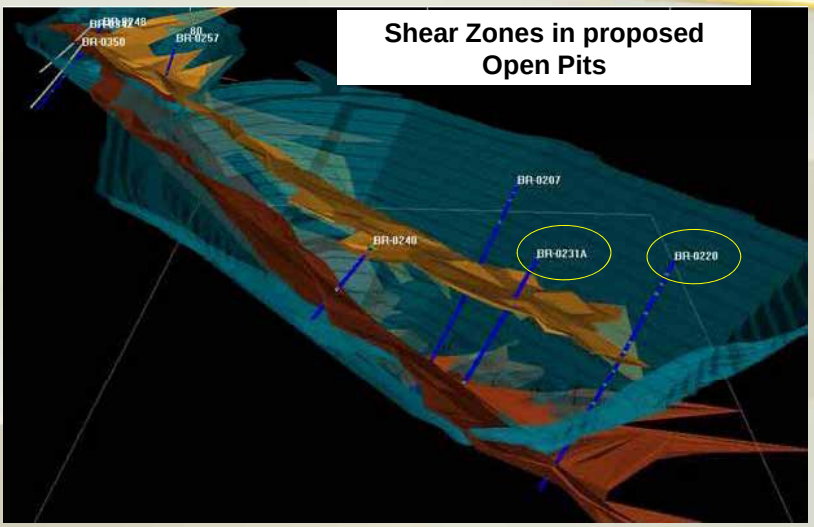
GROUNDWATER

- 13 stations, 9 sampling events since 2010
- Overburden is generally thin and discontinuous
- Bedrock is generally tight and massive indicating limited flow
- Two zones for movement in the bedrock
  - Upper weathered zone = surface to 10 metres below ground
  - Sheer zones = at depth

Groundwater Ouality

- Some parameters in the shallow groundwater have levels above criteria
- Deep groundwater generally meets criteria and is similar to shallow and surface water





PQ boreholes BR-0220 and BR-0231A intersect upper/lower shears

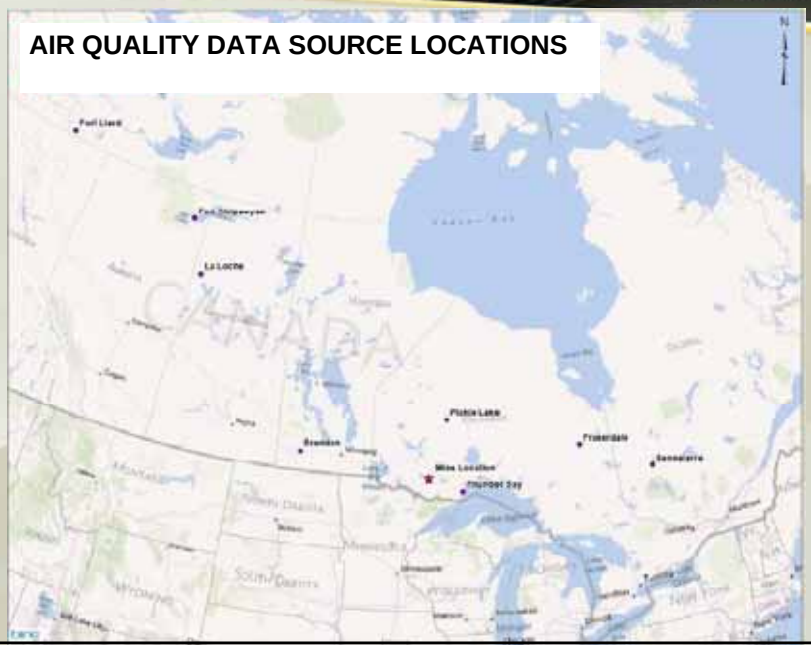
23

GEOCHEMISTRY

- Sulphide contents are low and acid generation is not expected
- Metal leaching
  - pH values are neutral to alkaline and higher than the CCME/PWQO/MMER criteria range in short term tests
  - Aluminum concentrations can be greater than criteria in the short-term
  - Copper can be higher than the criteria in the short-term but decreases
  - Cadmium, silver and uranium concentrations can be marginally greater than the criteria



AIR QUALITY DATA SOURCE LOCATIONS



25

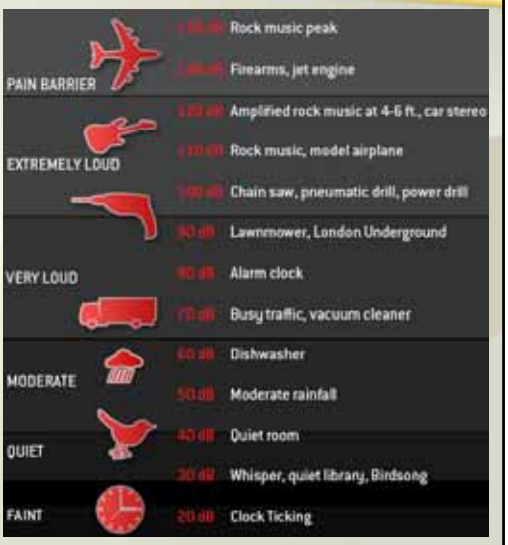
AIR QUALITY

- The air quality assessment will include modelling of the following parameters:
  - Particulate matter (PM);
  - Oxides of nitrogen (NOX) and nitrogen dioxide (NO2);
  - Sulphur dioxide (SO2);
  - Carbon monoxide (CO); and
  - Metals, including antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, tellurium, tin and vanadium.

26

NOISE

- Existing noise levels are assumed to be quiet
  - 40 dBA during daytime hours and 35 dBA during night time hours
- Specific locations such as cabins will be identified as noise receptors
- Noise modelling will include predictions of acoustic levels at receptors



27

FISH AND FISH HABITAT

- Key potential aquatic receivers were identified as:
  - Sawbill Bay
  - Lynxhead Bay
  - Lizard Lake
  - Turtle Bay
- 55 sample locations called “Areas of Potential Impact” (APIs)
- Includes ponds, streams and small lakes



- Field trips in August and October of 2010 and May, June, August and September of 2011.

28

FISH SPECIES

- 23 different fish species were captured from the different APIs, including whitefish, mudminnow, northern pike, longnose dace, burbot, stickleback, suckers, sculpins, walleye and perch.



CONCLUSIONS

- No coldwater fish species or waterbodies
- Watercourses are generally low gradient, highly influenced by beaver dams
- Flow in sections of many water courses is seasonal or subsurface and highly variable
- Lower portions of some tributaries are accessible to fish from major receivers



VEGETATION AND WILDLIFE

Terrestrial biology field work has included:

- Bird surveys
- Amphibian habitat inventory
- Turtle basking and nesting surveys
- Vegetation community surveys
- Wild rice surveys



- Vegetation communities are coniferous and mixed forest communities interspersed with fens, marshes, swamps, small lakes and watercourses
- The bird community survey results are typical for the habitats that occur in the region
- All mammal species are considered to be typical in the region



VEGETATION AND WILDLIFE

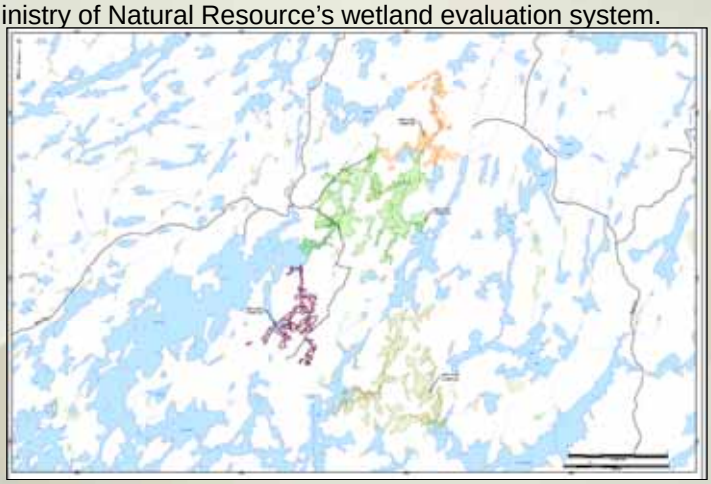
- Three bird and one reptile species of special concern are found in the Project area (Canada warbler, Common nighthawk, Bald eagle, and Common Snapping turtle)
- One provincially rare plant species is found in the Project area (Assiniboin sedge)
- One culturally important plant is found in the Project area (Wild rice)





WETLAND EVALUATION

Four wetland complexes have been evaluated using the Ministry of Natural Resource's wetland evaluation system.



Do you know of anyone who uses these wetlands?

32

Socio-Economics
Regional Study Area



33

Socio-Economics
Local Study Area



34

Population and Demographics

- Declining population in Atikokan and Region
- Low mobility in Atikokan
- Percentage of children and 20-49 cohort lower than provincial average
- 25-34 year olds predominantly female; 50-59 cohort predominately male
- High dependency ratio



Economics

- Higher proportion of employment in services compared with decline in manufacturing, construction and resource based industries
- Non-service employment dominated by males
- High unemployment rate
- Median income marginally lower than provincial average
- Below provincial average levels of post-secondary education
- Potential for resource based projects to stabilize regional and local economies
- Thunder Bay anticipated to be major regional beneficiary of development
- Few businesses in Atikokan currently equipped to support mining development

Public Services and Infrastructure

- Protection and Emergency Services may have additional capacity
- Atikokan is designated as underserviced for doctors
- Hospital is scheduled for expansion and improvements
- Day care and social housing currently have additional capacity
- Schools have additional capacity
- Limited post-secondary education available in Atikokan through Contact North
- Existing population may not support cost of maintaining and improving recreational facilities
- Existing population may not support cost of maintaining and improving water and wastewater facilities
- New landfill site planned
- Existing electricity and natural gas has additional capacity

Housing and Transportation

- High home ownership and occupancy
- Shortage of rental and apartment units
- Low housing prices compared with region and province
- Existing housing stock is old
- Building lots are available for new housing

- Atikokan is well connected to provincial highway and rail networks; traffic study will assess adequacy of local road network
- Thunder Bay is the hub for air transport: the local air network is poorly developed

NEXT STEPS

- Finalize Engineering and Feasibility Study
- Assessment of potential effects
- Publish Environmental Assessment (EA) Report
- Obtain permitting
- On-going consultation and information sharing with:
  - Aboriginal partners;
  - Government; and
  - Public



OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	Fort Frances	[redacted]	✓
	Ft. FRANCES		✓
	THUNDER Bay		
	Atikokan		
	Atikokan		
	Atikokan		
	Winnipeg		
	Winnipeg		
	Atikokan		
	Atikokan	[redacted]	

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	Ft Mc Murray Alb.	[redacted]	YES
	Atikokan		Yes
	Atikokan		✓
	ATIKOKAN		✓
	T Bay	[redacted]	yes
	Atikokan		
	Town		
	Town		
	ATIKOKAN	[redacted]	

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	F Francis	[redacted]	✓
	F Francis		✓
	Atikokan		
	Atikokan		
	atikokan		
	ATIKOKAN (KGS GROUP)		✓
	ATIKOKAN		
	Atikokan		
	ATIKOKAN		✓
	THUNDER BAY.		✓

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OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	Atikokan		
	Atik		
	Atikokan		
	Atikokan.		
	Thunder Bay		
	" "		
	~~Ats~~ E THUNDER BAY	[redacted]	✓
	Atikokan		
	ATIKOKAN		
	Atikokan		

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	Atikokan		
	"		
	"		
	ATIKOKAN		
	"		
	"		
	"		
	Fort McMurray AB	[redacted]	X
	Atikokan		

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	atikokan		
	atiKokan		
	Atikokan		
	atikokan.		
	Peterborough	[redacted]	✓
	ATIKOKAN		
	Atikokan		
	"		
	"		
	"		

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	Th. Bay	[redacted]	YES
	Th. Bay		
	ATIKOKAN		
	ATIKOKAN		
	Atikokan		
	"	[redacted]	—
	ATIKOKAN		
	Geraldton	[redacted]	
	TOWN		
	ATIKOKAN.		

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	Ajax, ON	[redacted]	✓
	Atikokan		✓
	ATIKOKAN		✓
	atikokan		
	atikokan		
	Atikokan	[redacted]	
	Atikokan		
	Atikokan		
	Atikokan	"	
	Azikokan		

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	Atikokan	[redacted]	ho
	Atikokan		
	✓		no.
	ATIKOKAN		
	Atikokan		
	(DEVLIN) FT. FRANCES		
	Atikokan		
	Atikokan	[redacted]	YES

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	Atikokan		
	Atikokan		
	Atikokan		
	"		
	Atikokan		

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	MARATHON		
	Marathon		
	" "		
	" "		
	ATIKOKAN		
	CALGARY, AB.		
	ATIKOKAN		
	ATIKOKAN	[redacted]	YES

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?
[redacted]	Thunder Bay ON		

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OPEN HOUSE 4
Saturday August 18 2012
Osisko Hammond Reef Gold Limited

NAME	TOWN	Email Address	Add to mailing list?

Please note the list of Open House attendees and addresses added to the Project mailing list will become part of the public record.

Open House 6 – EA Results

OSISKO

HAMMOND REEF GOLD



Atikokan High School

April 2013

Presentation Overview

- Introductions
- Osisko Mining Corporation
- Hammond Reef Gold Project
- Environmental Assessment
- Social Management
- Environmental Monitoring
- Questions

Introductions

Marie
MASc. from University of Toronto
Environmental Coordinator
Kirkland Lake
2 years with Queenston Mining
Community relations and environmental site work

Cathryn
BSc. from Royal Roads University
Senior Advisor Sustainable Development
Toronto
1 ½ years with Osisko Hammond Reef
Community relations and environmental assessment

Introductions

What do you want to do after high school?

Name one thing in the classroom has come from a mine.

Osisko Mining Corporation

- Publicly traded, Canadian based, founded in 2003
- Head office in Montreal
- Offices in Malartic, Toronto, Atikokan and Kirkland Lake
- Producing gold mine in northern Quebec – Canadian Malartic

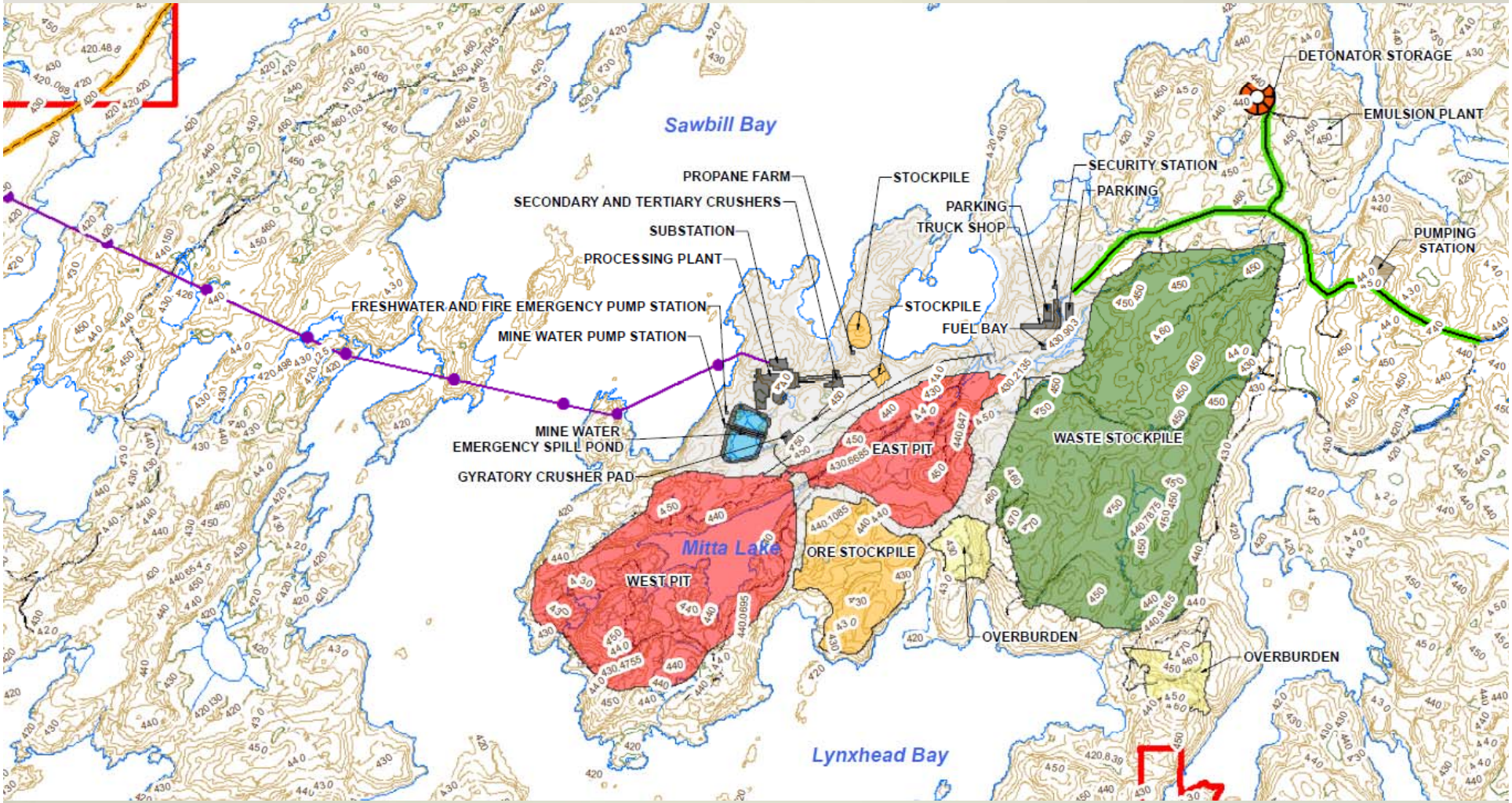
- Canadian Malartic employs approximately 700 full time people
- The Project is located on a historical mine site very close to the Town
- Houses and institutions were moved to access the gold
- Canadian Malartic is one of the largest open pit mines in Canada

Hammond Reef Gold Project

- Exploration project is largely complete
- Environment studies ongoing since 2010
- Feasibility Study planned to be released in 2013

- Project would take place in four phases:
  - Construction
  - Operations
  - Closure
  - Post-Closure

Project Components



Open Pit Mine

- Two open pits will be developed
- Will require the draining of Mitta Lake
- The waste rock will be piled 1 km from the mine, some waste rock will be put back into the first pit.
- Ore will be stockpiled in three piles close to the processing plant.



Ore Processing Facility

- Designed for an ore throughput of 60,000 tonnes/day
- Includes crushing, grinding, flotation, cyanide leaching, electrowinning and final refining using furnaces.
- Will require approximately 82,000 m^3/day of process water.
- Water will be reclaimed as much water as possible.
- Fresh water will be sourced from Marmion Lake





Tailings Management Facility

Chose location based on:

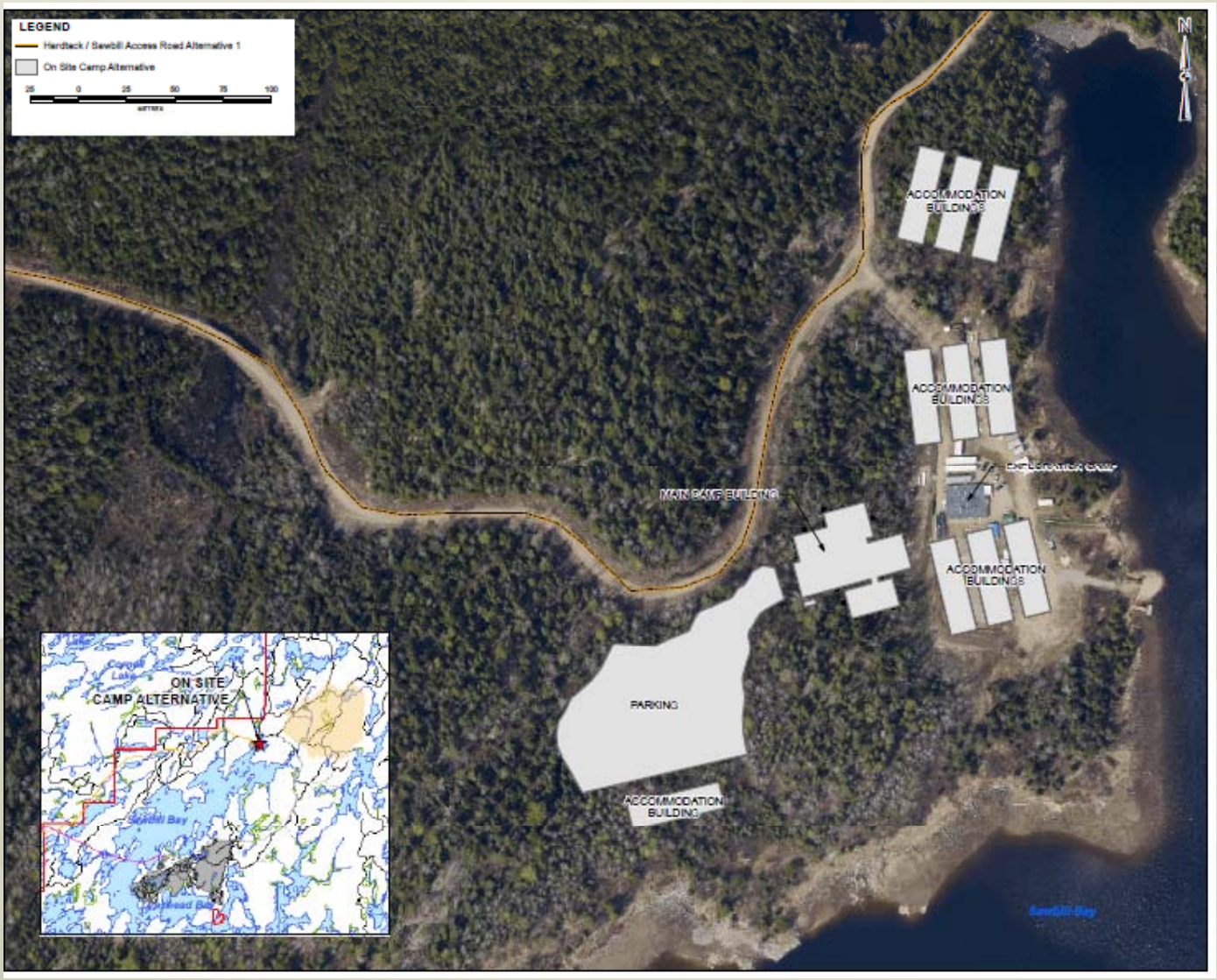
- absence of impacts to cultural heritage resources
- less obtrusive visual impacts (operation and post-closure)
- lowest life of mine costs

Thickened Tailings:

- reduced TMF and reclaim pond footprint
- Reduced dam volume
- lower life of mine costs
- reduced likelihood and consequences of failure

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On Site Accommodation



Environmental Management

- Continuous improvement of our environmental management systems.
- Continuous improvement of our activities to reduce impacts.
- Minimize greenhouse gas emissions through reductions and offsets.
- Minimize fresh water usage and maximize recycling of water.
- Invest in research and development at our project sites.
- Invest time and money in responsible and progressive closure planning.

Environmental Assessment

- Government sets guidelines
  - Provincial – Ministry of Environment
  - Federal – Canadian Environmental Assessment Agency

- Osisko carries out studies
  - Existing environment
  - Project description
  - Predict potential effects
  - Plan to minimize effects
  - Consultant – Golder Associates

- EA Report published on February 15 2013

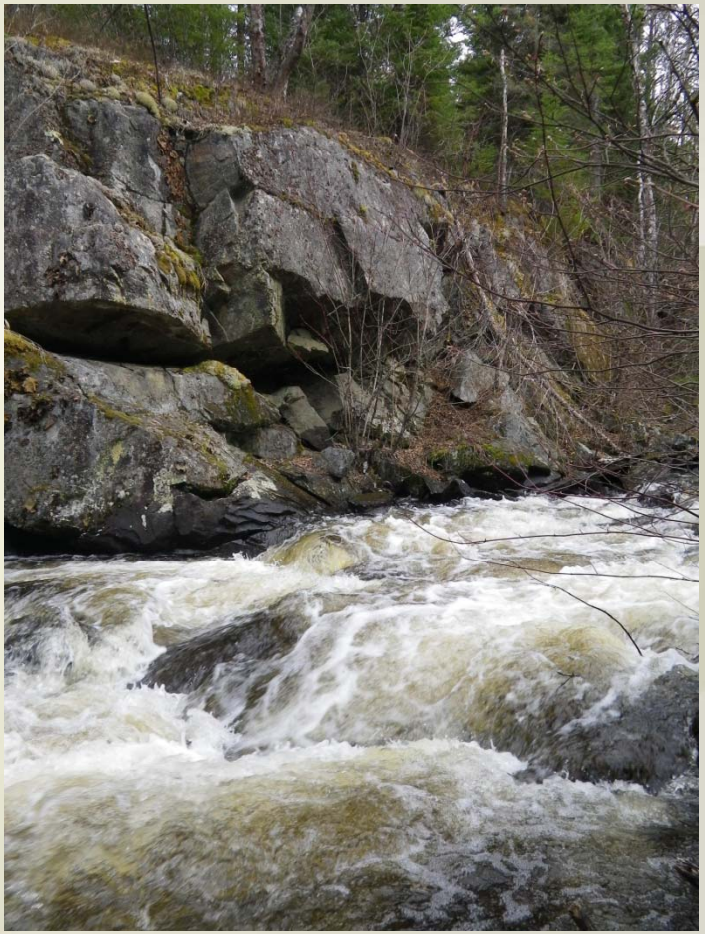


Geochemistry and Soils

The geochemistry and soils assessment considers how the [redacted] will interact with the Project.

Understanding the [redacted] of the rocks is important to predict the way tailings and waste rock will interact with the environment throughout the life of the Project.

[redacted] is the loss and movement of soil through physical processes such as wind and water. Protecting against erosion is important for water quality and to maintain nutrients in the soil.

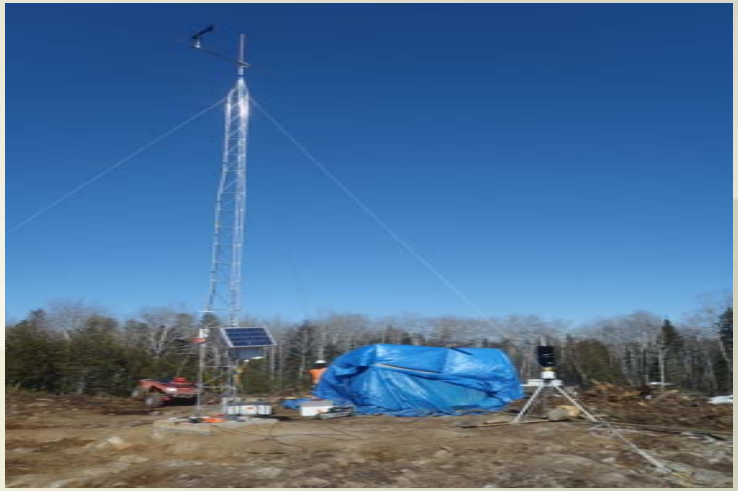


Atmospheric Environment

Osisko must show that the Project can meet government regulations for [redacted] and noise in locations where **people are known to spend the night**. These locations are called “receptors”.

Computer models are used to predict noise levels and concentrations of chemicals that could be present in the air.

These predictions are made based on **details of the** [redacted], the materials that will be used and the **composition of the rock** that will be processed.





Hydrogeology

Hydrogeology is the study of **l water movement and quality** and its connection to surface water.

Groundwater studies are important for the Project because the **open pit** will interact with groundwater as it will need to be **kept**

Groundwater protection is also an important consideration around the tailings and stockpiles.



Water Quality

Potential changes to water quality in the Marmion Reservoir and Lizard Lake were predicted based on hydrology information, baseline conditions and planned material use.

Predictions were made for the different phases of the Project and for an average case and a scenario.

Predicted water quality values were compared to baseline conditions and government guidelines. Potential effects to fish and wildlife health were also considered.



Fish Habitat

Fish habitat was mapped by measuring and mapping specific features such as depth, vegetation, water temperature, and bank slope. Fish communities were studied by catch and release using nets, traps or

A total of different fish species were captured from the different Areas of Potential Impacts, including whitefish, mudminnow, northern pike, longnose dace, burbot, stickleback, suckers, sculpins, walleye and perch.





Fish Habitat Compensation





Osisko will need to ensure there is “No Net Loss” of fish habitat.

Potential **on-site** opportunities include :

- Stocking fishless ponds
- Creating fish passages
- Creating pike spawning habitat
- Removing fish barriers
- Creating shallow zones and rocky shoals

Potential **off-site** opportunities include :

- Contributing funds for Steep Rock reclamation
- Projects to enhance sturgeon viability

Social Management

- Invest in Public Infrastructure
- Protect Tourism and Recreation
- Grow the Local Workforce
- Optimize Local Business Opportunities
- Invest in Worker Education and Training

Environmental Monitoring

Plans to monitor the effectiveness of mitigation measures at Hammond Reef and verify the predicted changes to the environment include:

- Air quality monitoring
- Vibration management planning
- Water flow and level monitoring
- Water quality sampling
- Geochemistry testing
- Re-vegetation success monitoring
- Aquatic effects monitoring

Both provincial and federal agencies are anticipated to be included in monitoring plan development and in the provision of ongoing advice for the environmental management plan.

Questions?

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

OSISKO
HAMMOND REEF GOLD

A Fresh Outlook on Mining.

Open House 5 Comment Form

105 Main Street Atikokan, ON
April 3, 2013

Osisko wants your input. We are collecting this information to help us better understand and address your concerns about the Project. Comments will become part of the public record, but names and personal information will not be linked to comments.

1. I feel up to date on the status of the Hammond Reef Gold Project

- ☐ Yes
- ☐ No
- ☒ Somewhat

Please explain:
New to the area so just beginning to learn about local concerns and projects.

2. Which of the following statements best describes you?

- ☐ I fully support the Hammond Reef Project going forward
- ☐ I somewhat support the Hammond Reef Project, but I have some concerns
- ☐ I do not support the Hammond Reef Project, but I accept that it will benefit the local community
- ☐ I do not support the Hammond Reef Project going forward
- ☒ I don't know how I feel about the Hammond Reef Project

Please explain:
viewed the benefits and downfalls of open pit mines, but do not know enough yet about this project to have an educated opinion.

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- ☐ Improve greatly
- ☒ Improve slightly
- ☐ Remain unchanged
- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:
increased revenue & diversity within atikokan, with new families and skilled workers moving (hopefully) to the area.

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☐ Strongly agree
- ☐ Somewhat agree
- ☒ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

no open pit mine can leave the land as they found it before the mine began.

5. My biggest hope relating to the Project is....

improves atikokan as a town and economic center.

6. My biggest concern relating to the Project is....

issues with the already environmentally damaging steep rock mine site, and a magnification of effects due to two mines within the same area.

Please provide additional comments or questions in the space below:

To learn more about the Project, or to send your completed comment form to us, please contact:

Alexandra Drapack
Director Sustainable Development
Phone: 416-363-8653 ext 110
Email: adrapack@osisko.com

101 Godwin Street
PO Box 2020
Atikokan, ON
P0T 1C0

OSISKO
HAMMOND REEF GOLD

A Fresh Outlook on Mining.

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April 3, 2013

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1. I feel up to date on the status of the Hammond Reef Gold Project

- [x] Yes
- [ ] No
- [ ] Somewhat

Please explain:

2. Which of the following statements best describes you?

- [x] I fully support the Hammond Reef Project going forward
- [ ] I somewhat support the Hammond Reef Project, but I have some concerns
- [ ] I do not support the Hammond Reef Project, but I accept that it will benefit the local community
- [ ] I do not support the Hammond Reef Project going forward
- [ ] I don't know how I feel about the Hammond Reef Project

Please explain:

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- [x] Improve greatly
- [ ] Improve slightly
- [ ] Remain unchanged
- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

For town of Atikokan expands to a greater town

6. My biggest concern relating to the Project is....

Please provide additional comments or questions in the space below:

To learn more about the Project, or to send your completed comment form to us, please contact:

Alexandra Drapack
Director Sustainable Development
Phone: 416-363-8653 ext 110
Email: adrapack@osisko.com

101 Godwin Street
PO Box 2020
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P0T 1C0

OSISKO
HAMMOND REEF GOLD

A Fresh Outlook on Mining.

Open House 5 Comment Form
105 Main Street Atikokan, ON
April 3, 2013

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1. I feel up to date on the status of the Hammond Reef Gold Project

- ☐ Yes
- ☐ No
- ☑ Somewhat

Please explain:
More public notices on accomplishments in feasibility and EA.

2. Which of the following statements best describes you?

- ☑ I fully support the Hammond Reef Project going forward
- ☐ I somewhat support the Hammond Reef Project, but I have some concerns
- ☐ I do not support the Hammond Reef Project, but I accept that it will benefit the local community
- ☐ I do not support the Hammond Reef Project going forward
- ☐ I don't know how I feel about the Hammond Reef Project

Please explain:

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- ☑ Improve greatly
- ☐ Improve slightly
- ☐ Remain unchanged
- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

Employment

6. My biggest concern relating to the Project is....

Nothing

Please provide additional comments or questions in the space below:

To learn more about the Project, or to send your completed comment form to us, please contact:

Alexandra Drapack
Director Sustainable Development
Phone: 416-363-8653 ext 110
Email: adrapack@osisko.com

101 Godwin Street
PO Box 2020
Atikokan, ON
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OSISKO
HAMMOND REEF GOLD

A Fresh Outlook on Mining.

Open House 5 Comment Form
105 Main Street Atikokan, ON
April 3, 2013

Osisko wants your input. We are collecting this information to help us better understand and address your concerns about the Project. Comments will become part of the public record, but names and personal information will not be linked to comments.

1. I feel up to date on the status of the Hammond Reef Gold Project

- [x] Yes
- [ ] No
- [ ] Somewhat

Please explain:
THERE HAVE BEEN MANY INFORMATION SESSIONS FOR THE PUBLIC KEEPING THE COMMUNITY UPDATED W INFO

2. Which of the following statements best describes you?

- [x] I fully support the Hammond Reef Project going forward
- [ ] I somewhat support the Hammond Reef Project, but I have some concerns
- [ ] I do not support the Hammond Reef Project, but I accept that it will benefit the local community
- [ ] I do not support the Hammond Reef Project going forward
- [ ] I don't know how I feel about the Hammond Reef Project

Please explain:
I WANT TO CONTINUE WORKING FOR THE COMPANY & IT BRING FOR TO A LOT OF GROWTH TO THE COMMUNITY.

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- [x] Improve greatly
- [ ] Improve slightly
- [ ] Remain unchanged
- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain:
WE WILL HAVE A BETTER, STRONGER TAX BASE THUS BEING ABLE TO HAVE ~~$~~ MORE #'S IN COMMUNITY RECREATIONAL ~~ACT~~ PROGRAMS.

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

I FEEL THAT THEY WILL FOLLOW THE GUIDELINES SET FORTH BY THE GOV'T.

5. My biggest hope relating to the Project is....

A PLACE I CAN WORK & RETIRE AT.

6. My biggest concern relating to the Project is....

NOT STARTING UP SOON ENOUGH.

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Please explain:

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- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- [x] Strongly agree
- [ ] Somewhat agree
- [ ] Somewhat disagree
- [ ] Strongly disagree
- [ ] I don't know

Please explain:

They seem to be very open with the public

5. My biggest hope relating to the Project is....

that it runs productively and Atikokan benefits

6. My biggest concern relating to the Project is....

that Atikokan and the citizens don't benefit from the project

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Please explain:

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- ☑ Strongly agree
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- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

job creation for the town

more kids in the school

6. My biggest concern relating to the Project is....

N/A

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- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:

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- ☑ Strongly agree
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- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

Bring ~~much~~ much needed employment to the region, improve local tax base, which in turn improves community life

6. My biggest concern relating to the Project is....

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Please explain:
Osisko Host very informative sessions

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Please explain:
After reading the EA, I am skeptical

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- [ ] Improve greatly
- [x] Improve slightly
- [ ] Remain unchanged
- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain:
With everyone working out of a camp town will not see a large economical boost

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☒ I don't know

Please explain:

5. My biggest hope relating to the Project is....

STABLE ECONAMY FOR ATIKOKAN

6. My biggest concern relating to the Project is....

ENVIROMENTAL DAMAGE AND TH FOOTPRINT IT WILL CAUSE

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Please explain:

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- ☐ Improve slightly
- ☐ Remain unchanged
- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

That it moves forward in a timely manner.

6. My biggest concern relating to the Project is....

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- ☑ Yes
- ☐ No
- ☐ Somewhat

Please explain:

news briefs in newspapers

2. Which of the following statements best describes you?

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- ☐ I somewhat support the Hammond Reef Project, but I have some concerns
- ☐ I do not support the Hammond Reef Project, but I accept that it will benefit the local community
- ☐ I do not support the Hammond Reef Project going forward
- ☐ I don't know how I feel about the Hammond Reef Project

Please explain:

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- ☑ Improve greatly
- ☐ Improve slightly
- ☐ Remain unchanged
- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:

Infrastructure

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

Job Creation

6. My biggest concern relating to the Project is....

Environment

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Please explain:
As municipal councillor, have attended all Osisko presentations to Council. As resident, have attended all Osisko Atikokan open houses

2. Which of the following statements best describes you?

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- [ ] I do not support the Hammond Reef Project, but I accept that it will benefit the local community
- [ ] I do not support the Hammond Reef Project going forward
- [ ] I don't know how I feel about the Hammond Reef Project

Please explain:
So far, I believe all environmental concerns are being addressed

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- [x] Improve greatly
- [ ] Improve slightly
- [ ] Remain unchanged
- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain:
The Project will increase many types of economic activity within the Atikokan area.

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- [x] Strongly agree
- [ ] Somewhat agree
- [ ] Somewhat disagree
- [ ] Strongly disagree
- [ ] I don't know

Please explain:

The mitigation measures have been explained fully

5. My biggest hope relating to the Project is....

that it will be approved ASAP

6. My biggest concern relating to the Project is....

that something will prevent it from moving forward

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Please explain:

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- ☐ I don't know how I feel about the Hammond Reef Project

Please explain:

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- ☑ Improve greatly
- ☐ Improve slightly
- ☐ Remain unchanged
- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

6. My biggest concern relating to the Project is....

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Please explain: Osisko has continually impressed me with their efforts toward public knowledge on the project. Open houses like this as well as newsbriefs are two such examples

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Please explain: I look forward to the local and regional benefits of the mine going forward. I feel confident that Osisko is taking the proper steps to mitigate any concerns with the Project.

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- [x] Improve greatly
- [ ] Improve slightly
- [ ] Remain unchanged
- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

The increased employment opportunities will help stop the outmigration of our youth

6. My biggest concern relating to the Project is....

Initially I was concerned with the effect it will have on the floodwaters. I am now confident that these concerns have been adressed, while still realizing that there will be some effects

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- ☐ Yes
- ☐ No
- ☒ Somewhat

Please explain:
I read the paper and have attended some information sessions; however, I feel some more information could be put out about the project. Not sure how to reach more of the public.

2. Which of the following statements best describes you?

- ☒ I fully support the Hammond Reef Project going forward
- ☐ I somewhat support the Hammond Reef Project, but I have some concerns
- ☐ I do not support the Hammond Reef Project, but I accept that it will benefit the local community
- ☐ I do not support the Hammond Reef Project going forward
- ☐ I don't know how I feel about the Hammond Reef Project

Please explain:
I believe the project will really affect our community and help it grow and thrive.

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- ☒ Improve greatly
- ☐ Improve slightly
- ☐ Remain unchanged
- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:
More job availability and increased population (people moving here for jobs) will make more programming available in all aspects of community life.

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☐ Strongly agree
- ☒ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:
I am confident that Osisko is trying hard not to make a damaging impact but until the project is up and running, I believe there are still concerns about it.

5. My biggest hope relating to the Project is....
to increase Atikokan's population which will then have a positive impact on our community. More options will become available if more people are available to run, participate and fund community programs.

6. My biggest concern relating to the Project is....
Whether the influx of workers will be "relocating" to our community or whether they will be encouraged to live in a "work camp". Permanent new residents are preferred to "fly in-fly out" workers (2 weeks in - 2 weeks out)

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- ☐ No
- ☑ Somewhat

Please explain:

Answers to Some Questions unknown at this Time

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- ☐ I do not support the Hammond Reef Project, but I accept that it will benefit the local community
- ☐ I do not support the Hammond Reef Project going forward
- ☐ I don't know how I feel about the Hammond Reef Project

Please explain:

Osisko Has delt with Atikokan But Not So much with the Surrouding area.

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- ☐ Improve greatly
- ☑ Improve slightly
- ☐ Remain unchanged
- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☐ Strongly agree
- ☑ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

Things don't always work as planned

5. My biggest hope relating to the Project is....

That it goes ahead with as much checks + Balances as possible

6. My biggest concern relating to the Project is....

Protecting the Environment as much as practical with the project going ahead.

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Please explain:

well planned, relatively small footprint

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

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- [ ] Decrease greatly

Please explain:

more job opportunities
increased retail + skilled trades.
municipal stabilization

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

excellent listening & responding to concerns & interests of local hunters & fishers.

5. My biggest hope relating to the Project is....

job opportunities

6. My biggest concern relating to the Project is....

relatively low grade of ore.

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- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain: INCREASE EMPLOYMENT OPPERTUNITY

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☐ Strongly agree
- ☑ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

Employment increased Tax Base for Atikokan

6. My biggest concern relating to the Project is....

None

Please provide additional comments or questions in the space below:

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Alexandra Drapack
Director Sustainable Development
Phone: 416-363-8653 ext 110
Email: adrapack@osisko.com

101 Godwin Street
PO Box 2020
Atikokan, ON
P0T 1C0

OSISKO HAMMOND REEF GOLD

A Fresh Outlook on Mining.

Open House 5 Comment Form

105 Main Street Atikokan, ON
April 3, 2013

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1. I feel up to date on the status of the Hammond Reef Gold Project

- [x] Yes
- [ ] No
- [ ] Somewhat

Please explain: HAVE READ THE EIS/EA REPORT SEVERAL TIMES. EXCELLENT DOCUMENT

2. Which of the following statements best describes you?

- [x] I fully support the Hammond Reef Project going forward
- [ ] I somewhat support the Hammond Reef Project, but I have some concerns
- [ ] I do not support the Hammond Reef Project, but I accept that it will benefit the local community
- [ ] I do not support the Hammond Reef Project going forward
- [ ] I don't know how I feel about the Hammond Reef Project

Please explain: FEEL THE DEPOSIT COULD BE MINED WITH MINIMAL IMPACT

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- [ ] Improve greatly
- [x] Improve slightly
- [ ] Remain unchanged
- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain: RELATIVELY SHORT TIME FRAME TO COMPLETE 15 YRS - CONSIDERED TEMPORARY

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- [x] Strongly agree
- [ ] Somewhat agree
- [ ] Somewhat disagree
- [ ] Strongly disagree
- [ ] I don't know

Please explain:

Will not BE IN OPERATION IF ENVIR IMPACT IS NOT MINIMAL

5. My biggest hope relating to the Project is....

A GOOD FEASIBILITY STUDY

6. My biggest concern relating to the Project is....

FALLING GOLD PRICE.

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Please explain:

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- ☐ Decrease greatly

Please explain:

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- ☑ Strongly agree
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Please explain:

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Please explain:

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Please explain:

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Please explain:

5. My biggest hope relating to the Project is....

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Please explain:
I read what is in the paper

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- ☐ I don't know how I feel about the Hammond Reef Project

Please explain:
Good for the town

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

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- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☐ Strongly agree
- ☑ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:
Will have to wait to see what happens

5. My biggest hope relating to the Project is....
It will keep Atikokan working

6. My biggest concern relating to the Project is....
Bringing in people who want to party & hang out.

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Please explain:

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- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

Workers live in Atikokan, like the Community & decide to stay here.

6. My biggest concern relating to the Project is....

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Please explain:

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Please explain:

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Please explain:

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Please explain: I feel I ~~Kna~~ am up to date about Osisko

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- [ ] I don't know how I feel about the Hammond Reef Project

Please explain: It would be good for Atikokan

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- [x] Improve greatly
- [ ] Improve slightly
- [ ] Remain unchanged
- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain: more people / ~~more opportunity~~ businesses will improve

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

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Please explain:

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- [x] Improve greatly
- [ ] Improve slightly
- [ ] Remain unchanged
- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain:

As well as providing jobs, Osisko takes a strong interest in the community as can be seen at Malartic.

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- [x] Strongly agree
- [ ] Somewhat agree
- [ ] Somewhat disagree
- [ ] Strongly disagree
- [ ] I don't know

Please explain:

Seen through the drilling phase of the project, Osisko is quick to respond to any environmental concerns & maintains a pro-active stance to prevent any harm to the environment.

5. My biggest hope relating to the Project is....

It continues through to the mine phase w/ sky-rocketing gold prices.

6. My biggest concern relating to the Project is....

Gold continues on a weak trend, stalling the project until a preferable economic condition develops.

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Please explain:

3. If the Hammond Reef Project goes forward, I believe that the quality of life of local residents will:

- [x] Improve greatly
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- [ ] Remain unchanged
- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☒ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

Long term economic and social benefit for the Town of Atikokan and the Rainy River district.

6. My biggest concern relating to the Project is....

Water quality of Marmion + Seine River.

Please provide additional comments or questions in the space below:

VERY good job with public consultation.

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Transportation to site from Town?

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Please explain:
Osisko does very well with public communications

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Please explain:

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- [x] Improve greatly
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- [ ] Decrease slightly
- [ ] Decrease greatly

Please explain:
This would greatly improve the towns economics by providing jobs for the locals.

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

To retire in Atikokan with my family.

6. My biggest concern relating to the Project is....

Not being able to retire in Atikokan with my family.

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Please explain:

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- ☐ Somewhat disagree
- ☐ Strongly disagree
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Please explain:

5. My biggest hope relating to the Project is....

Jobs

6. My biggest concern relating to the Project is....

None

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Please explain:

5. My biggest hope relating to the Project is....

JOBS FOR LOCAL PEOPLE

6. My biggest concern relating to the Project is....

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Please explain:

- Very detailed & informative open house presentation
- environmental, ecological, social issues / problems / solutions addressed!

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Please explain:

All around increase in town prosperity.

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

There are always unexpected situations or impacts - but the Project certainly has addressed many :)

5. My biggest hope relating to the Project is....

Provide an economic boost to the Atikokan community.

6. My biggest concern relating to the Project is....

The least disruption to environment

Please provide additional comments or questions in the space below:

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- ☑ Somewhat agree
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- ☐ Strongly disagree
- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

I would like to see the Project go forward, but i also want to make sure that all safe guards for the environment is taken through the mine life and after it the mine closes

6. My biggest concern relating to the Project is....

THE ENVIRONMENT

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P0T 1C0

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

OSISKO
HAMMOND REEF GOLD

A Fresh Outlook on Mining.

Open House 5 Comment Form

105 Main Street Atikokan, ON
April 3, 2013

Osisko wants your input. We are collecting this information to help us better understand and address your concerns about the Project. Comments will become part of the public record, but names and personal information will not be linked to comments.

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- ☑ Yes
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Please explain:

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Please explain:

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- ☑ Improve greatly
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- ☐ Decrease slightly
- ☐ Decrease greatly

Please explain:

4. I am confident that Osisko's plan will minimize environmental impacts from the Project:

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- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

6. My biggest concern relating to the Project is....

Please provide additional comments or questions in the space below:

To learn more about the Project, or to send your completed comment form to us, please contact:

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Director Sustainable Development
Phone: 416-363-8653 ext 110
Email: adrapack@osisko.com

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- ☐ I don't know

Please explain:

GET TO BE SEEN

5. My biggest hope relating to the Project is....

I GET TO BUILD IT.

6. My biggest concern relating to the Project is....

IT DOSN'T GET BUILT

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Please explain:
There have been many presentations that are informative

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Please explain:
The amount of research and effort presented in the environmental information clearly indicates this project will benefit the area without any environmental effects

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Please explain:
It will mean jobs for many and a more vibrant community for all

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- ☐ I don't know

Please explain:
The amount of detail in the studies to date mean all aspects of the operation have been fully planed.

5. My biggest hope relating to the Project is....
That it goes ahead as soon as possible

6. My biggest concern relating to the Project is....
It may be delayed

Please provide additional comments or questions in the space below:
The mine will provide prosperity for Atikokan
The mine will provide opportunity for all residents of NW ontario

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Please explain: PAPER EACH WEEK

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Please explain: WE NEED THIS !

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Please explain: HIGH WAGES

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- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

NO PROBLEMS SO FAR!

5. My biggest hope relating to the Project is....

SUCCESS

6. My biggest concern relating to the Project is....

NOT WORKING OUT.

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- ☐ I don't know

Please explain:

5. My biggest hope relating to the Project is....

ECONOMIC BENEFIT OF ATIKOKAN AND NWO

6. My biggest concern relating to the Project is....

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Please explain:

WE NEED THIS FOR OUR TOWN

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Please explain:

WE NEED INDUSTRY TO SURVIVE

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- ☑ Strongly agree
- ☐ Somewhat agree
- ☐ Somewhat disagree
- ☐ Strongly disagree
- ☐ I don't know

Please explain:

SO FAR THERE HAVE BEEN FEW CONCERNS

5. My biggest hope relating to the Project is....

QUALITY LIFE AND A FUTURE FOR CHILDREN

6. My biggest concern relating to the Project is....

SUCCESS

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providing employment & stability to Atikokan

6. My biggest concern relating to the Project is....

that it won't go ahead.

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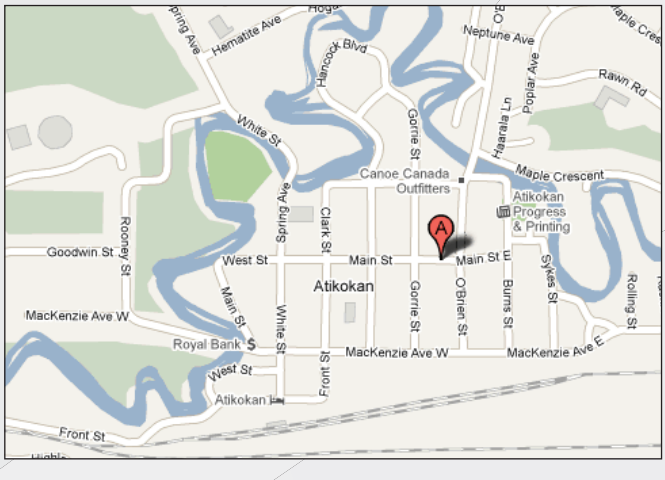
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HAMMOND REEF GOLD

Notice of **Consultation Event**

Osisko Hammond Reef Gold Project

Osisko Hammond Reef Gold is pleased to invite you to our upcoming Open House and Community briefing:

April 3, 2013
Osisko's Main Street Office in Atikokan
3 pm to 8 pm



The intent of the afternoon will be to share with you details of the draft EIS/EA Report that was completed for the Hammond Reef Gold Project.

OHRG is committed to engaging and working with stakeholder groups and Aboriginal communities throughout the Project. We recognize that views of community members are important and have the potential to make the Project better.

We have heard many comments and questions from community members over the past several months, and would like to continue sharing information with you as the Project planning process moves forward.

Come join us in order to get an update on the Hammond Reef project. We look forward to seeing you there.

OSISKO HAMMOND REEF GOLD LTD. | www.osisko.com

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Suite 300, P.O. Box 211
Montreal, Qc, H3B 2S2

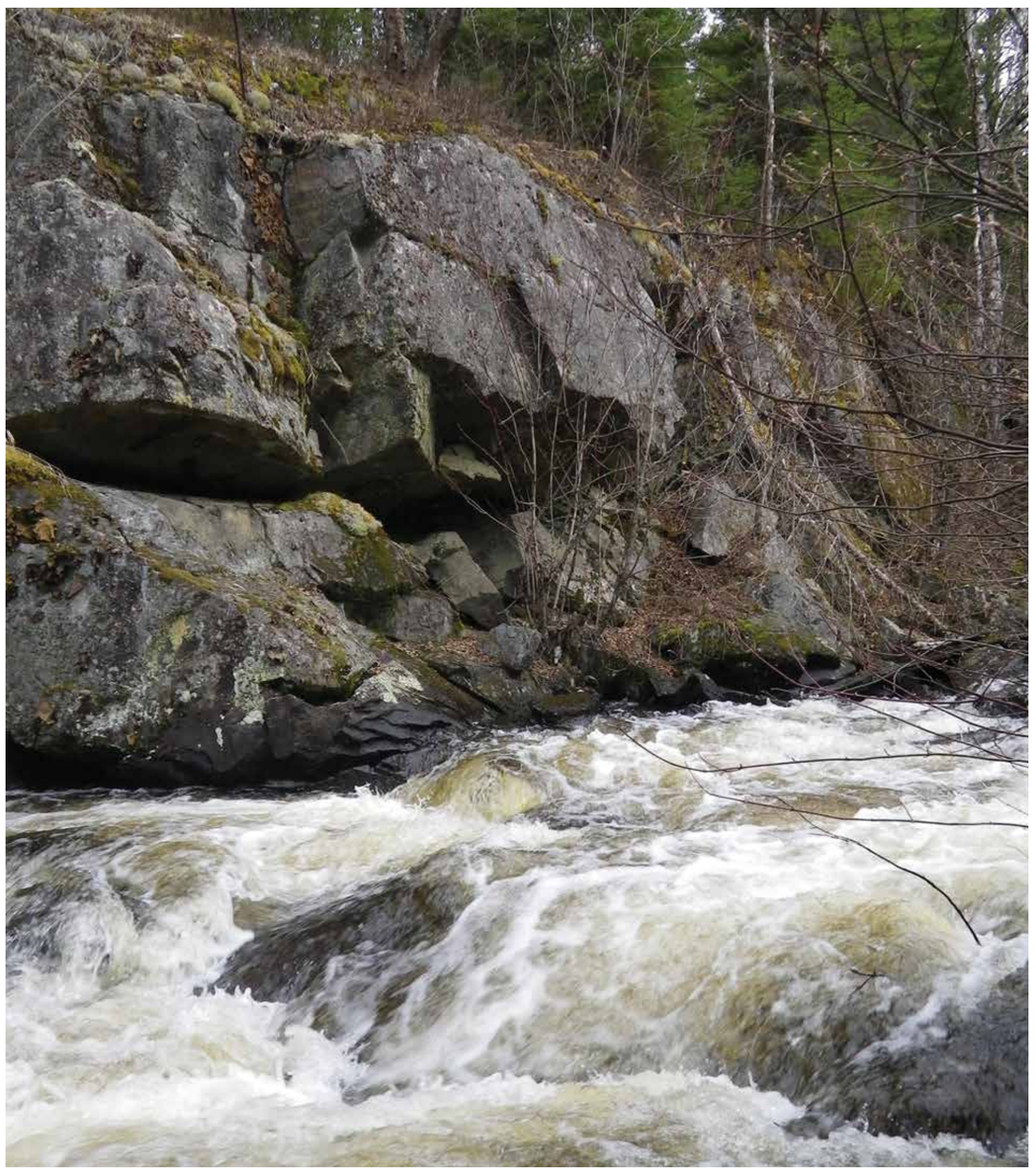
OSK LISTED ON TMX Toronto Stock Exchange

Regional Office:
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GEOCHEMISTRY AND SOILS



The geochemistry and soils assessment considers how the rocks and earth will interact with the Project.

Understanding the chemistry of the rocks is important to predict the way tailings and waste rock will interact with the environment throughout the life of the Project.

Erosion is the loss and movement of soil through physical processes such as wind and water. Protecting against erosion is important for water quality and to maintain nutrients in the soil.

Potential Effects

- No acid generation or metal leaching is expected
- Soil erosion may influence slope stability and water quality
- Spills may degrade soil quality
- Loss of soil and changes to terrain could effect wildlife
- Forestry could be effected by changes to soil and terrain.



Mitigation Measures

- An Erosion Management Plan will be developed.
- A Soils Remediation Plan will include soil salvage, stockpiling, and reclamation.
- Minimize soil contamination through implementation of a Spill Management Plan.

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ATMOSPHERIC ENVIRONMENT

Osisko must show that the Project can meet government regulations for air quality and noise in locations where people are known to spend the night. These locations are called “receptors”.

Computer models are used to predict noise levels and concentrations of chemicals that could be present in the air.

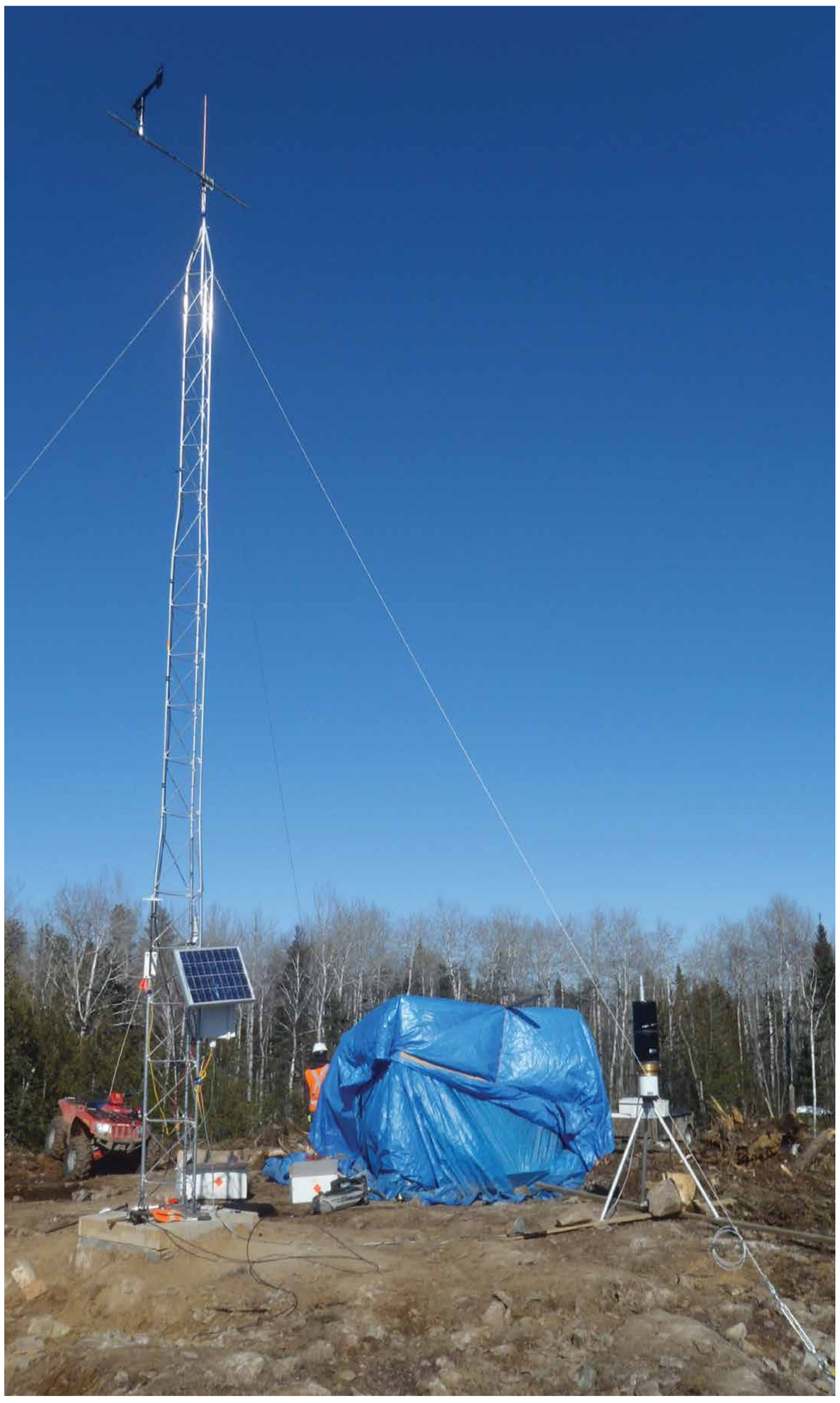
These predictions are made based on **details of the processing equipment**, the materials that will be used and the **composition of the rock** that will be processed.

Potential Effects

- The Project is predicted to meet air quality guidelines at all receptor locations
- Noise guidelines can be met at most locations, some restricted access will be needed.
- Air and noise results are also considered in the human health and ecological risk assessment.

Mitigation Measures

- A **Dust Management Plan** will reduce dust on roads and from equipment
- On-site roads will be well maintained to limit noise emissions
- Source testing to confirm process emissions
- Ambient air monitoring for indicator compounds



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HYDROLOGY

The Project will interact with the lakes and streams in the area through the construction and placement of the Project components.



Water needed for ore processing and the workers accommodation camp will be withdrawn from Sawbill Bay.

The Project is located in the Seine River watershed, which is managed by the Seine River Watershed Management Plan. This plan includes target outflow rates at Raft Lake dam and lake levels in the Marmion Reservoir which were considered in the hydrology assessment.

Potential Effects

- The Project is not expected to change the ability of Seine River Watershed Management Plan to meet its targets
- 15 catchments reduced in size by more than 50%
- 4 small unnamed lakes will be filled in by Project footprint
- Predicted reductions:
  - 0.2 m^3/s in annual mean outflow from Raft Lake Dam
  - 5% in monthly mean outflow from Raft Lake Dam
  - 2-3 cm in monthly mean water levels in Unnamed Lake 5 and Lizard Lake
  - 9 cm in monthly mean water levels of Marmion Reservoir
  - 7% in monthly mean flows in Lumby Creek
  - Less than 1% in monthly mean inflows to Marmion Reservoir

Mitigation Measures

- Install signs marking underwater structures
- Gather weather information at the site
- Ongoing work with the **Seine River Watershed Management Committee**.
- Ongoing water management planning throughout the Project



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WATER INTAKE AND DISCHARGE

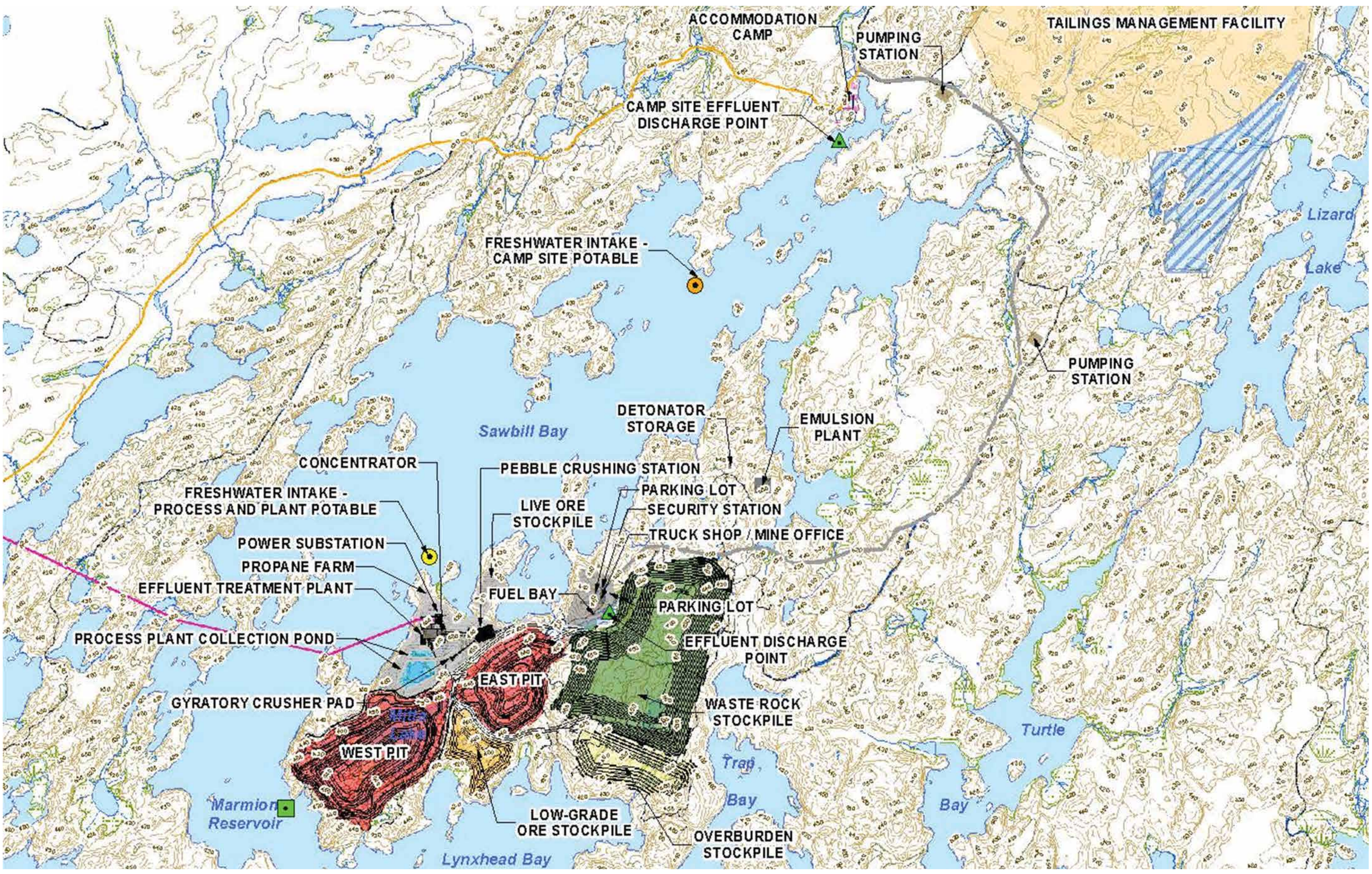
Fresh water will be taken from two separate locations in Sawbill Bay.

The worker accommodation camp

- 300 m³/day

The ore processing facility

- 34,000 m³/day for processing
- 26,800 m³/day recycled
- 7,200 m³/day withdrawn



Treated effluent will be discharged at two separate locations:

- Treated sewage effluent from the accommodation camp will be discharged near the mouth of Sawbill Creek.
- Treated wastewater effluent from the ore processing facility will be discharged at the outlet of Sawbill Bay.

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HYDROGEOLOGY

Hydrogeology is the study of **underground water movement and quality** and its connection to surface water.

Groundwater studies are important for the Project because the **open pit** will interact with groundwater as it will need to be **kept dry**.

Groundwater protection is also an important consideration around the tailings and stockpiles.



Potential Effects

- Groundwater levels are predicted to decrease around the open pits
- Groundwater levels around the TMF are predicted to rise slightly due to water migrating downwards from the tailings.
- Flow in local streams will be reduced
- Intermittent streams will experience longer dry periods seasonally

Mitigation Measures

- Seepage rates will be controlled
  - Pumping stations around the tailings and stockpiles
  - Process collection pond will be lined
- If groundwater begins seeping through the walls of the open pit:
  - Grouting
  - Drain holes
  - Vertical wells

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WATER QUALITY



Potential changes to water quality in the Marmion Reservoir and Lizard Lake were predicted based on hydrology information, baseline conditions and planned material use.

Predictions were made for the different phases of the Project and for an average case and a worse case scenario.

Predicted water quality values were compared to baseline conditions and government guidelines. Potential effects to fish and wildlife health were also considered.

Potential Effects

- Water quality in Marmion Reservoir is not predicted to change from existing conditions
- Discharge point at south end of Sawbill Bay provides good mixing characteristics and avoids sensitive areas
- Predicted concentrations of metals and major ions were either below established guidelines or did not exceed baseline conditions
- Site Specific Water Quality Objectives
  - Copper
  - Free cyanide

Mitigation Measures

- Water treatment for total suspended solids, phosphate and metals may be required
- Implement phosphate-free soaps policy at camp
- Capture and collect storm water and seepage from stockpiles
- Spills management plan, including timely clean up



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FISH HABITAT

Fish habitat was mapped by measuring and mapping specific features such as depth, vegetation, water temperature, and bank slope. Fish communities were studied by catch and release using nets, traps or electrofishing.

A total of 23 different fish species were captured from the different Areas of Potential Impacts, including whitefish, mudminnow, northern pike, longnose dace, burbot, stickleback, suckers, sculpins, walleye and perch.



Fish Habitat Loss

- Approximately 40 ha of aquatic habitat will be lost
  - 11 water bodies within the mine footprint
  - Streams, ponds, small lakes
- 14 watercourse crossings for the access road and mine road

Vibration and Fish

Because the open pit is close to the water, Osisko will have to take steps to make sure vibrations from blasting do not harm fish, especially during spawning season.



Vibration testing will take place during the beginning of operations, before blasting approaches the edges of the pit.

This testing will provide the information that will allow Osisko to plan blasting in a manner that does not harm fish.

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FISH HABITAT COMPENSATION

Osisko will need to create or enhance fish habitat to offset the lost fish habitat so that there will be “No Net Loss” of fish habitat. The offsets will be a combination of on-site projects and off-site projects.

Potential On-site opportunities include :

- Stock 4 fishless ponds and create 3 headwater ponds
- Create fish passage (walleye, pike) in lower Sawbill and Lumby Creeks
- Create pike spawning habitat in Sawbill Bay in 3 locations
- Create stream habitat/remove fish barriers at 14 stream crossings (along access and mine road)
- Create shallow zones and rocky shoals in the pits at closure so that the pits can support fish.





Potential Off-site opportunities include :

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TERRESTRIAL BIOLOGY

Terrestrial biology studies included field work to identify plants and animals living in the Project area. Field surveys included breeding bird counts, turtle basking surveys and vegetation community surveys.





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- Rare, threatened or endangered species are not predicted to be affected.
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- Direct loss of wildlife individuals through accidents such as vehicle collisions.

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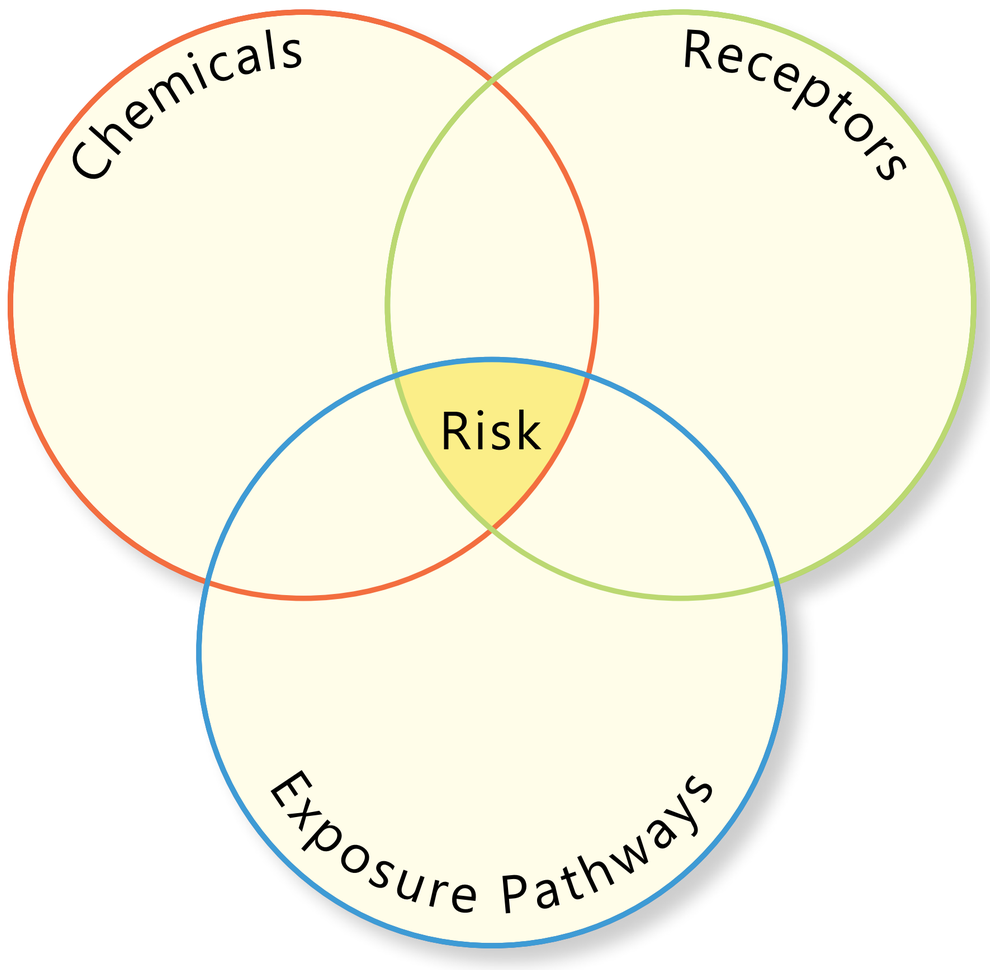
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HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

Potential effects of the project on human health were assessed with respect to air emissions from the Project, noise and effects on surface water quality.

The assessment is based on methods developed by Health Canada and the Ontario Ministry of the Environment.

- Human Health Assessment considered:
  - Acute and chronic inhalation assessment
  - Noise assessment
  - Particulate matter assessment
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- Noise is the key concern for human health
- Access to nearby receptors will be restricted to protect humans from a noisy and annoying environment.
- Diesel burning may pose a health concern to persons in the closest cabin.
- Ecological Health Assessment considered:
  - Describes and assesses potential effects of emissions from the Project.
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EMPLOYMENT AND ECONOMICS

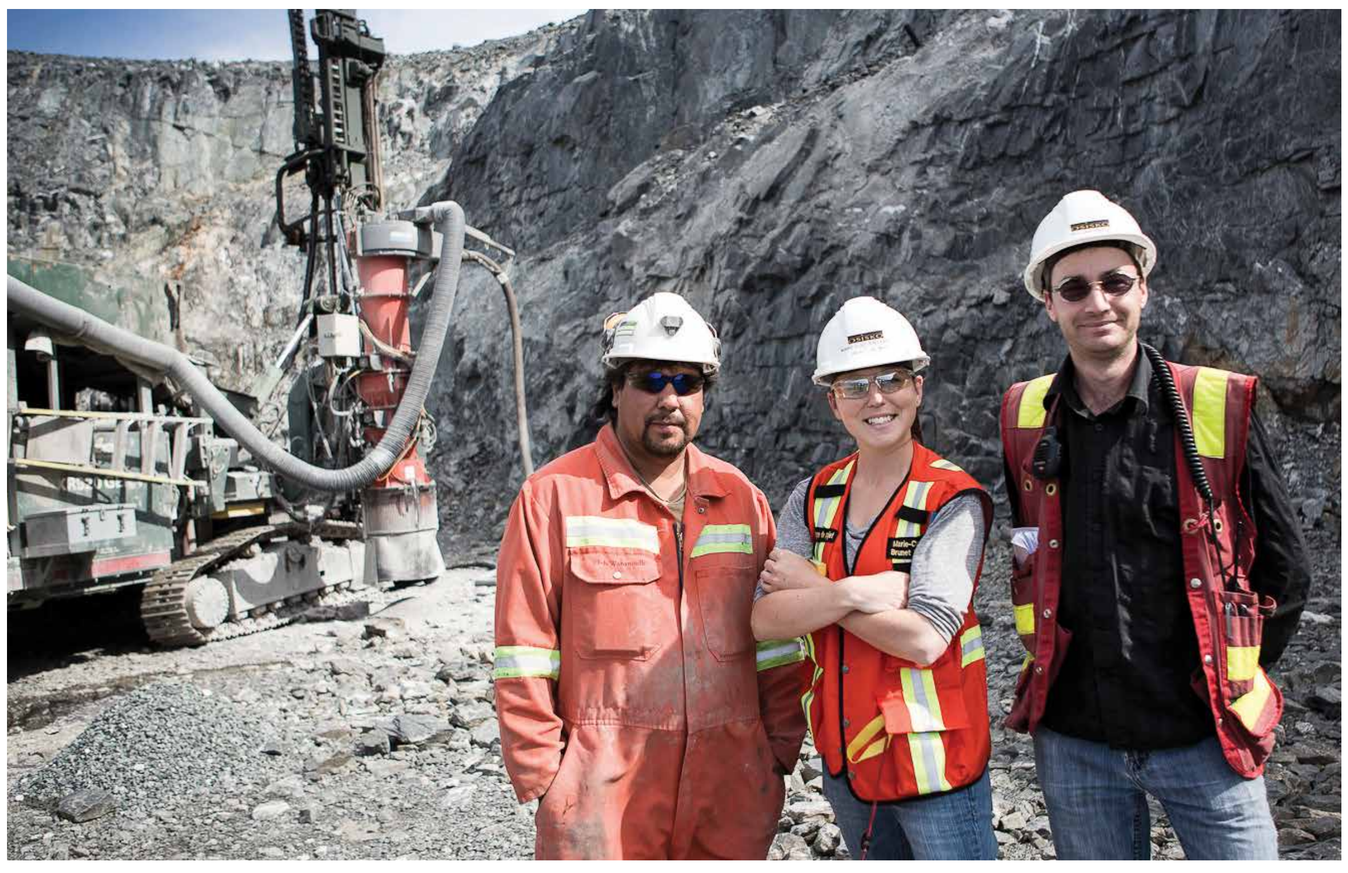
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- Estimated165 direct operations jobs within the LSA
- Estimated 19 indirect operations jobs within the LSA

Predicted to reduce the number of unemployed persons from 150 (9.0% unemployment rate) to approximately 104 (5.9% unemployment rate)

- Estimated 5% (20 jobs) of the construction workforce would be First Nation & Métis people.
- Estimated 10% (55 jobs) of the operations workforce would be First Nation & Métis.
- Estimated up to 50% (25 jobs) of the closure phase workforce would be First Nation & Métis, reflecting OHRG's commitment to include local First Nation & Métis people in the stewardship of the land.
- Estimated $22 million over approximately 30 month construction period is anticipated to be spent on goods and services obtained from First Nation & Métis businesses.
- Estimated $7.9 million annually is anticipated to be spent on goods and services obtained from First Nation & Métis businesses throughout the operations phase.



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OUTDOOR TOURISM AND RECREATION

Habitat Loss

- Within the LSA, the Project is expected to remove 2,063 ha of land that would otherwise have been available for hunting.
- This represents 0.3% of the total area of Wildlife Management Unit and 2.0% of the total area of Bear Management Areas.
- The loss of this resource may result in increasing hunting pressure on similar areas in the LSA.

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- Campsites and tourism establishment in order to:
  - Comply with noise standards
  - Minimize and reduce impacts to human health

Visual Assessment

- Perception of the LSA could change
- Some views are no longer remote or pristine wilderness
- Could affect outdoor tourism and recreation in the LSA



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ABORIGINAL AND TREATY RIGHTS

Aboriginal Communities

- OHRG to continue to inform First Nation & Métis communities about nature and timing of skills required for site workers.
- OHRG to investigate ways to encourage existing First Nation & Métis workers to share working experiences within own communities
- OHRG to make workplace welcoming environment to First Nation & Métis people

Aboriginal Heritage and Resources

- Protocol to be established in the event a heritage site and/or artefacts are discovered
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Traditional Use of Land and Resources

- First Nation & Métis people to be involved in remediation planning
- First Nation and Métis involvement in Fish Relocation Planning
- Ongoing investment in cultural practices

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SOCIAL MANAGEMENT PLANNING

Invest in Public Infrastructure

- Work with the Town of Atikokan to support the licensing

Protect Tourism and Recreation

- Encourage workers to relocate their families to Town of Atikokan
- Provide incentives for workers to live in Town
- Potential spousal hiring program

Optimize Local Business Opportunities

- Work with the Town of Atikokan and the Atikokan Economic Development Corporation to identify opportunities for local businesses to develop or expand

Invest in Worker Education and Training

- On site and off site employee training
- Partner with local school boards
- Upon closure, employee transition planning including training and placement support to assist employees in finding other employment in the community or elsewhere in the resource extraction sector



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ENVIRONMENTAL MANAGEMENT PLANNING

Osisko's long term goal is to reduce environmental impacts and keep a long-term outlook through:

- Continuous improvement of our environmental management systems.
- Continuous improvement of our activities to enhance compliance and reduce impacts.
- Minimize greenhouse gas emissions through reductions and offsets.
- Minimize fresh water usage and maximize recycling of water.
- Invest in research and development at our project sites.
- Invest time and money in responsible and progressive closure planning.

Plans to monitor the effectiveness of mitigation measures at Hammond Reef and verify the predicted changes to the environment include:

- Air quality monitoring
- Vibration management planning
- Water flow and level monitoring
- Water quality sampling
- Geochemistry testing
- Re-vegetation success monitoring
- Aquatic effects monitoring





Both provincial and federal agencies are anticipated to be included in monitoring plan development and in the provision of ongoing advice for the environmental management plan.

Presentation Overview

- Osisko Mining Corporation
- Hammond Reef Gold Project
- Project Components
- Environmental Assessment Results
- Environmental and Social Management
- Next Steps

Osisko Mining Corporation

- Publicly traded, Canadian based, founded in 2003
- Head office in Montreal
- Offices in Malartic, Toronto, Atikokan and Kirkland Lake
- Producing gold mine in northern Quebec – Canadian Malartic

- Canadian Malartic employs approximately 700 full time people
- The Project is located on a historical mine site very close to the Town
- Houses and institutions were moved to access the gold
- Canadian Malartic is one of the largest open pit mines in Canada

First Gold Pour – April 2011



Hammond Reef Gold Project

- Purchased from Brett Resources in 2010
- Exploration project is largely complete
- Global inferred resources of 12 M ounces
- Environmental studies ongoing since 2010
- Feasibility Study planned to be released in 2013

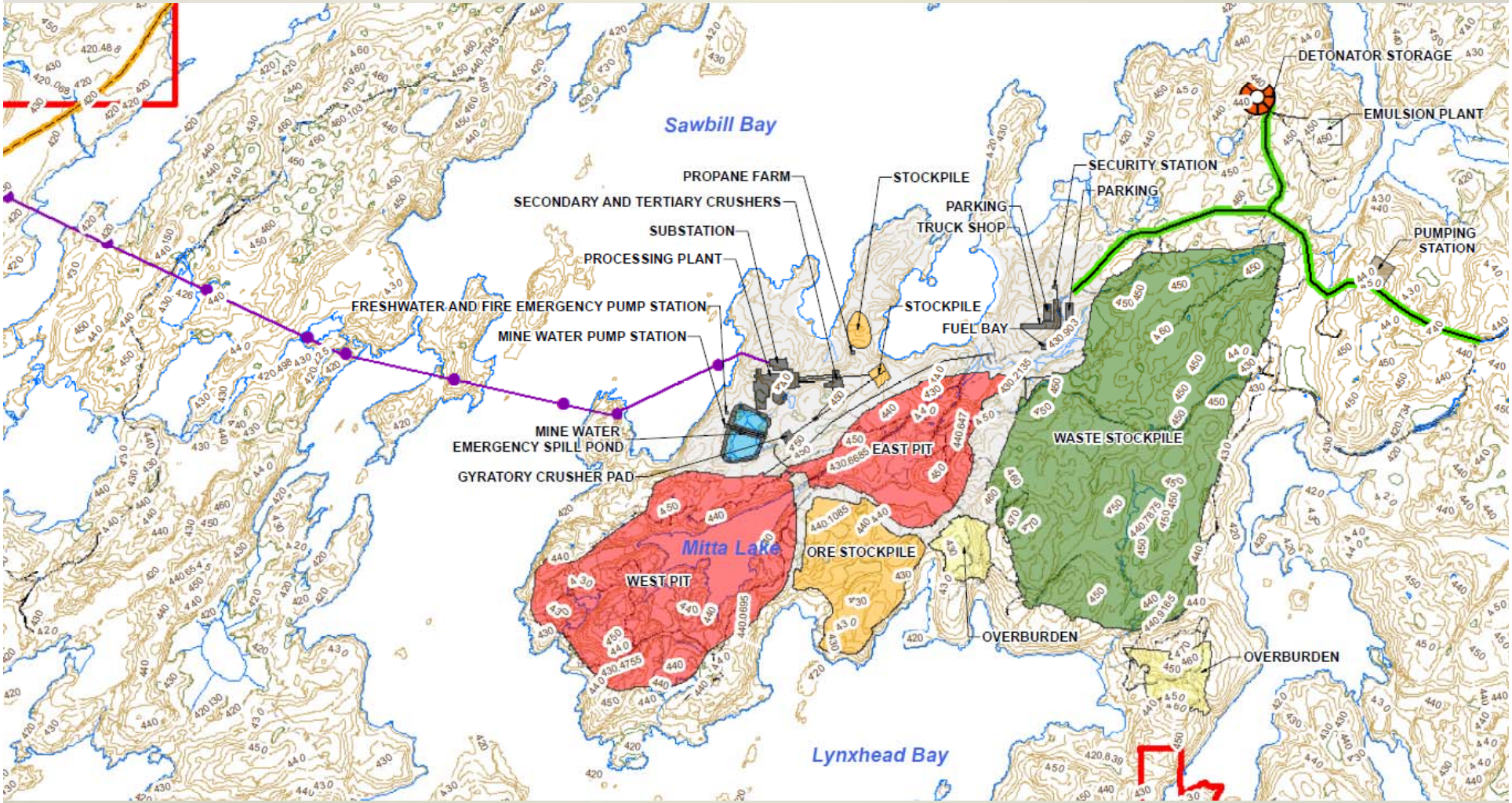
- Project would take place in four phases:
  - Construction
  - Operations
  - Closure
  - Post-Closure

Project Components

The Project would consist of:

- An open pit mine with 2 pits;
- A waste rock stockpile and overburden stockpiles;
- An Ore Processing Facility and ore stockpiles;
- A Tailings Management Facility;
- An Access Road;.
- A Transmission Line; and
- On-site worker accommodations.

Project Components



Open Pit Mine

- Two open pits will be developed
- Will require the draining of Mitta Lake
- The waste rock will be piled 1 km from the mine, some waste rock will be put back into the first pit.
- Ore will be stockpiled in three piles close to the processing plant.



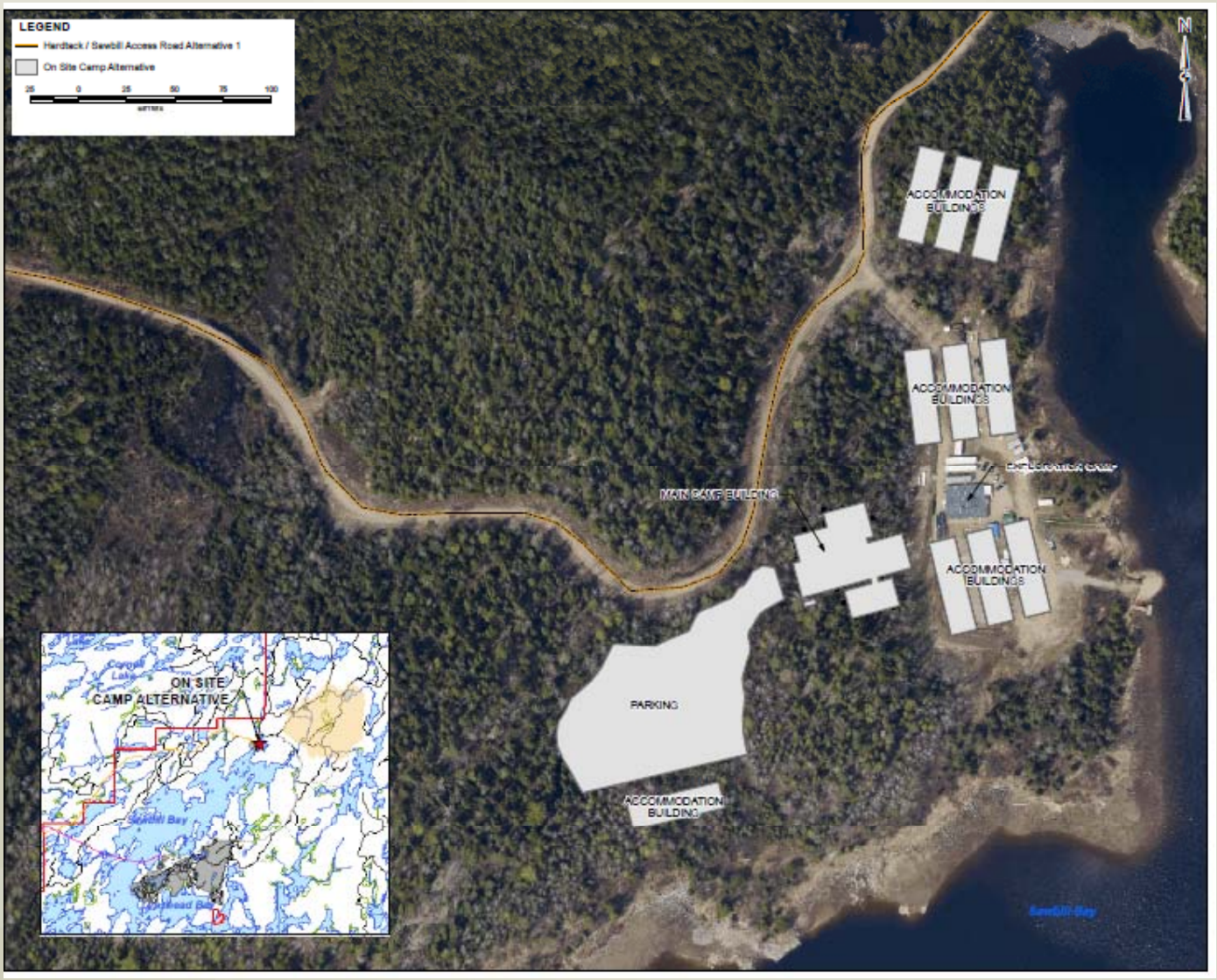
Ore Processing Facility

- Designed for an ore throughput of 60,000 tonnes/day
- Includes crushing, grinding, flotation, cyanide leaching, electrowinning and final refining using furnaces.
- Will require approximately 82,000 m^3/day of process water.
- Water will be reclaimed as much water as possible.
- Fresh water will be sourced from Marmion Lake





On Site Accommodation



Environmental Assessment

- Subject to both provincial and federal environmental assessment
- Federal process
  - CEA Agency wrote and finalized EIS Guidelines December 2011
- Provincial process
  - Terms of Reference approved July 4 2012

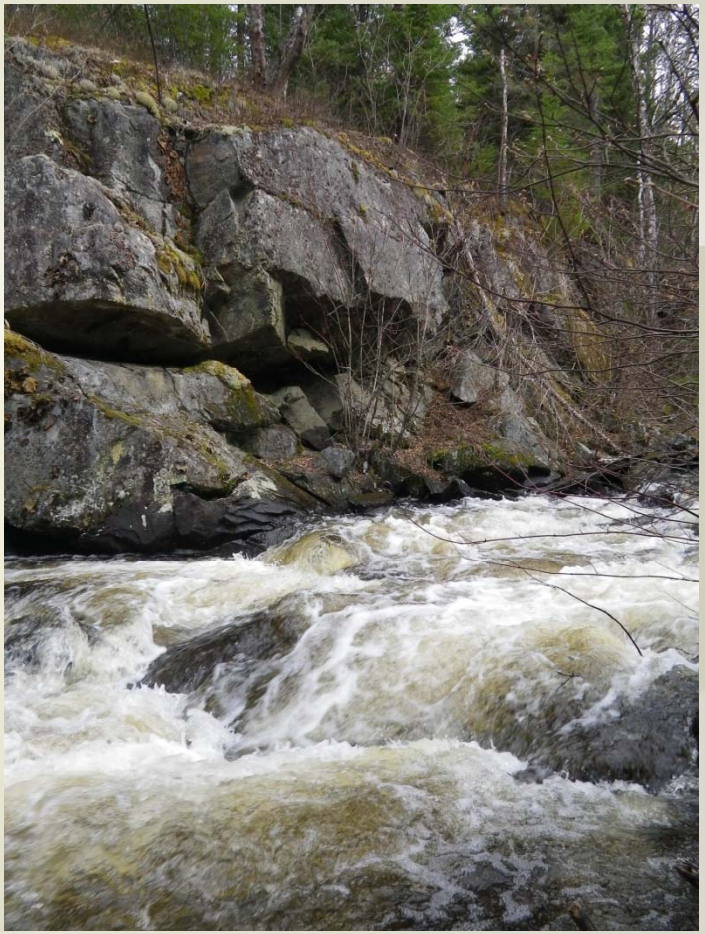
- Combined report was published on February 15 2013

Geochemistry and Soils

The geochemistry and soils assessment considers how the **rocks and earth** will interact with the Project.

Understanding the **chemistry of the rocks** is important to predict the way tailings and waste rock will interact with the environment throughout the life of the Project.

Erosion is the loss and movement of soil through physical processes such as wind and water. Protecting against erosion is important for water quality and to maintain nutrients in the soil.



Geochemistry and Soils



Potential Effects

- No acid generation or metal leaching is expected
- Soil erosion may influence slope stability and water quality
- Spills may degrade soil quality
- Loss of soil and changes to terrain could effect wildlife
- Forestry could be effected by changes to soil and terrain.



Mitigation Measures

- An **Erosion Management Plan** will be developed.
- A **Soils Remediation Plan** will include soil salvage, stockpiling, and reclamation.
- Minimize soil contamination through implementation of a **Spill Management Plan.**

Atmospheric Environment

Osisko must show that the Project can meet government regulations for air quality and noise in locations where **people are known to spend the night**. These locations are called “receptors”.

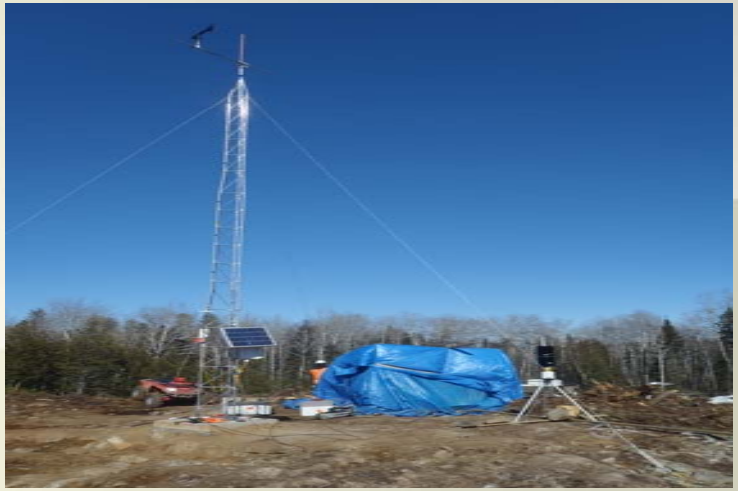
Computer models are used to predict noise levels and concentrations of chemicals that could be present in the air.

These predictions are made based on **details of the processing equipment**, the materials that will be used and the **composition of the rock** that will be processed.

Atmospheric Environment

Potential Effects

- The Project is predicted to meet air quality guidelines at all receptor locations
- Noise guidelines can be met at most locations, some restricted access will be needed.
- Air and noise results are also considered in the human health and ecological risk assessment.



Mitigation Measures

- A **Dust Management Plan** will reduce dust on roads and from equipment
- On-site roads will be well maintained to limit noise emissions
- Source testing to confirm process emissions
- Ambient air monitoring for indicator compounds

Hydrology

The Project will interact with the lakes and streams in the area through the construction and placement of the Project components.

Water needed for ore processing and the workers accommodation camp will be withdrawn from Sawbill Bay.

The Project is located in the Seine River watershed, which is managed by the Seine River Watershed Management Plan. This plan includes target outflow rates at Raft Lake dam and lake levels in the Marmion Reservoir which were considered in the hydrology assessment.



Hydrology

Potential Effects

- The Project is not expected to change the ability of Seine River Watershed Management Plan to meet its targets
- 15 catchments reduced in size by more than 50%
- 4 small unnamed lakes will be filled in by Project footprint
- Predicted reductions:
  - 0.2 m^3/s in annual mean outflow from Raft Lake Dam
  - 5% in monthly mean outflow from Raft Lake Dam
  - 2-3 cm in monthly mean water levels in Unnamed Lake 5 and Lizard Lake
  - 9 cm in monthly mean water levels of Marmion Reservoir
  - 7% in monthly mean flows in Lumby Creek
  - Less than 1% in monthly mean inflows to Marmion Reservoir



Hydrology

Mitigation Measures

- Install signs marking underwater structures
- Gather weather information at the site
- Ongoing work with the **Seine River Watershed Management Committee**.
- Ongoing water management planning throughout the Project





Water Intake and Discharge

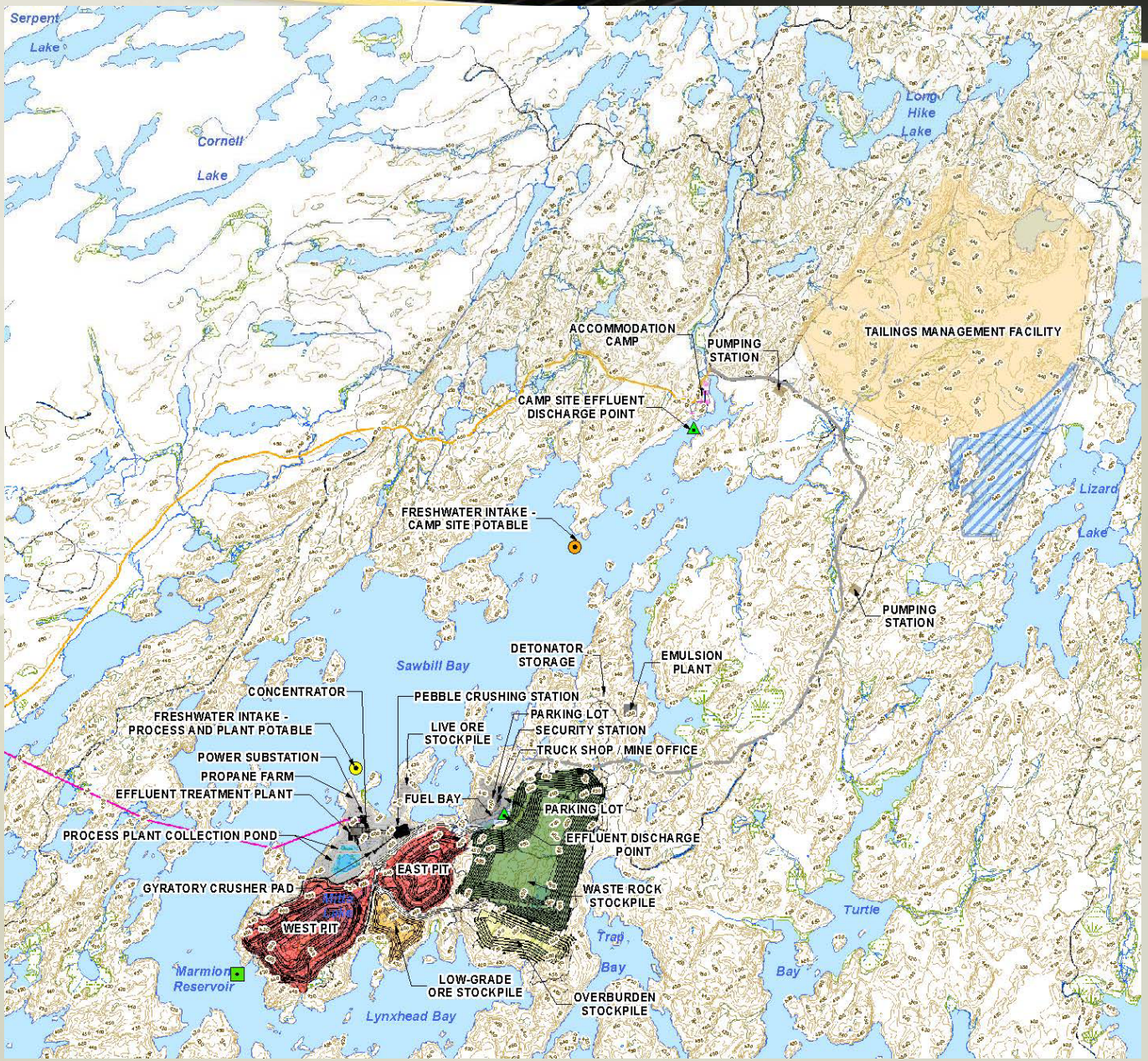
Fresh water will be taken from two separate locations in Sawbill Bay

- The worker accommodation camp
  - 300 m^3/day
- The ore processing facility
  - 34,000 m^3/day for processing
  - 26,800 m^3/day recycled
  - 7,200 m^3/day withdrawn

Treated effluent will be discharged at two separate locations:

- Treated sewage effluent from the accommodation camp will be discharged near the mouth of Sawbill Creek.

- Treated wastewater effluent from the ore processing facility will be discharged at the outlet of Sawbill Bay.


Serpent Lake
Cornell Lake
Long Hike Lake
ACCOMMODATION CAMP
PUMPING STATION
TAILINGS MANAGEMENT FACILITY
CAMP SITE EFFLUENT DISCHARGE POINT
Lizard Lake
FRESHWATER INTAKE - CAMP SITE POTABLE
PUMPING STATION
DETONATOR STORAGE
EMULSION PLANT
Sawbill Bay
CONCENTRATOR
PEBBLE CRUSHING STATION
PARKING LOT
FRESHWATER INTAKE - PROCESS AND PLANT POTABLE
LIVE ORE STOCKPILE
SECURITY STATION
TRUCK SHOP / MINE OFFICE
POWER SUBSTATION
PROPANE FARM
EFFLUENT TREATMENT PLANT
FUEL BAY
PARKING LOT
PROCESS PLANT COLLECTION POND
EFFLUENT DISCHARGE POINT
EAST PIT
GYRATORY CRUSHER PAD
WASTE ROCK STOCKPILE
WEST PIT
Turtle Bay
Marmion Reservoir
LOW-GRADE ORE STOCKPILE
OVERBURDEN STOCKPILE
Lynxhead Bay

Hydrogeology

Hydrogeology is the study of **underground water movement and quality** and its connection to surface water.

Groundwater studies are important for the Project because the **open pit** will interact with groundwater as it will need to be **kept dry**.

Groundwater protection is also an important consideration around the tailings and stockpiles.



Hydrogeology

Potential Effects

- Groundwater levels are predicted to decrease around the open pits
- Groundwater levels around the TMF are predicted to rise slightly due to water migrating downwards from the tailings.
- Flow in local streams will be reduced
- Intermittent streams will experience longer dry periods seasonally



Mitigation Measures

- Seepage rates will be controlled
  - Pumping stations around the tailings and stockpiles
  - Process collection pond will be lined
- If groundwater begins seeping through the walls of the open pit:
  - Grouting
  - Drain holes
  - Vertical wells

Water Quality

Potential changes to water quality in the Marmion Reservoir and Lizard Lake were predicted based on hydrology information, baseline conditions and planned material use.

Predictions were made for the different phases of the Project and for an average case and a worse case scenario.

Predicted water quality values were compared to baseline conditions and government guidelines. Potential effects to fish and wildlife health were also considered.



Water Quality

Potential Effects

- Water quality in Marmion Reservoir is not predicted to change from existing conditions
- Discharge point at south end of Sawbill Bay provides good mixing characteristics and avoids sensitive areas
- Predicted concentrations of metals and major ions were either below established guidelines or did not exceed baseline conditions
- Site Specific Water Quality Objectives
  - Copper
  - Free cyanide



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- Implement phosphate-free soaps policy at camp
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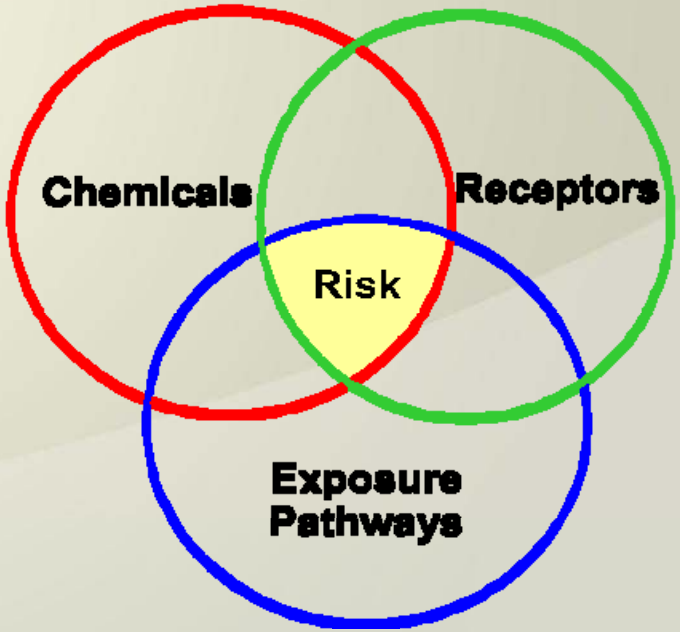


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Social Management Planning

Invest in Public Infrastructure

- Work with the Town of Atikokan to support the licensing, construction and operation of a new municipal landfill site.

Protect Tourism and Recreation

- Ongoing sponsorships of events such as the Atikokan Bass Classic.
- Restrict hunting/fishing for workers while at camp.

Grow the Local Workforce

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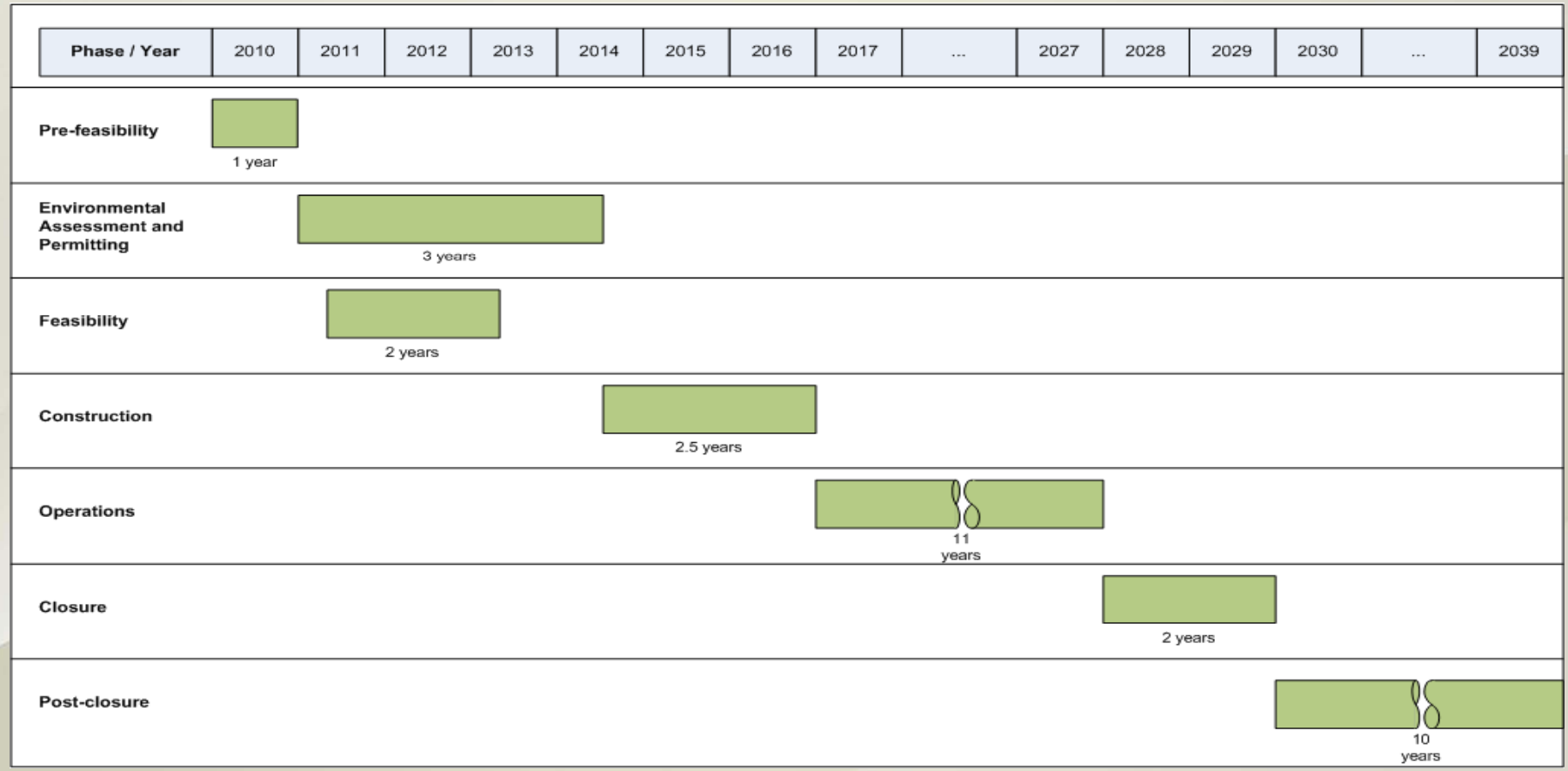
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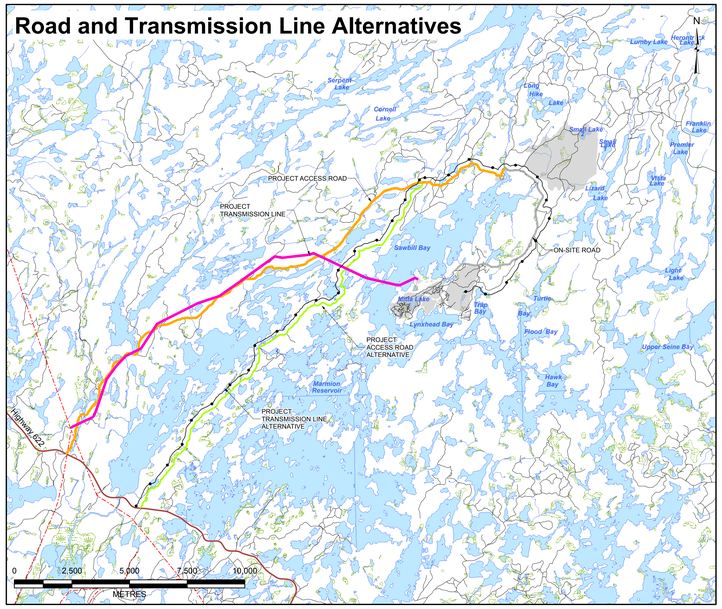
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Project Schedule

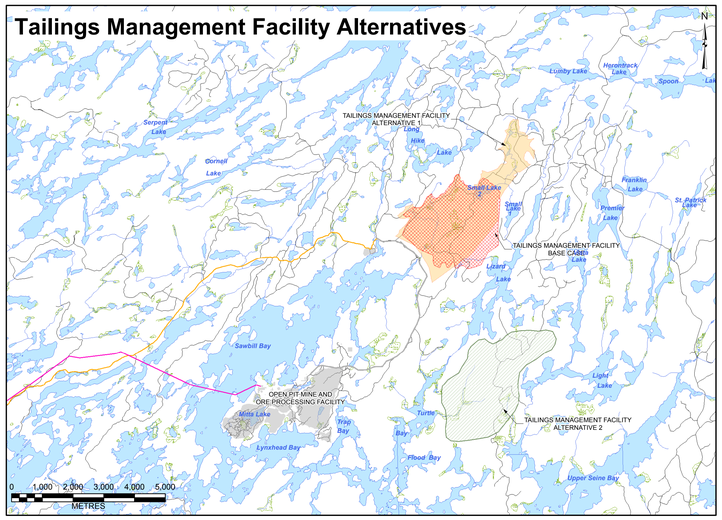


Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

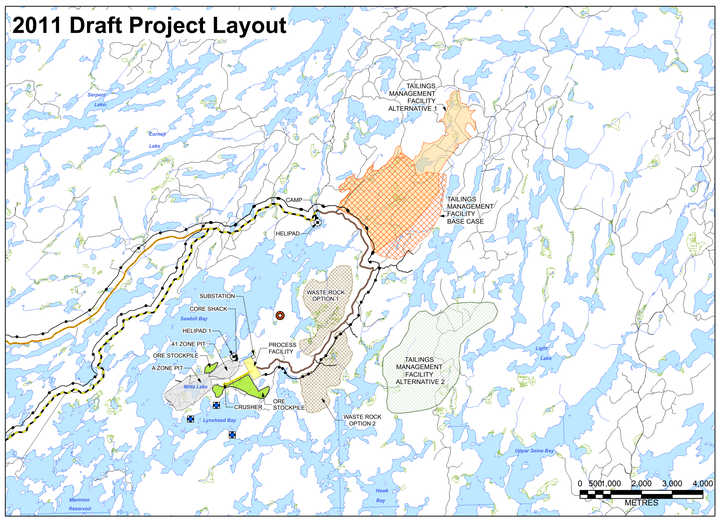
Road and Transmission Line Alternatives

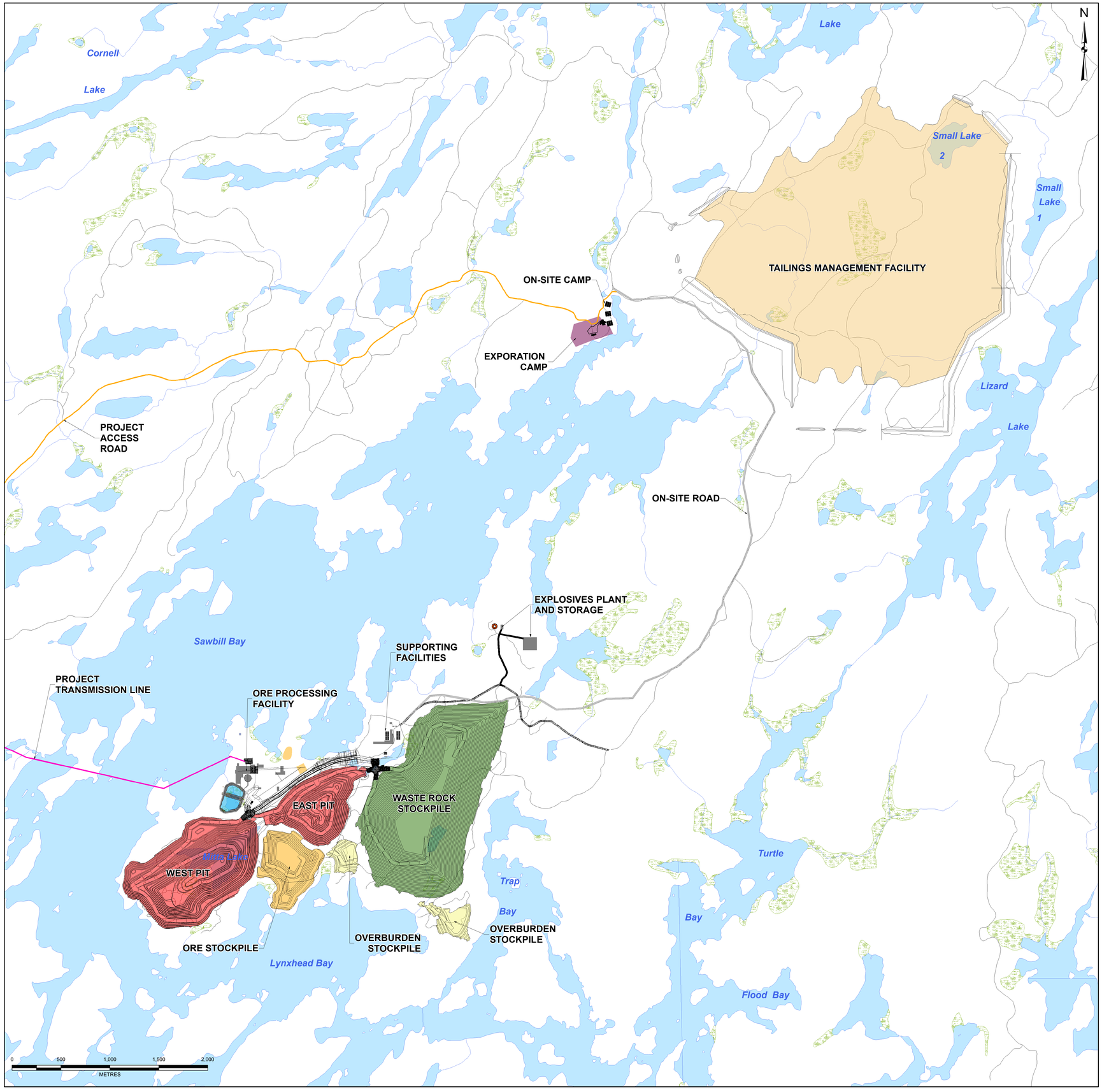


Tailings Management Facility Alternatives



2011 Draft Project Layout





Legend

- Weather Station
- Provincial Highway
- Road
- Power Transmission Line
- Existing Railway
- River/Stream
- Lake
- Wetland
- Project Transmission Line Alternative
- Project Access Road Alternative

Draft Project Components (2011)

- Potential Discharge Location
- Existing Site Access Road
- Hardtack / Sawbill Access Road Alternative 1
- Raft Lake Access Road Alternative 2
- Proposed Powerline Alternatives
- Tailings Management Facility Base Case
- Tailings Management Facility Alternative 1
- Tailings Management Facility Alternative 2
- Open Pit
- Waste Rock Storage Areas (Approximate)
- Ore Stockpiles
- Proposed Process Facility Footprint

Project Components (2012)

- On-Site Road
- Project Access Road
- Project Transmission Line
- Buildings
- Tailings Management Facility
- Open Pit Mine
- Waste Rock Stockpile
- Overburden Stockpile
- Ore Stockpile

Tailings Management Facility Alternatives

- Tailings Management Facility - Base Case
- Tailings Management Facility - Alternative 1
- Tailings Management Facility - Alternative 2

Projection: Transverse Mercator Datum: NAD 83 Zone: 15N

G:\Projects\2010\10-1118-0020_BrettResources_HammondReef\GIS\MXDs\Draft\Consultation\ProjectComponentPoster.mxd

OSISKO HAMMOND REEF GOLD PROJECT
PROJECT COMPONENTS

OSISKO HAMMOND REEF GOLD

Sportsmen, Anglers and Hunters

OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

MEETING MINUTES
ONTARIO FEDERATION OF ANGLERS AND HUNTERS
MAY 5, 2012
ATIKOKAN, ON

Attendees:

Name	Representing
Bruce Hamilton	Fort Frances
Roy DeCorte	Atikokan
Russ Power	
Dutchie Loman	Ear Falls
Ken Howard	
John Charbonneau	Atikokan
Maurice Chabot	Atikokan
Dennis Fredrickson	Atikokan
William Jaculak	Atikokan
Mike Solomon	Fort Frances
Murray English	Kenora
Erwin Burgstaler	Dryden
Keith McCannan	Wabigoon
Neil Weins	Shuniah
Margaret Leather	Atikokan
Laurent Tetreault	Balmertown
Mark Bowler	Osisko Hammond Reef
Cathryn Moffett	Osisko Hammond Reef

OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

Meeting Purpose
Osisko was invited to attend the Zone A Meeting of the Ontario Anglers and Hunters, of which the Atikokan Sportsmen's Conservation Club is a member. Osisko gave a Project Overview presentation on the Osisko Hammond Reef Gold project and answered questions about the Project.

Information Materials
Project Overview Booklet was distributed

Welcome and Introductions

Hammond Reef Project Overview Presentation
- Project Overview Video
- Project location
- Drill program update
- Project components

Questions from Anglers and Hunters

Q - Are tailings and waste rock stored together?
A – No, tailings and waste rock are managed separated. Tailings are a waste product from the ore processing facility; tailings are finely ground material containing water. Waste rock is larger pieces of rock; waste rock has not gone through any processing (coarser because it has been blasted not ground), it is simply rock that does not contain an economic amount of gold ore.

Q - What about socio-economic effects? How will you take into account the traffic increase to the highways? They aren't built for that volume.
A – The socio-economic assessment will include a traffic study that measures existing traffic volumes and predicts increases due to the Project.

Q - What is the buffer zone between the water and the development?
A – The goal is to keep a 30 metre buffer zone between the Project development and the shoreline.

Q - The Canadian government has put in test holes north of Hammond Reef, have you looked at the groundwater information?
A – We will make sure that the hydrology team at Golder are made aware of this information.

Q - When I was reading the Terms of Reference and EIS Guidelines I saw you had to study the existing environment out there. Isn't it a lot different than it was 4 years ago?
A – Yes, some things have changed, however the aquatic and terrestrial ecosystems have still been found to be representative of the region. One example of where the change to the existing environment has influenced our approach to baseline data collection is for the acoustic environment. Noise levels at the site are not currently representative of "baseline" conditions; therefore instead of measuring current noise levels at the site, we plan to compare potential changes from the Project to rural conditions in the region.

Q - How will the Federal Budget affect the EA for Hammond Reef?
A – We aren't sure how the changes will affect the Hammond Reef Project.

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Q - We have concerns about changes to the Fisheries Act. Will Hammond Reef be governed under the new or old way?
A – We are not sure how these changes will affect the Project planning process.

Q - Will you use natural gas at the site?
A – No, we plan to build a transmission line that will connect to the provincial grid.

Q - We need to plan in advance for potential socio-economic effects of mine closure.
A – Yes, we are working with the town and the municipal service providers.

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OSK LISTED TSX TORONTO STOCK EXCHANGE



HAMMOND **REEF**
Gold Project

Hammond Reef Project Presentation – Fort Frances Chamber of Commerce

December 2011

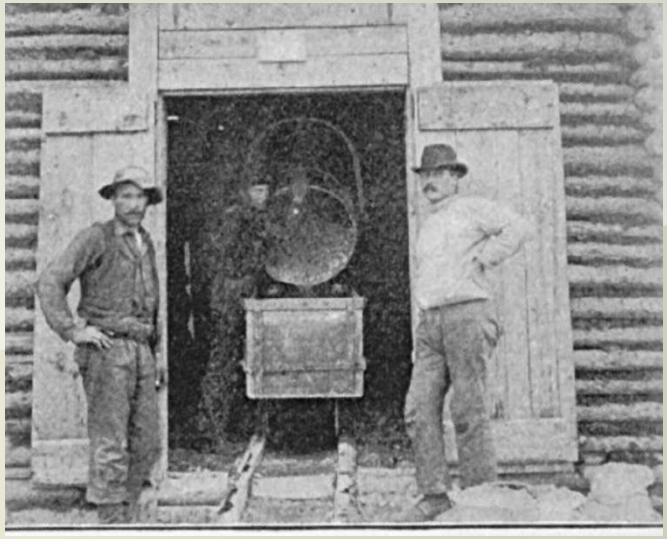
Presentation Summary

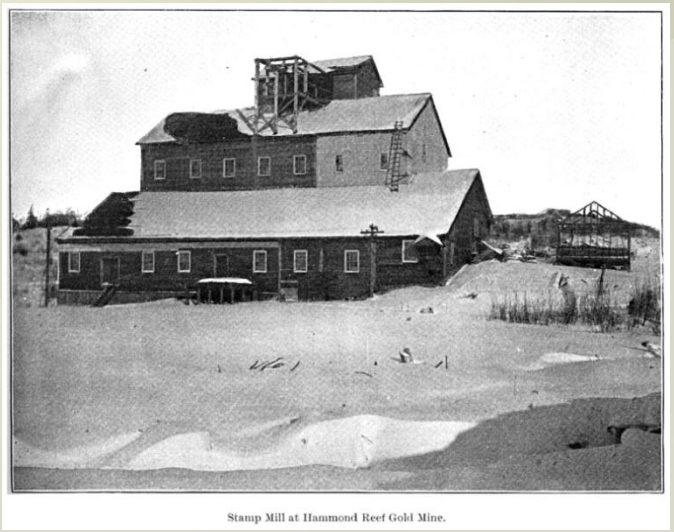
- History of Hammond Reef
- Project Location
- Drill Program
- Mine Project Components
- Environmental Assessment
  - Potential Impacts
  - Valued Ecosystem Components

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History of Hammond Reef

- 1895 – 1st discovery of gold mineralization.
- 1897 – 1900 – Sawbill Mine: 2,283 tons (0.21 ounces/ton gold)
- 1937 – 1941 – Sawbill Mine: 5,368 tons
- 1980s & 1990s: Falconbridge & Pentland Firth Ventures: exploration.
- 2006 - 2010: Brett Resources optioned property: exploration continued.
- May 2010: Osisko Mining Corporation buys Brett Resources: exploration continues….





Stamp Mill at Hammond Reef Gold Mine.

Project Location





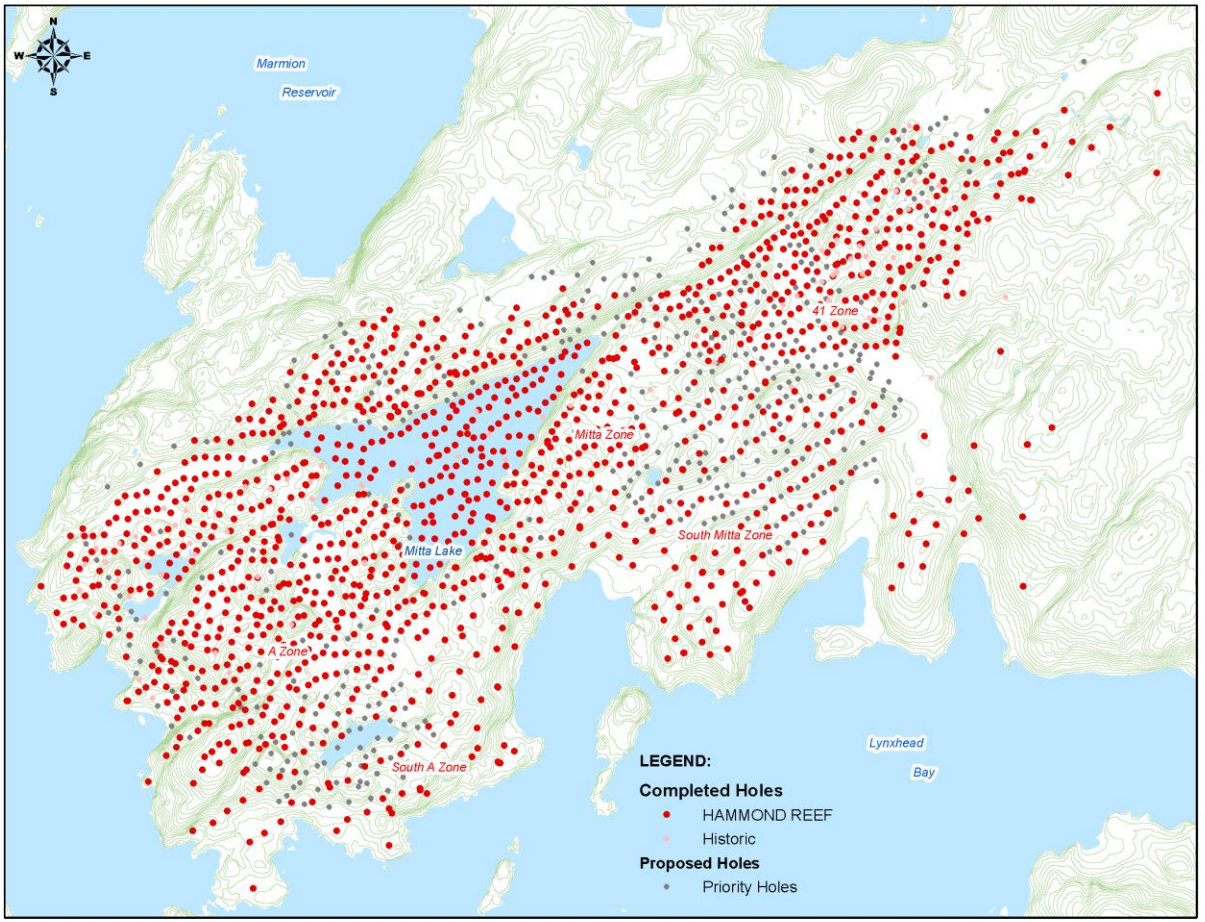
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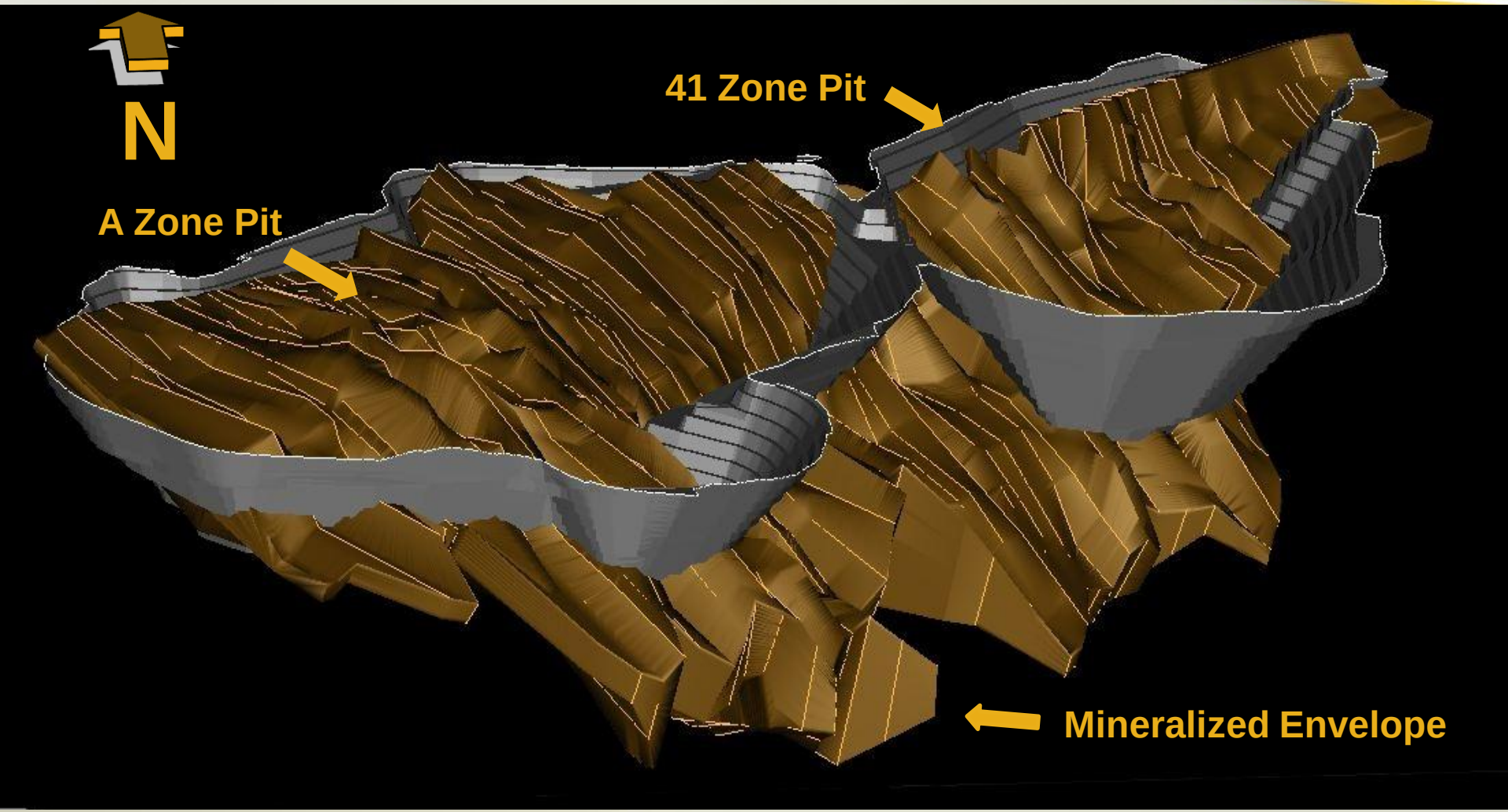
Drill Program

Global inferred resource is10.52 million ounces gold

Estimated 0.30 g/t Au

Increase of 65% or 4.16 million new ounces since 2009

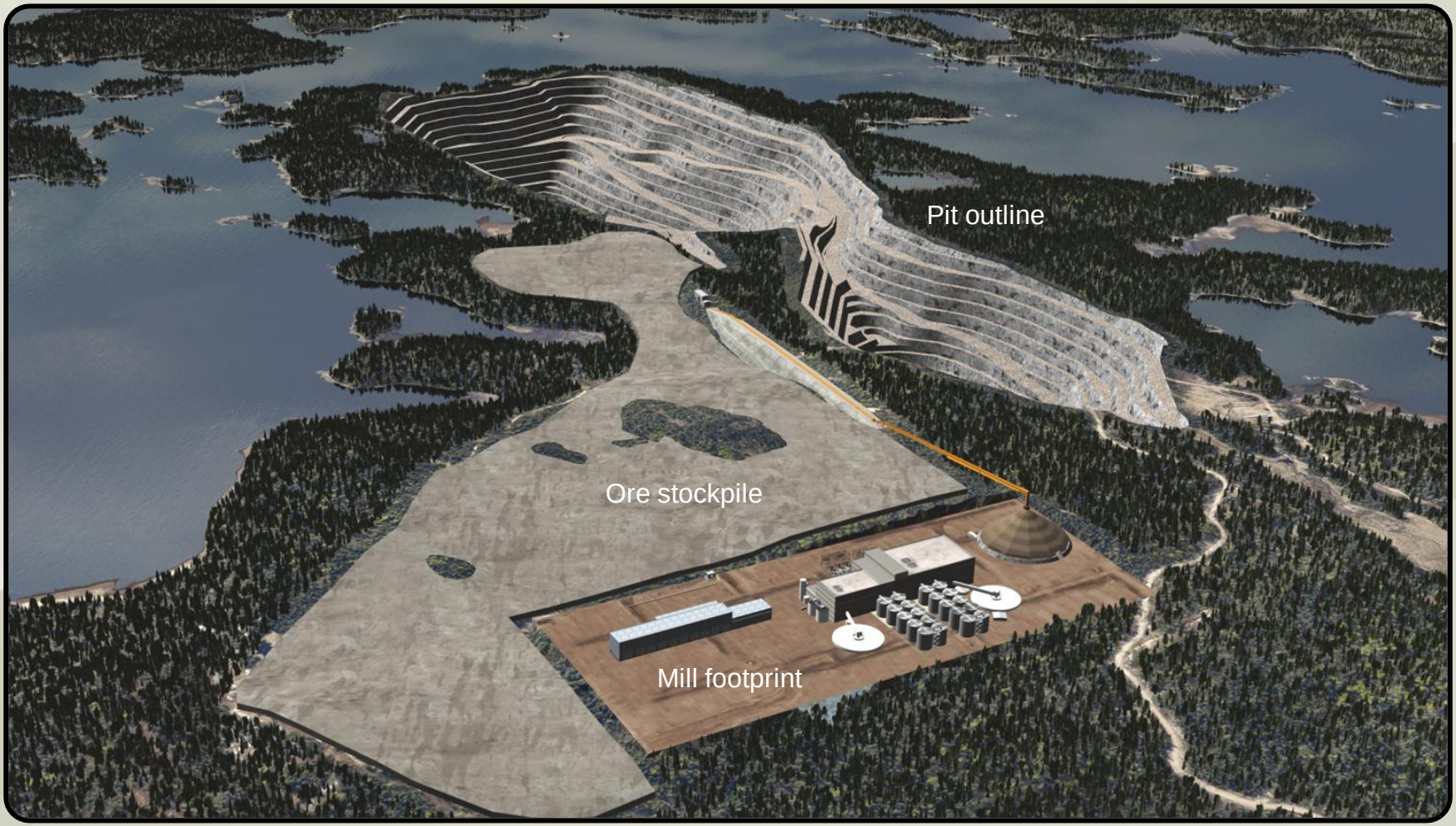



N
41 Zone Pit
A Zone Pit
Mineralized Envelope

Buying Local

- Some examples of goods and services currently provided locally:
  - Cleaning products
  - Hardware and electrical
  - Auto parts
  - Groceries and catering
  - Hotels

Preliminary Site Layout



Workforce Estimates

- Current workforce: 100
- Additional contract workers: 100
- Construction workforce: up to 2,000
- Operations workforce: up to 500

Key Project Components

- Open Pit Mine
- Ore Processing Facility
- Tailings Management Area



Open Pit Mine

- Two open pits will be developed
- Will require the draining of Mitta Lake
- The waste rock will be piled 1 km from the mine, some waste rock will be put back into the first pit.
- Ore will be stockpiled in two piles close to the processing plant.



Ore Processing Facility

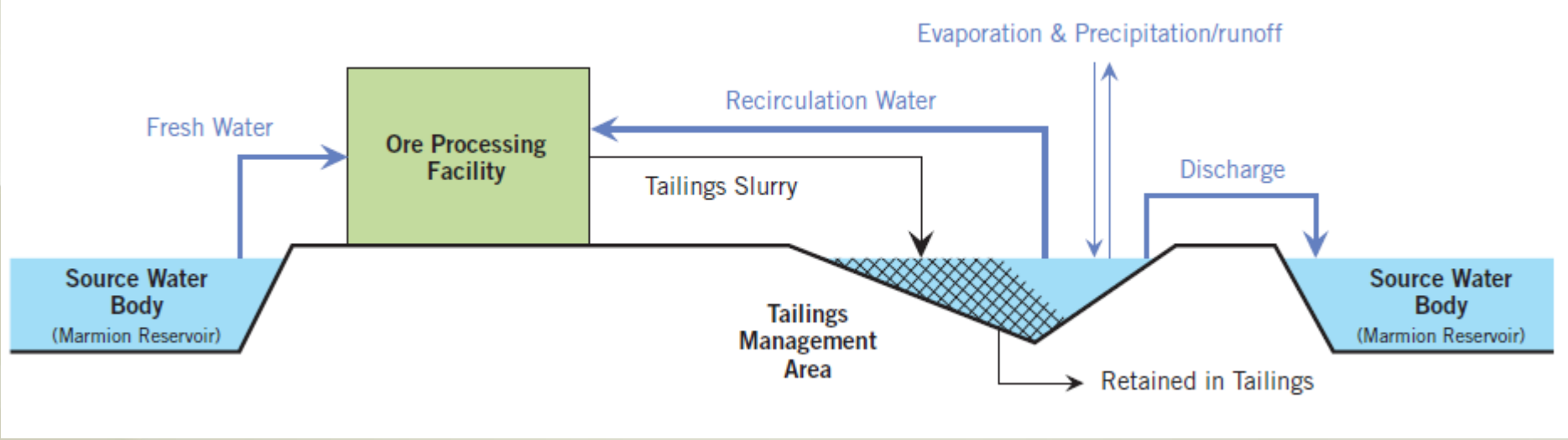
- Designed for an ore throughput of 50,000 tonnes/day
- Includes crushing, grinding, flotation, cyanide leaching, electrowinning and final refining using furnaces.
- Will require approximately 82,000 m^3/day of process water.
- The water balance has not been completed for the Project.
- Water will be reclaimed as much water as possible.
- 3,200 m^3/day of fresh water will be sourced from Marmion Lake





Tailings Management Area

- Avoid (where possible) impacts to fish-bearing waterways
- Mitigate and compensate negative impacts where unavoidable
- Timely permitting
- Does not sterilize ore
- Progressive reclamation



Environmental Assessment

The Environmental Assessment (EA) has officially begun for the Hammond Reef Gold Project.

Environmental Assessment is:

- A planning tool that will help Osisko review Project alternatives and choose the best option.
- An evaluation of environmental and social impacts as well as engineering and construction factors.
- Necessary step before government permits can be issued.

Baseline Studies

- Land Use
  - Current and Historic
- Environmental Features
  - Geology, Hydrogeology, Atmospheric and Noise, Geochemistry.
- Biological Environment
  - Aquatic and Terrestrial
- Socio-economic Environment

Reports will be coming in the next few months

Thank you for your time!

From: Cathryn Moffett
Sent: March 22, 2013 4:38 PM
To: Victoria Danco
Cc: Alexandra Drapack
Subject: Fish Tissue Analysis and Hard Copies of Reports

Hi Victoria,
Thank you for your question. I have the data you have asked for and am currently waiting for the aquatic biologist from Golder to verify it before passing it along to you. I also received your request for additional hard copies of reports. I was a little bit surprised that you are asking for several reports that don't seem to relate directly to fish and fish habitat. Is there some specific information you are looking for? Do you mind letting me know who you expect will be reading the hard copies of these reports? We have found it useful to provide a summary presentation or at a minimum have a discussion with reviewers and would be happy to do so with the individual or individuals who are reviewing on behalf of the Anglers and Hunters.
Cathryn

Cathryn Moffett, BSc.
Project Manager Sustainable Development
155 University Avenue, Suite 1440, Toronto, ON M5H 3B7
Cell. : 416.931.2605 | Tel. : 416.363.8653 ext 115
cmoffet@osisko.com | www.osisko.com

From: Victoria Danco [mailto:vdanco@lakeheadu.ca]
Sent: Thursday, March 21, 2013 5:31 PM
To: Cathryn Moffett
Subject: Re: Appendix 2.IV missing

Hi,

Table 5 in Section 6.2.2 of the Aquatic Environment Appendix 2 only shows the mean and the max/min values. Is there more detailed information available on individual fish? This table in the Appendix is the same as Table 2-8 in the Aquatic Environment TSD (Table 2-8: Total Mercury Levels in Fish Tissue Samples (µg/g wet weight; Detection Limit 0.050 µg/g) ..... 69). I would like to see the individual fish concentrations if possible. It seems that the summarized data has been used repetitively in substitution of laboratory results in the appendix by mistake.

2.2.2 Fish Tissue Analysis
In total, 88 tissue samples were collected and analyzed from Lizard Lake, Sawbill Bay, and Turtle Bay. Five species were analysed for metal content using individual samples of muscle tissues (cisco, white sucker, walleye and lake whitefish) or whole fish (blacknose shiner). Table 2-7 provides a summary of the results for selected metals. **Laboratory results of tissue sample analyses are provided in Appendix 2.IV.**

Thank you,
- Victoria

On Thu, Mar 21, 2013 at 4:48 PM, Victoria Danco <vdanco@lakeheadu.ca> wrote:
Hi,

I am looking through the Technical Support Documents and would like a printed copy of the following:

- Aboriginal Interests
- Atmospheric
- Conceptual Closure and Rehabilitation Plan
- Hydrology
- Water and Sediment Quality

Could you please send it to the same address:
Victoria Danco
Lakehead University Environmental Lab
Department of Biology
Thunder Bay, ON
P7B 5E1

Thank you,

- Victoria

On Thu, Mar 21, 2013 at 4:39 PM, Victoria Danco <vdanco@lakeheadu.ca> wrote:
Thank you

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Hi Victoria,

Sorry for the confusion, it seems that the Aquatics TSD has an incorrect reference to an appendix that does not exist. The fish tissue analysis is provided in **Appendix 2.II**. Methods are in Section 5.4.3 and Results are in Section 6.2.

Thanks, Cathryn

Cathryn Moffett, BSc.

Project Manager Sustainable Development

155 University Avenue, Suite 1440, Toronto, ON M5H 3B7

Cell. : 416.931.2605 | Tel. : 416.363.8653 ext 115

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From: Victoria Danco [mailto:vdanco@lakeheadu.ca]
Sent: Thursday, March 21, 2013 4:10 PM
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Subject: Appendix 2.IV missing

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--
Victoria Danco

--
Victoria Danco

--
Victoria Danco

From: Cathryn Moffett
Sent: March 22, 2013 6:16 PM
To: Victoria Danco
Cc: Alexandra Drapack
Subject: RE: Fish Tissue Analysis Results
Attachments: L1066235_COA.PDF; L938749_COA.PDF; L925877_COA.PDF

Thanks Victoria,
See attached for the laboratory results from the fish tissue analysis. Please let me know if you have any further questions.
Cathryn

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Cell. : 416.931.2605 | Tel. : 416.363.8653 ext 115
cmoffet@osisko.com | www.osisko.com

From: Victoria Danco [mailto:vdanco@lakeheadu.ca]
Sent: Friday, March 22, 2013 6:05 PM
To: Cathryn Moffett; Peter Lee
Subject: Re: Fish Tissue Analysis and Hard Copies of Reports

Hi Cathryn,
I am requesting this information on behalf of the ASCC/OFAH and will be passing the copies on to Dr. Lee and possibly another expert who have agreed to review the paper copies of these reports.
Thanks.

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Victoria Danco

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Victoria Danco

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Victoria Danco

GOLDER PASTE TECHNOLOGY
ATTN: JOHN SEYLER
1010 LORNE ST.
SUDBURY ON P3C 4R9

Date Received: 30-SEP-11
Report Date: 07-OCT-11 14:17 (MT)
Version: FINAL

Client Phone: 705-524-6861

Certificate of Analysis

Lab Work Order #: L1066235

Project P.O. #: NOT SUBMITTED
Job Reference: 10-1118-0020
C of C Numbers: L1066235
Legal Site Desc:

<Original signed by>

Karen Rutledge
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1066235-1	L1066235-2	L1066235-3	L1066235-4	L1066235-5
Description	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE
Sampled Date	21-SEP-11	21-SEP-11	21-SEP-11	21-SEP-11	21-SEP-11
Sampled Time					
Client ID	OHR11FSBLKWH001	OHR11FSBLKWH002	OHR11FSBWALL003	OHR11FSBLKWH004	OHR11FSBWALL005
Grouping **Analyte**					
SOIL					
Physical Tests % Moisture (%)	<0.10	<0.10	<0.10	<0.10	<0.10

Submitted as part of the Version 3 HRGP Amendment Application January 2018 - 1656263

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1066235-6	L1066235-7	L1066235-8	L1066235-9	L1066235-10
Description	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE
Sampled Date	21-SEP-11	21-SEP-11	21-SEP-11	21-SEP-11	21-SEP-11
Sampled Time					
Client ID	OHR11FSBWALL006	OHR11FSBLKWH007	OHR11FSBLKWH008	OHR11FSBWALL009	OHR11FSBWALL010
Grouping **Analyte**					
SOIL					
Physical Tests % Moisture (%)	<0.10	<0.10	<0.10	<0.10	<0.10

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1066235-11	L1066235-12	L1066235-13	L1066235-14	L1066235-15
Description	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE
Sampled Date	21-SEP-11	21-SEP-11	21-SEP-11	23-SEP-11	23-SEP-11
Sampled Time					
Client ID	OHR11FSBWHSC011	OHR11FSBLKWH012	OHR11FSBWALL013	OHR11FSBWALL014	OHR11FSBWHSC015
Grouping **Analyte**					
SOIL					
Physical Tests % Moisture (%)	<0.10	<0.10	<0.10	<0.10	<0.10

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1066235-16	L1066235-17	L1066235-18	L1066235-19	L1066235-20
Description	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE
Sampled Date	23-SEP-11	23-SEP-11	23-SEP-11	24-SEP-11	24-SEP-11
Sampled Time					
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Grouping **Analyte**					
SOIL					
Physical Tests % Moisture (%)	<0.10	<0.10	<0.10	<0.10	<0.10

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1066235-21	L1066235-22	L1066235-23		
Description	FISH TISSUE	FISH TISSUE	FISH TISSUE		
Sampled Date	24-SEP-11	24-SEP-11	24-SEP-11		
Sampled Time					
Client ID	OHR11FSBWALL021	OHR11FSBWHSC022	OHR11FSBWALL023		
Grouping **Analyte**					
SOIL					
Physical Tests % Moisture (%)	<0.10	<0.10	<0.10		

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1066235-1	L1066235-2	L1066235-3	L1066235-4	L1066235-5
	Description	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE
	Sampled Date	21-SEP-11	21-SEP-11	21-SEP-11	21-SEP-11	21-SEP-11
	Sampled Time					
	Client ID	OHR11FSBLKWH001	OHR11FSBLKWH002	OHR11FSBWALL003	OHR11FSBLKWH004	OHR11FSBWALL005
Grouping	**Analyte**					
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	8.8	7.7	7.4	12.5	18.5
	Antimony (Sb) (mg/kg wwt)	1.1	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	74	89	204	130	58
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	50	26
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	183	266	293	330	314
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.197	0.235	0.402	0.113	0.317
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	1800	2300	2390	2840	2520
	Potassium (K) (mg/kg wwt)	3410	4390	4540	5200	5020
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	643	297	289	280	234
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	2.3	2.0	1.8	1.7	1.8
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	1.2	<1.0	<1.0	<1.0	<1.0

Submitted as part of the Version 3 HRGP Amendment Application January 2018 - 1656263

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1066235-6	L1066235-7	L1066235-8	L1066235-9	L1066235-10
	Description	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE
	Sampled Date	21-SEP-11	21-SEP-11	21-SEP-11	21-SEP-11	21-SEP-11
	Sampled Time					
	Client ID	OHR11FSBWALL006	OHR11FSBLKWH007	OHR11FSBLKWH008	OHR11FSBWALL009	OHR11FSBWALL010
Grouping	**Analyte**					
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	5.9	<5.0	6.5	9.9	55.6
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	1.6
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	91	71	85	81	1570
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	10	174
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	2.0
	Magnesium (Mg) (mg/kg wwt)	301	297	279	339	2270
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.393	0.229	0.147	0.362	0.469
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2450	2820	2330	2390	18600
	Potassium (K) (mg/kg wwt)	4900	4700	4560	4600	37300
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	1.7
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	292	270	247	308	1610
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	1.8	1.5	1.7	1.7	12.2
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	12	37
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	1.0

Submitted as part of the Version 3 HRGP Amendment Application
January 2018 - 1656263

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1066235-11	L1066235-12	L1066235-13	L1066235-14	L1066235-15
Description	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE
Sampled Date	21-SEP-11	21-SEP-11	21-SEP-11	23-SEP-11	23-SEP-11
Sampled Time					
Client ID	OHR11FSBWHSC011	OHR11FSBLKWH012	OHR11FSBWALL013	OHR11FSBWALL014	OHR11FSBWHSC015
Grouping / **Analyte**					
TISSUE					
Metals Aluminum (Al) (mg/kg wwt)	10.3	<5.0	<5.0	<5.0	8.9
Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
Calcium (Ca) (mg/kg wwt)	96	95	42	95	108
Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Iron (Fe) (mg/kg wwt)	29	<10	<10	<10	<10
Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Magnesium (Mg) (mg/kg wwt)	303	254	310	311	262
Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
Mercury (Hg) (mg/kg wwt)	0.356	0.102	0.446	0.273	0.374
Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Phosphorus (P) (mg/kg wwt)	2500	2370	2440	2230	2050
Potassium (K) (mg/kg wwt)	4850	4330	5060	4600	3970
Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
Sodium (Na) (mg/kg wwt)	275	194	266	254	286
Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
Tin (Sn) (mg/kg wwt)	1.5	1.7	1.7	1.6	1.4
Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

Submitted as part of the Version 3 HRGP Amendment Application January 2018 - 1656263

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1066235-16	L1066235-17	L1066235-18	L1066235-19	L1066235-20
	Description	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE
	Sampled Date	23-SEP-11	23-SEP-11	23-SEP-11	24-SEP-11	24-SEP-11
	Sampled Time					
	Client ID	OHR11FSBLKWH016	OHR11FSBLKWH017	OHR11FSBWALL018	OHR11FSBLKWH019	OHR11FSBLKWH020
Grouping	**Analyte**					
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	8.1	6.6	6.3	5.8	<5.0
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	67	61	72	74	54
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	266	255	284	270	245
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.119	0.176	0.342	0.324	0.264
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2350	2340	2190	2510	2340
	Potassium (K) (mg/kg wwt)	4140	4160	4600	4610	4400
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	187	201	251	376	360
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	1.5	1.5	1.6	1.7	1.8
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

Submitted as part of the Version 3 HRGP Amendment Application January 2018 - 1656263

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1066235-21	L1066235-22	L1066235-23		
	Description	FISH TISSUE	FISH TISSUE	FISH TISSUE		
	Sampled Date	24-SEP-11	24-SEP-11	24-SEP-11		
	Sampled Time					
	Client ID	OHR11FSBWALL021	OHR11FSBWHSC022	OHR11FSBWALL023		
Grouping	**Analyte**					
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	<5.0	<5.0	6.4		
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20		
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0		
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20		
	Calcium (Ca) (mg/kg wwt)	79	65	61		
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Iron (Fe) (mg/kg wwt)	<10	<10	<10		
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Magnesium (Mg) (mg/kg wwt)	285	255	322		
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20		
	Mercury (Hg) (mg/kg wwt)	1.66	0.320	0.339		
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Phosphorus (P) (mg/kg wwt)	2350	2190	2520		
	Potassium (K) (mg/kg wwt)	4710	4570	5170		
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20		
	Sodium (Na) (mg/kg wwt)	278	248	255		
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20		
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0		
	Tin (Sn) (mg/kg wwt)	1.5	1.5	1.6		
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0		
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0		
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0		
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10		
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0		

Submitted as part of the Version 3 HRGP Amendment EA Documentation
January 2018 1656263

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AS,SB,SE-MS-WT	Tissue	As, Sb, Se in Tissue by ICP/MS	EPA 200.3/6020
HG-WT	Tissue	Mercury by CVAA	SW846 7470A
MET-ICP-WT	Tissue	Metals in Tissue by ICP	EPA 200.3/6020
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

L1066235

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Submitted as part of the Vista Site Characterization (Soil) Investigation

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # _____

L1066235 Page 1 of 2

L1066235-COFC

Report To

Company: Golder Associates Ltd

Contact: John Seyler

Address: 1010 Lorne St.
Sudbury ON

Phone: 705 524 6861 Fax:

Invoice To Same as Report? (Yes) No

THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)

Are any samples taken from a regulated DW System? Yes No

If yes, an authorized Drinking Water COC MUST be used for this submission.

Is the water sampled intended to be potable for human consumption? Yes No

Report Format / Distribution

Standard Other (specify):

(PDF) Excel Digital Fax

Email 1: jseyler@golder.com

Email 2: jdickison@golder.com

Client / Project Information

Job #: 10-1118-0020

PO / AFE:

LSD:

Quote #:

Service Requested (Rush for routine analysis subject to availability)

(Regular) (Default)

Priority (Specify Date Required → →) Surcharges apply

Emergency (1 Business Day) - 100% Surcharge

For Emergency < 1 Day, ASAP or Weekend - Contact ALS

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Lab Work Order # (lab use only):

ALS Contact: K. Rutledge

Sampler: JD

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals incl. Hg	Number of Containers
1	OHR11FSBLKWH001	21/09/11		Fish tissue	✓	
2	OHR11FSBLKWH002				✓	
3	OHR11FSBWALL003				✓	
4	OHR11FSBLKWH004				✓	
5	OHR11FSBWALL005				✓	
6	OHR11FSBWALL006				✓	
7	OHR11FSBLKWH007				✓	
8	OHR11FSBLKWH008				✓	
9	OHR11FSBWALL009				✓	
10	OHR11FSBWALL010				✓	
11	OHR11FSBWHSC011				✓	
12	OHR11FSBLKWH012				✓	

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify):
Circle one - Note drinking water samples MUST USE DW Chain of Custody

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
<Original signed by>	30/09/11		<Original signed by>	30Sept11	13:45	4.5 °C				

1.6-7.3

TYFM014 26-Mar-10

Submitted as part of the Victoria 3 Mine Environmental Assessment (EA) 2018 - 05-0033

ALS

* L 1 0 6 6 2 3 5 - C O F C *

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # _____

L1066235

Page 2 of 2

Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)
Company:	Golder Associates Ltd.	Standard	Other (specify):	(Regular (Default))
Contact:	John Seyler	(PDF)	(Excel) Digital Fax	Priority (Specify Date Required → →) Surcharges apply
Address:	1010 Lorne St. Sudbury, ON	Email 1:	jseyler@golder.com	Emergency (1 Business Day) - 100% Surcharge
Phone:	705 524-6861 Fax:	Email 2:	jdickison@golder.com	For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Invoice To	Same as Report ? (Yes) No	Client / Project Information		Analysis Request
THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)		Job #:	10-1118-0020	Please indicate below Filtered, Preserved or both (F, P, F/P)
Are any samples taken from a regulated DW System? Yes No		PO / AFE:		
If yes, an authorized Drinking Water COC MUST be used for this submission.		LSD:		
Is the water sampled intended to be potable for human consumption? Yes No		Quote #:		
Lab Work Order # (lab use only)		ALS Contact:	Karen Rutledge	Sampler: JD

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals incl. Hg	Number of Containers
13	OHR11FSBWALL013	21/SEP/11		Fish Tissue	✓	
14	OHR11FSBWALL014	23/SEP/11			✓	
15	OHR11FSBWHSC015				✓	
16	OHR11FSBLKWH016				✓	
17	OHR11FSBLKWH017				✓	
18	OHR11FSBWALL018				✓	
19	OHR11FSBLKWH019	24/SEP/11			✓	
20	OHR11FSBLKWH020				✓	
21	OHR11FSBWALL021				✓	
22	OHR11FSBWHSC022				✓	
23	OHR11FSBWALL023				✓	

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify):
Circle one - Note drinking water samples MUST USE DW Chain of Custody

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
<Original signed by>	30/SEP/11		<Original signed by>	30 Sept 11	13:45	4.5 °C				

TYFM014 26-Mar-10

GOLDER PASTE TECHNOLOGY
ATTN: JOHN SEYLER
1010 LORNE ST.
SUDBURY ON P3C 4R9
Phone: 705-524-6861

Date Received: 01-OCT-10
Report Date: 13-OCT-10 14:26 (MT)
Version: FINAL

Certificate of Analysis

Lab Work Order #: L938749
Project P.O. #: NOT SUBMITTED
Job Reference: 10-1118-0020
Legal Site Desc:
C of C Numbers: L938749

<Original signed by>

Richard Clara
General Manager, Thunder Bay

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Submitted as part of the Version 3 HRGP Amended Application January 2018 - 1656263

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L938749-1	L938749-2	L938749-3	L938749-4	
	Description	FISH TISSUE	FISH TISSUE	FISH TISSUE	FISH TISSUE	
	Sampled Date	25-SEP-10	25-SEP-10	25-SEP-10	25-SEP-10	
	Sampled Time					
	Client ID	BHRIOUTBWHSC 001	BHRIOUTBWHSC 006	BHRIOUTBWHSC 007	BHRIOUTBWHSC 009	
Grouping	**Analyte**					
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	10.6	18.9	9.8	6.1	
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	
	Calcium (Ca) (mg/kg wwt)	115	148	90	552	
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	<10	
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Magnesium (Mg) (mg/kg wwt)	251	249	260	222	
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	
	Mercury (Hg) (mg/kg wwt)	0.301	0.162	0.198	0.072	
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Phosphorus (P) (mg/kg wwt)	2010	1700	1850	1840	
	Potassium (K) (mg/kg wwt)	3690	3020	3320	2970	
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	
	Sodium (Na) (mg/kg wwt)	470	262	342	271	
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	
	Tin (Sn) (mg/kg wwt)	1.8	1.6	1.4	1.3	
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	

Submitted as part of the Version 3 HRGP Amendment EIS Documentation
January 2018 - 1656263

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AS,SB,SE-MS-WT	Tissue	As, Sb, Se in Tissue by ICP/MS	EPA 200.3/6020
HG-WT	Tissue	Mercury by CVAA	SW846 7470A
MET-ICP-WT	Tissue	Metals in Tissue by ICP	EPA 200.3/6020

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS LABORATORY GROUP - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

L938749

GLOSSARY OF REPORT TERMS

Surrogate A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg milligrams per kilogram based on dry weight of sample.
mg/kg wwt milligrams per kilogram based on wet weight of sample.
mg/kg lwt milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L milligrams per litre.
< - Less than.
D.L. The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as receieved by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # L938749 Page 1 of 1

Submitted as part of the Vendor SHRP Approved Sampling Program (Jan 2010) 150263

Report To	Golder Associates Ltd.
Company:	Golder Associates Ltd.
Contact:	John Seyler
Address:	1010 Lorne St. Sudbury ON
Phone:	705 524 6861 Fax: 705 524 1984
Invoice To	Same as Report ? (Yes) No

THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)

Are any samples taken from a regulated DW System? Yes No

If yes, an authorized Drinking Water COC MUST be used for this submission.

Is the water sampled intended to be potable for human consumption? Yes No

Lab Work Order # (lab use only):

Report Format / Distribution

Standard Other (specify):

(PDF) (Excel) Digital Fax

Email 1: jseyler@golder.com

Email 2: jdickison@golder.com

Client / Project Information

Job #: 10-1118-0020

PO / AFE:

LSD:

Quote #: Q25939

ALS Contact: Karen Rutledge Sampler: JD

Service Requested (Rush for routine analysis subject to availability)

(Regular) (Default)

Priority (Specify Date Required → →) Surcharges apply

Emergency (1 Business Day) - 100% Surcharge

For Emergency < 1 Day, ASAP or Weekend - Contact ALS

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Number of Containers
1	BHR 10UTBWHSC 001	25 SEP 10	—	Fish tissue	1
2	BHR 10UTB WHSC 006	25 SEP 10	—	Fish tissue	1
3	BHR 10UTB WHSC007	25 SEP 10	—	Fish tissue	1
4	BHR 10U TB WHSC 009	25 SEP 10	—	Fish tissue	1

As per previous fish tissue samples under this Quote #

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify):
Circle one - Note drinking water samples MUST USE DW Chain of Custody

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / (No ?) If Yes add SIF
<Original signed by>	01 OCT 10		<Original signed by>	OCT 1/10	3:25	4.9°C	KM	Oct. 4/10	10:45	

TYFM014 26-Mar-10

GOLDER PASTE TECHNOLOGY
ATTN: JOHN SEYLER
1010 LORNE ST.
SUDBURY ON P3C 4R9
Phone: 705-524-6861

Date Received: 30-AUG-10
Report Date: 12-OCT-10 11:37 (MT)
Version: FINAL

Certificate of Analysis

Lab Work Order #: L925877
Project P.O. #: NOT SUBMITTED
Job Reference: 10-1118-0020
Legal Site Desc:
C of C Numbers: L925877

<Original signed by>

Karen Rutledge
Account Manager

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Submitted as part of the Version 3 HRGP Amended Application January 2018 - 1656263

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L925877-1	L925877-2	L925877-3	L925877-4	L925877-5
	Description	FILLET	FILLET	FILLET	FILLET	FILLET
	Sampled Date	24-AUG-10	24-AUG-10	24-AUG-10	25-AUG-10	25-AUG-10
	Sampled Time					
	Client ID	BHRI0UR6LKWH051	BHRI0UR6LKWH022	BHRI0UR6LKWH052	BHRI0UTBLKWH062	BHRI0UTBLKWH063
Grouping	**Analyte**					
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	12.5	10.2	8.4	7.7	7.6
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	148	2910	135	79	132
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	12	12	14	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	254	274	237	222	261
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.214	0.292	0.250	0.237	0.214
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2190	3350	2190	2230	2200
	Potassium (K) (mg/kg wwt)	3280	3260	3120	3420	3410
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	475	613	627	413	405
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

Submitted as part of the Version 3 HRGP Amended Application January 2018 - 1656263

ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	L925877-6 FILLET 25-AUG-10 BHRI0UTBLKWH066	L925877-7 FILLET 25-AUG-10 BHRI0UR6LKWH166	L925877-8 FILLET 26-AUG-10 BHRI0UTBLKWH167	L925877-9 FILLET 26-AUG-10 BHRI0UR6WALL021	L925877-10 FILLET 24-AUG-10 BHRI0UR6WALL023
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	25.3	20.7	<5.0	15.5	9.8
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	1.3	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	113	131	209	183	116
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	14	<10	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	232	243	240	328	296
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.135	0.260	0.329	0.292	0.935
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2010	2020	2050	2080	2200
	Potassium (K) (mg/kg wwt)	2860	3230	3120	3800	3930
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	305	384	566	452	298
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

Submitted as part of the Version 3 HRGP Amended Application January 2018 - 1656263

ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	L925877-11 FILLET 24-AUG-10 BHRI0UR6WALL035	L925877-12 FILLET 25-AUG-10 BHRU0UR6WALL054	L925877-13 FILLET 25-AUG-10 BHRI0UTBWALL059	L925877-14 FILLET 26-AUG-10 BHRI0UTBWALL079	L925877-15 FILLET 26-AUG-10 BHRI0UTBWALL170
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	6.5	19.7	30.1	9.3	19.7
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	121	373	208	508	135
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	280	342	315	323	287
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.366	0.267	0.289	0.290	0.542
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2240	2300	2220	2400	2060
	Potassium (K) (mg/kg wwt)	4010	4000	3860	3920	3610
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	329	360	404	350	360
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

Submitted as part of the Version 3 HRGP Amended Application January 2018 - 1656263

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L925877-16	L925877-17	L925877-18	L925877-19	L925877-20
	Description	FILLET	FILLET	WHOLE	FILLET	FILLET
	Sampled Date	26-AUG-10	26-AUG-10	25-AUG-10	22-AUG-10	22-AUG-10
	Sampled Time					
	Client ID	BHRI0UTBWALL171	BHRI0UTBWHSC169	BHRIOUR5BNSH118,R6BNSH183,BNSH	BHRI0UR1WALL033	BHRI0UR1WALL041
Grouping	**Analyte**					
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	17.5	17.8	33.7	14.6	14.0
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	281	623	5850	96	89
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	10	14	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	302	187	271	247	244
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.432	0.193	0.083	1.30	1.73
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2330	1950	4260	2000	2140
	Potassium (K) (mg/kg wwt)	3890	1800	1570	1950	3330
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	372	296	596	347	346
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	<1.0	1.5	1.3	1.0	<1.0
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	40	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

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ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	Sample ID / Description / Sampled Date / Sampled Time / Client ID				
		L925877-21 FILLET 22-AUG-10 BHRI0UR1WALL042	L925877-22 FILLET 22-AUG-10 BHRI0UR1WALL046	L925877-23 FILLET 22-AUG-10 BHRI0UR1WALL047	L925877-24 FILLET 22-AUG-10 BHRI0UTBWALL054	L925877-25 FILLET 22-AUG-10 BHRI0UR1WALL055
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	26.1	24.9	33.5	19.6	7.2
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	1.9	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	379	81	107	94	69
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	304	206	233	230	227
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	1.20	1.51	0.921	0.736	0.796
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2280	1900	1860	1780	1910
	Potassium (K) (mg/kg wwt)	3750	1990	2210	1910	1890
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	436	368	392	388	307
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	<1.0	1.4	1.6	1.1	<1.0
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

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ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	Sample ID / Description / Sampled Date / Sampled Time / Client ID				
		L925877-26 FILLET 22-AUG-10 BHRI0UR1WALL056	L925877-27 FILLET 21-AUG-10 BHRI0UR1WHSC032	L925877-28 FILLET 22-AUG-10 BHRI0UR1WHSC034	L925877-29 FILLET 22-AUG-10 BHRI0UR1WHSC043	L925877-30 FILLET 22-AUG-10 BHRI0UR1WHSC044
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	17.4	29.0	30.2	10.0	49.1
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	8.3
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	209	779	82	102	192
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	21	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	215	319	214	288	251
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	1.01	0.190	0.408	0.187	0.140
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	1920	2590	1970	2140	2080
	Potassium (K) (mg/kg wwt)	1850	3940	2030	2300	2200
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	325	376	393	349	435
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	1.2	<1.0	1.6	1.9	1.5
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

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ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L925877-31	L925877-32	L925877-33	L925877-34	L925877-35
		Description	FILLET	FILLET	FILLET	FILLET	FILLET
		Sampled Date	22-AUG-10	22-AUG-10	21-AUG-10	22-AUG-10	22-AUG-10
		Sampled Time					
		Client ID	BHRI0UR1WHSC045	BHRI0UR1WHSC051	BHRI0URICISC031	BHRI0URICISC035	BHRI0URICISC036
Grouping	**Analyte**						
TISSUE							
Metals	Aluminum (Al) (mg/kg wwt)		14.0	12.3	20.8	22.1	27.3
	Antimony (Sb) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)		<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)		<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)		<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)		101	83	211	139	364
	Chromium (Cr) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)		<1.0	1.2	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)		<10	19	<10	<10	<10
	Lead (Pb) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)		259	191	317	227	283
	Manganese (Mn) (mg/kg wwt)		<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)		0.234	0.277	0.178	0.166	0.142
	Molybdenum (Mo) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)		2060	2060	2500	2190	2240
	Potassium (K) (mg/kg wwt)		2240	2180	4040	2180	2210
	Selenium (Se) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)		<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)		352	565	344	482	436
	Strontium (Sr) (mg/kg wwt)		<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)		<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)		1.5	2.0	<1.0	1.6	1.6
	Titanium (Ti) (mg/kg wwt)		<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)		<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)		<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)		<1.0	<1.0	<1.0	<1.0	<1.0

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ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	L925877-36 FILLET 22-AUG-10 BHRI0URICISC037	L925877-37 FILLET 22-AUG-10 BHRI0URICISC038	L925877-38 FILLET 22-AUG-10 BHRI0URICISC048	L925877-39 FILLET 22-AUG-10 BHRI0URICISC049	L925877-40 FILLET 22-AUG-10 BHRI0URICISC050
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	6.1	10.2	26.0	23.2	32.9
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	2.3	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	324	160	529	159	178
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	264	311	338	265	311
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.155	0.146	0.166	0.149	0.140
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2320	2640	2330	1910	2310
	Potassium (K) (mg/kg wwt)	2210	3970	3460	2060	3880
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	340	336	421	422	494
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	1.4	<1.0	<1.0	1.8	<1.0
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

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ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	L925877-41 FILLET 19-AUG-10 BHR10U13WALL009	L925877-42 FILLET 19-AUG-10 BHR10U13WALL010	L925877-43 FILLET 19-AUG-10 BHR10U13WALL012	L925877-44 FILLET 19-AUG-10 BHR10U13WALL013	L925877-45 FILLET 19-AUG-10 BHR10U13WALL014
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	23.5	18.6	10.9	33.0	18.7
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	128	153	290	488	129
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	314	277	328	291	298
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.588	0.310	0.232	0.383	0.385
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2210	2300	2460	2360	2170
	Potassium (K) (mg/kg wwt)	3920	3820	3990	3890	3690
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	368	500	379	428	470
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

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ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	L925877-46 FILLET 19-AUG-10 BHR10U13WALL018	L925877-47 FILLET 20-AUG-10 BHR10U12WALL005	L925877-48 FILLET 20-AUG-10 BHR10U12WALL006	L925877-49 FILLET 19-AUG-10 BHR10U13WHSC016	L925877-50 FILLET 19-AUG-10 BHR10U13WHSC017
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	14.4	<5.0	5.2	8.2	10.8
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	97	1900	603	3140	132
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	1.8
	Magnesium (Mg) (mg/kg wwt)	281	285	311	293	286
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	1.35	0.354	0.810	0.208	0.124
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2100	3160	2510	3290	2170
	Potassium (K) (mg/kg wwt)	3620	3680	3800	3360	3710
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	403	314	498	463	405
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

Submitted as part of the Version 3 HRGP Amended Application January 2018 - 1656263

ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	L925877-51 FILLET 19-AUG-10 BHR10U13WHSC020	L925877-52 FILLET 19-AUG-10 BHR10U13WHSC021	L925877-53 FILLET 20-AUG-10 BHR10U13WHSC030	L925877-54 FILLET 27-AUG-10 BHR10U13WHSC038	L925877-55 FILLET 28-AUG-10 BHR10U13WHSC039
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	7.0	28.4	10.2	<5.0	18.9
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	103	303	313	237	83
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	<10	<10	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	298	251	251	257	229
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.231	0.217	0.286	0.161	0.255
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	2160	1930	2060	2120	2070
	Potassium (K) (mg/kg wwt)	3630	2030	2100	2010	1890
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	313	310	342	322	422
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	<1.0	1.7	1.4	1.1	1.3
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

Submitted as part of the Version 3 HRGP Amended Application January 2018 - 1656263

ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	L925877-56 FILLET 28-AUG-10 BHR10U13WHSC040	L925877-57 FILLET 19-AUG-10 BHR10U13LKWH019	L925877-58 FILLET 28-AUG-10 BHR10U13LKWH041	L925877-59 FILLET 28-AUG-10 BHR10U13LKWH042	L925877-60 FILLET 28-AUG-10 BHR10U13LKWH043
TISSUE						
Metals	Aluminum (Al) (mg/kg wwt)	12.2	11.7	40.2	6.0	7.2
	Antimony (Sb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Arsenic (As) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Barium (Ba) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Beryllium (Be) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Bismuth (Bi) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Boron (B) (mg/kg wwt)	<5.0	<5.0	5.9	<5.0	<5.0
	Cadmium (Cd) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Calcium (Ca) (mg/kg wwt)	281	83	131	81	113
	Chromium (Cr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cobalt (Co) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Copper (Cu) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Iron (Fe) (mg/kg wwt)	<10	12	<10	<10	<10
	Lead (Pb) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Magnesium (Mg) (mg/kg wwt)	238	215	240	236	250
	Manganese (Mn) (mg/kg wwt)	<20	<20	<20	<20	<20
	Mercury (Hg) (mg/kg wwt)	0.156	0.335	0.257	0.185	0.312
	Molybdenum (Mo) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Nickel (Ni) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Phosphorus (P) (mg/kg wwt)	1960	2130	1850	2090	2190
	Potassium (K) (mg/kg wwt)	2020	1920	2110	3350	3200
	Selenium (Se) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Silver (Ag) (mg/kg wwt)	<0.20	<0.20	<0.20	<0.20	<0.20
	Sodium (Na) (mg/kg wwt)	267	404	450	517	529
	Strontium (Sr) (mg/kg wwt)	<20	<20	<20	<20	<20
	Thallium (Tl) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Tin (Sn) (mg/kg wwt)	1.3	1.4	1.7	<1.0	<1.0
	Titanium (Ti) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg wwt)	<5.0	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0
	Zinc (Zn) (mg/kg wwt)	<10	<10	<10	<10	<10
	Zirconium (Zr) (mg/kg wwt)	<1.0	<1.0	<1.0	<1.0	<1.0

Submitted as part of the Version 3 HRGP Amended Application January 2018 - 1656263

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L925877-61				
		Description	WHOLE				
		Sampled Date	18-AUG-10				
		Sampled Time					
		Client ID	BHR10U15BNSH005				
Grouping	**Analyte**						
TISSUE							
Metals	Aluminum (Al) (mg/kg wwt)		14.7				
	Antimony (Sb) (mg/kg wwt)		<1.0				
	Arsenic (As) (mg/kg wwt)		<1.0				
	Barium (Ba) (mg/kg wwt)		1.3				
	Beryllium (Be) (mg/kg wwt)		<0.20				
	Bismuth (Bi) (mg/kg wwt)		<1.0				
	Boron (B) (mg/kg wwt)		<5.0				
	Cadmium (Cd) (mg/kg wwt)		<0.20				
	Calcium (Ca) (mg/kg wwt)		7970				
	Chromium (Cr) (mg/kg wwt)		<1.0				
	Cobalt (Co) (mg/kg wwt)		<1.0				
	Copper (Cu) (mg/kg wwt)		<1.0				
	Iron (Fe) (mg/kg wwt)		13				
	Lead (Pb) (mg/kg wwt)		<1.0				
	Magnesium (Mg) (mg/kg wwt)		285				
	Manganese (Mn) (mg/kg wwt)		<20				
	Mercury (Hg) (mg/kg wwt)		0.066				
	Molybdenum (Mo) (mg/kg wwt)		<1.0				
	Nickel (Ni) (mg/kg wwt)		<1.0				
	Phosphorus (P) (mg/kg wwt)		4800				
	Potassium (K) (mg/kg wwt)		1580				
	Selenium (Se) (mg/kg wwt)		<1.0				
	Silver (Ag) (mg/kg wwt)		<0.20				
	Sodium (Na) (mg/kg wwt)		532				
	Strontium (Sr) (mg/kg wwt)		<20				
	Thallium (Tl) (mg/kg wwt)		<5.0				
	Tin (Sn) (mg/kg wwt)		1.7				
	Titanium (Ti) (mg/kg wwt)		<5.0				
	Uranium (U) (mg/kg wwt)		<5.0				
	Vanadium (V) (mg/kg wwt)		<1.0				
	Zinc (Zn) (mg/kg wwt)		53				
	Zirconium (Zr) (mg/kg wwt)		<1.0				

Submitted as part of the Version 3 HRGP Amendment EA Documentation
January 2018 1656263

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AS,SB,SE-MS-WT	Tissue	As, Sb, Se in Tissue by ICP/MS	EPA 200.3/6020
HG-WT	Tissue	Mercury by CVAA	SW846 7470A
MET-ICP-WT	Tissue	Metals in Tissue by ICP	EPA 200.3/6020

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS LABORATORY GROUP - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

L925877

GLOSSARY OF REPORT TERMS

Surrogate A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg milligrams per kilogram based on dry weight of sample.
mg/kg wwt milligrams per kilogram based on wet weight of sample.
mg/kg lwt milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L milligrams per litre.
< - Less than.
D.L. The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as receieved by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Submitted as part of the Verification Process for Laboratories Applying for Accreditation Jan 2003

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # L925877
Page 1 of 6

Report To
Company: Golder Associates Ltd
Contact: John Seyler
Address: 1010 Lorne Street
Sudbury Ontario P3C 4R9
Phone: 705-524-6861 Fax: 705-524-1984

Report Format / Distribution
Standard: (PDF) Other (specify): (Excel) Digital Fax
Email 1: jseyler@golder.com
Email 2: tcalverley@golder.com

Service Requested (Rush for routine analysis subject to availability)
(Regular (Default))
Priority (Specify Date Required → →) Surcharges apply
Emergency (1 Business Day) - 100% Surcharge
For Emergency < 1 Day, ASAP or Weekend - Contact ALS

Invoice To Same as Report ? (Yes) No

THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)
Are any samples taken from a regulated DW System? Yes (No)
If yes, an authorized Drinking Water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes (No)

Client / Project Information
Job #: 10-1118-0020
PO / AFE:
LSD:
Quote #:

Lab Work Order # (lab use only)

ALS Contact:
Sampler: TONY Calverley

Analysis Request
Please indicate below Filtered, Preserved or both (F, P, F/P)

See attached

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Number of Containers
1	1	BHR10UR6LKWH051	as per bag	—	Fillet	
2	1	BHR10UR6LKWH022				
3	1	BHR10UR6LKWH052				
4	1	BHR10UR6LKWH062				
5	1	BHR10UR6LKWH063				
6	1	BHR10UR6LKWH066				
7	1	BHR10UR6LKWH166				
8	1	BHR10UTBLKWH167				
9	1	BHR10UR6WALL021				
10	1	BHR10UR6WALL023				
11	1	BHR10UR6WALL035				
12	1	BHR10UR6WALL054				

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify):
Circle one - Note drinking water samples MUST USE DW Chain of Custody

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by: <Original signed by>	Date: Aug 30/10	Time: 15:30	Received by: <Original signed by>	Date: 30-Aug-10	Time: 15:10	Temperature: 1.2 °C	Verified by: RFD	Date: Aug 30/10	Time: 16:15	Observations: Yes / No ? If Yes add SIF

TYFM014 26-Mar-10

Submitted as part of the Vendor Submitted Data Interpretation Project (VSDIP) January 2013

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # L925877

Report To	Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	Standard Other (specify):	Regular (Default)
Contact:	PDF Excel Digital Fax	Priority (Specify Date Required → →) Surcharges apply
Address:	Email 1:	Emergency (1 Business Day) - 100% Surcharge
Phone: Fax:	Email 2:	For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Invoice To Same as Report ? Yes No	Client / Project Information	Analysis Request
THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)	Job #:	Please indicate below Filtered, Preserved or both (F, P, F/P)
Are any samples taken from a regulated DW System? Yes (No)	PO / AFE:	
If yes, an authorized Drinking Water COC MUST be used for this submission.	LSD:	
Is the water sampled intended to be potable for human consumption? Yes (No)	Quote #:	
Lab Work Order # (lab use only)	ALS Contact: / Sampler:	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Number of Containers
13 1	BHR10UR6WALL059	as per bag	—	Fillet	
14 1	BHR10UR6WALL079				
15 1	BHR10UTBWALL170				
16 1	BHR10UTBWALL171				
17 1	BHR10UTBWHSC169				
1	BHR10UR5BNSH118 } combine				
18 1	BHR10UR6BNSH183 } into one			Whole	
1	BHR10UR6BNSH145 } sample				
19 1	BHR10URIWALL033			Fillet	
20 1	BHR10URIWALL041				
21 1	BHR10URIWALL042				
22 1	BHR10URIWALL046				

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify):
Circle one - Note drinking water samples MUST USE DW Chain of Custody

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)			
Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
<Original signed by>	Aug 30/10	15:30	<Original signed by>	BG 06.10	15:10	-1.2°C	REB	Aug 30	16:15	

Submitted as part of the Vendor Qualification Process for TSEA Documentation
January 2010 - 6 of 63

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # L925877
Page 3 of 6

Report To
Company:
Contact:
Address:
Phone: Fax:

Report Format / Distribution
Standard Other (specify):
PDF Excel Digital Fax
Email 1:
Email 2:

Service Requested (Rush for routine analysis subject to availability)
Regular (Default)
Priority (Specify Date Required → →) Surcharges apply
Emergency (1 Business Day) - 100% Surcharge
For Emergency < 1 Day, ASAP or Weekend - Contact ALS

Invoice To Same as Report ? Yes No

THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)
Are any samples taken from a regulated DW System? Yes No
If yes, an authorized Drinking Water COC MUST be used for this submission.
Is the water sampled intended to be potable for human consumption? Yes No

Client / Project Information
Job #:
PO / AFE:
LSD:
Quote #:

Analysis Request
Please indicate below Filtered, Preserved or both (F, P, F/P)

Lab Work Order # (lab use only)

ALS Contact: **Sampler:**

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Number of Containers
23	1	BHR10URIWALL047	as per bag	—	Fillet	
24	1	BHR10URIWALL054			
25	1	BHR10URIWALL055			
26	1	BHR10URIWALL056			
27	1	~~BHR10URIWALL057~~			
28	1	BHR10URIWHSC032			
29	1	BHR10URIWHSC034			
30	1	BHR10URIWHSC043			
31	1	BHR10URIWHSC044			
32	1	BHR10URIWHSC045			
33	1	BHR10URIWHSC051			
34	1	BHR10URICISC031			

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify):
Circle one - Note drinking water samples MUST USE DW Chain of Custody

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
<Original signed by>	Aug 30/10	15:30	<Original signed by>	30-Aug-10	13:10	1.2 °C	REB	Aug 30	16:15	

TYFM014 26-Mar-10

Submitted as part of the Voluntary Action Plan Application
January 31, 2011

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
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COC # L925877
Page 4 of 6

Report To	Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	Standard Other (specify):	Regular (Default)
Contact:	PDF Excel Digital Fax	Priority (Specify Date Required → →) Surcharges apply
Address:	Email 1:	Emergency (1 Business Day) - 100% Surcharge
Phone: Fax:	Email 2:	For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Invoice To Same as Report ? Yes No		
THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)	**Client / Project Information**	**Analysis Request**
Are any samples taken from a regulated DW System? Yes No	Job #:	Please indicate below Filtered, Preserved or both (F, P, F/P)
If yes, an authorized Drinking Water COC MUST be used for this submission.	PO / AFE:	
Is the water sampled intended to be potable for human consumption? Yes No	LSD:	
	Quote #:	
Lab Work Order # (lab use only)	**ALS Contact:** **Sampler:**	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Number of Containers
34 1	BHR10uRIC15C035	as per bag	—	Fillet	
35 1	BHR10uRIC15C036				
36 1	BHR10uRIC15C037				
39 1	BHR10uRIC15C038				
38 1	BHR10uRIC15C048				
39 1	BHR10uRIC15C049				
40 1	BHR10uRIC15C050				
42 1	BHR10u13WALL009				
43 1	BHR10u13WALL010				
44 1	BHR10u13WALL012				
45 1	BHR10u13WALL013				
46 1	BHR10u13WALL014				

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify):
Circle one - Note drinking water samples MUST USE DW Chain of Custody

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by: <Original signed by>	Date: Aug 30/10	Time: 15:30	Received by: <Original signed by>	Date: 3-Sep-10	Time: 15:30	Temperature: 1.2 °C	Verified by: Aug 30/10	Date: 16:15	Time:	Observations: Yes / No ? If Yes add SIF

TYFM014 26-Mar-10

Submitted as part of the Version 3.0 Amendment to the ESE Convention
Effective January 1, 2010 05520

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # L925877
Page 5 of 6

Report To	**Report Format / Distribution**	**Service Requested** (Rush for routine analysis subject to availability)
Company:	Standard Other (specify):	Regular (Default)
Contact:	PDF Excel Digital Fax	Priority (Specify Date Required → →) Surcharges apply
Address:	Email 1:	Emergency (1 Business Day) - 100% Surcharge
	Email 2:	For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone: Fax:		**Analysis Request**
Invoice To Same as Report ? Yes No	**Client / Project Information**	Please indicate below Filtered, Preserved or both (F, P, F/P)
THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)	Job #:	
Are any samples taken from a regulated DW System? Yes No	PO / AFE:	
If yes, an authorized Drinking Water COC MUST be used for this submission.	LSD:	
Is the water sampled intended to be potable for human consumption? Yes No		
	Quote #:	
Lab Work Order # (lab use only)	**ALS Contact:** **Sampler:**	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Number of Containers
46	BHR10U13WALL018	as per bay	—	Fillet	
47	BHR10U12WALL005				
48	BHR10U12WALL006				
49	BHR10U13WHSC016				
50	BHR10U13WHSC017				
51	BHR10U13WHSC020				
52	BHR10U13WHSC021				
53	BHR10U13WHSC030				
54	BHR10U10WHSC038				
55	BHR10U13WHSC039				
56	BHR10U13WHSC040				
57	BHR10U13LKWH019				

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify):
Circle one - Note drinking water samples MUST USE DW Chain of Custody

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)			SHIPMENT VERIFICATION (lab use only)			
Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
<Original signed by>	30Aug10	15:30	<Original signed by>	30-AUG10	15:30	1.2 °C	RES	Aug 30/10	16:15	

TYFM014 26-Mar-10

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # L925877
Page 6 of 6

Report To	Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	Standard Other (specify):	Regular (Default)
Contact:	PDF Excel Digital Fax	Priority (Specify Date Required → →) Surcharges apply
Address:	Email 1:	Emergency (1 Business Day) - 100% Surcharge
Phone: Fax:	Email 2:	For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Invoice To Same as Report ? Yes No	**Client / Project Information**	**Analysis Request**
THE QUESTIONS BELOW MUST BE ANSWERED FOR WATER SAMPLES (circle Yes or No)	Job #:	Please indicate below Filtered, Preserved or both (F, P, F/P)
Are any samples taken from a regulated DW System? Yes No	PO / AFE:	
If yes, an authorized Drinking Water COC MUST be used for this submission.	LSD:	
Is the water sampled intended to be potable for human consumption? Yes No	Quote #:	
Lab Work Order # (lab use only)	**ALS Contact:** **Sampler:**	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Number of Containers
58	BHR10U13LKWH041	as per bag	—	Fillet	
59	BHR10U13LKWH042	↓	↓	↓	
60	BHR10U13LKWH043	↓	↓	↓	
61	BHR10U15BNSH005	↓	↓	Whole	

Special Instructions / Regulations / Hazardous Details

Reg 153 Table 1 2 3 TCLP MISA PWQO OTHER (please specify):
Circle one - Note drinking water samples MUST USE DW Chain of Custody

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
<Original signed by>	Aug 30/10	15:30	<Original signed by>	30-Aug-10	15:30	1.2°C		Aug 30/10	16:15	

TYFM014 26-Mar-10

Submitted as part of the Vessel Quality Assurance Program Audit (AQ-1263)

Atikokan Sportsmen's Conservation Club

P.O. Box 788,
Atikokan, Ontario P0T 1C0
807-597-6990



April 4, 2013

Alexandra Drapack
Director Sustainable Development
155 University Avenue, Suite 1440
Toronto, ON M5H 3B7

Dear Amy,

Re: Comments on the EIS/EA submitted by OSISKO Hammond Reef Gold Project

We have examined documents related to the above Environmental Assessment and have the following comments to make on the project this time:

Aquatic Environment TSD:

The report begins with a long listing of background information including locations, maps, and photos, lists of water bodies and fish species information. This is followed by dates and methodology involved in fish collection as well as habitat mapping.

The fish collection methods proved satisfactory for determining the absence/ presence of fish species in each examined water body.

Fish habitat sampling involved a Habitat Suitability Index approach which ranks the value of each body of water examined.

Presence/absence data are a very qualitative measure of environmental impact from a particular action. While it tells you whether a species that was present before the impact is also present after the impact it does not measure the magnitude of any specific action on the fish species employed as indicators of environmental change. For example while northern pike might still be present in Lake A after mining, the method does not measure the status of the pike population after mining activity has taken place and any degradation or improvement in this species population. Baseline data are not available in this report to measure such changes.

The results of the *Fish Tissue Analysis* outlined in 2.1.4.3 are unacceptable to be considered adequate baseline data for the study area. The mathematical approach chosen by Golder Associates (2.1.4.3) was

neither comprehensible nor comparable to the approach used by the MOE, as was stated. Average mercury concentrations were reported for 8 fish of the most common size of fish caught and the results are very misleading. As seen in Table 2-8, higher levels of mercury contamination appear to exist in the walleye of Lizard Lake. However, the average total length and age were not reported for these fish. If the average length and weight were shown in the same table (as seen in Table 1 below) these walleye contaminant averages for Lizard Lake are less shocking.

Table 1 - Walleye Average Total Hg and Size

Location	Average Total Mercury (ug/g)	Average Weight (g)	Average Fork Length (mm)
Lizard Lake (n=8)	1.210	1590	510
Sawbill Bay (n=18)	0.523	640	398
Turtle Bay (n=8)	0.461	520	364

Standardizing the total mercury concentration to a total length would create comparable values for inter-lake comparisons of contaminants according to species. The data that were collected are insufficient and would not provide a baseline for future conditions. The correct approach would involve sampling more than just 8 fish and would require sampling a full range of ages and sizes for each species. As the variability in fish length increases with age, ageing structures should be collected from each individual fish in order to determine how much variability in fish mercury concentrations is associated with age.

Furthermore, northern pike and smallmouth bass should be included in the contaminant analysis. These sport fish are frequently consumed and changes in aquatic conditions could present a human health concern. Ignoring certain sport fish species and the human health concerns is not acceptable.

Moreover, the methods used for fish tissue analysis did not outline if the lab facilities chosen were accredited for Total Mercury in biological tissue. Laboratory results of fish tissue analysis were not presented in Appendix 2.IV. This appendix did not exist.

As far as using benthos to indicate water quality five samples per site employing a Ponar dredge is not the most efficient way to detect any quantitative change with time. Much more intensive methods are available but of course more expensive and time consuming. These data are the most minimal that could have been presented.

The report then deals with operational and post-operational activity that would impinge upon water quality, fish habitat and specific species.

In the operational phase four items stand out:

1) The Sewage Plant - "will meet MOE guidelines?" What process is used to ensure this outcome?
2) Blasting Effects - somewhat vague as to who will collect the data and what will be the mitigation measures to counteract any blasting effects detected.
3) Cyanide and Copper Levels in Processing Waters - If these remain high how will this be addressed and treated?
4) Closure Phase - Refilling of pits will not cause any direct impacts - because stratification will result in water quality of the upper layer to be suitable for discharge! What about the bottom layer? What about the Steep Rock disaster? Are we creating another such scenario? Once the upper layer drains what about the lower layers?

The statement (pg. 95) that in general the predicted results are the same or marginally greater than average values in Lizard Lake concentrations - high mercury and selenium above average. Is this the old

bromide- "the solution to pollution is dilution?"

The Sewage may meet water quality standards but what about phosphorous and nitrogen loading, resulting in algal blooms?

Also, could you spell out what the exact measures will be to counteract blasting effects- it is very fuzzy at present.

Regarding species habitat, the weightings assigned to various fish species favour sport fish- they ignore for example the Brassy Minnows- this is a very rare species of fish in the Thunder Bay region and North Western Ontario with a very scattered distribution. Given that two populations will be eliminated, serious thought should be given to save and reintroduce this scarce species as part of the rehabilitation plan and to give it a higher ranking in the weightings.

Another point that disturbs me is to imply that assistance with remediation of Steep Rock could substitute for remediation efforts on the mine site and adjacent habitats. I absolutely oppose this as a cop out - the duty of Osisko is to rehabilitate what they have impaired and not get caught up in the mess at Steep Rock- a totally separate disaster. Help us pay for treatment of toxic Steep Rock effluent and we will look the other way when it is your turn? Come on!

Residual compensation by stocking is another dubious way to evade responsibility for correcting the damage resulting from this operation and does not substitute for rehabilitation.

Also the claim that effluent would only be a problem in "wet years" with a statistical probability of 1 in 25 does not mean that a wet year can only occur once in a 25 year period. This is another evasive maneuver. You could get three wet years in a row and then what? I would want to see a back-up plan should such an event occur.

Overall we do realize that hard rock mining is a very ecologically destructive process and is financially riskier than for example oil production by conventional means. The ecological baseline data that were collected and are used to evaluate detrimental effects and rehabilitation of such effects are the bare minimum and mostly qualitative rather than quantitative in nature. The latter are needed to measure rehabilitation. Furthermore, how can we be certain the proponent will be able to carry out all the proposed actions of the post-closure monitoring and mitigation projects if it becomes insolvent? Who then pays for this portion of the plan? We have only to look at some entrepreneurs in the forest industry to see examples of this.

Sincerely,

John Charbonneau
ASCC President

Roy DeCorte
O.F.A.H. Zone A
Secretary/Treasurer

c.c. Amy Lin, CEAA, Toronto

From: Alexandra Drapack
Sent: April 5, 2013 2:35 PM
To: Cathryn Moffett; 'Amy.Liu@ceaa-acee.gc.ca'; 'michelle.whitmore@ontario.ca'; 'Patrick.M.Barnes@ontario.ca'
Subject: Fw: OFAH Response to Osisko Hammond Reef Gold Project
Attachments: OFAH_Response_Osisko.pdf

FYI

From: Shari Sokay [mailto:shari_sokay@ofah.org]
Sent: Friday, April 05, 2013 02:34 PM Eastern Standard Time
To: Alexandra Drapack
Cc: EAASIBgen@ontario.ca <EAASIBgen@ontario.ca>
Subject: OFAH Response to Osisko Hammond Reef Gold Project

Hello Alexandra,

Please find attached a copy of our comments for the **Osisko Hammond Reef Gold Project** submitted by the Ontario Federation of Anglers and Hunters (OFAH).

Yours in Conservation,

Shari Sokay

Land Use Specialist
Ontario Federation of Anglers and Hunters
P.O. Box 2800, 601 Guthrie Drive
Peterborough, ON K9J 8L5
Phone: 705-748-6324 Ext. 268
Fax: 705-748-9577
E-mail: shari_sokay@ofah.org

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

ONTARIO FEDERATION OF ANGLERS & HUNTERS

P.O. Box 2800, 4601 Guthrie Drive, Peterborough, Ontario K9J 8L5
Phone: (705) 748.6324 • Fax: (705) 748.9577 • Visit: www.ofah.org • Email: ofah@ofah.org

Ontario Conservation Centre

OFAH FILE: 339/349A/420/451
April 4, 2013

Alexandra Drapack, Director Sustainable Development
Osisko Hammond Reef Gold
155 University Avenue, Suite 1440
Toronto, Ontario
M5H 3B7

Dear Alexandra:

Subject: Osisko Hammond Reef Gold Project

On behalf of the Ontario Federation of Anglers and Hunters (OFAH), its 100,000 members, subscribers and supporters, and 710 member clubs, we have reviewed the Draft Environmental Impact Statement / Environmental Assessment Report and have provided our questions and comments below.

The location and scale of the proposed development will undoubtedly result in significant impacts to fish and fish habitat. Changing groundwater flows, destroying or altering fish habitat by modifying surface water (draining a waterbody or creating a tailings pond), as well as the discharge of effluent and contaminants (with subsequent accumulation of contaminants in fish) are a few of the major ecological issues associated with mining operations. Developments are often permitted under a blanket statement that there will be "no negative impacts" or "no net loss". However, the reality of post-construction and long-term monitoring often shows that compensation measures are not reflective of pre-construction conditions. Therefore, avoidance must take priority over compensation and mitigation measures.

The OFAH is deeply concerned with the impacts associated with this development. The large scale and location of this development will most certainly result in a significant impact to fish and fish habitat within the region. The project is located within Fisheries Management Zone (FMZ) 5 which has identified Walleye, Northern Pike and Smallmouth Bass as the top three preferred species, and all three of these species have been identified within the project location. FMZ 5 is a popular fishing destination with a staggering $48.4 million spent annually on recreational fishing alone. In addition, a well-known Smallmouth Bass fishing tournament takes place annually in the Marmion Lake, directly adjacent to the proposed development.

The OFAH does not feel that sufficient pre-construction (baseline) information has been collected to accurately determine post-construction impacts. In particular, the potential for an increase in fish tissue contamination has been identified, however the details of the methodology for sampling is appallingly sparse. Without a sound sampling methodology the "results" are essentially meaningless. Therefore, the "baseline" study preformed is sorely lacking in scientific basis and does not provide for any meaningful comparison for post-construction monitoring.

The Ministry of Environment (MOE) regularly conducts fish tissue contaminant testing, and therefore has information available through the *Sport Fish Contaminant Monitoring Program*, including the *"Protocol for the Collection of Sport Fish Samples for Inorganic and Organic Contaminant Analysis"*. The Osisko Draft Environmental Impact Statement / Environmental Assessment Report falls well short of what is recommended in the MOE protocol. The following comparison of the aforementioned protocol versus what was reported by Osisko provides an example of the shortcomings of the baseline data collected:

.....2

1. **Protocol**: Fish communities sampled a) within areas potentially impacted; and b) a reference area separated by a barrier to fish.
   Osisko: Only three sample locations chosen. None of which would qualify as a reference area.
2. **Protocol**: Requires the collection of large fish in addition to forage fish.
   Osisko: No apparent separation between collections. Only one forage fish species noted in collection.
3. **Protocol**: Large fish protocol recommends the collection of 20 individuals (per species and per area impacted) of at least 25-55 cm in size.
   Osisko: Only three areas selected for sampling with a total of 88 individuals sampled. Number of individuals per area/per species ranged from only one to 18, therefore all samples were below the recommended 20 individuals, with only three samples even above 10 individuals. No fish lengths were provided.
4. **Protocol**: Forage fish collection is the preferred method of sampling and requires composite samples (e.g. five to 10 individuals, per sample) of selected young-of-the-year species (typically Yellow Perch) or appropriate cyprinid species with a minimum of five composite samples. ***Therefore, at minimum, 25 individual fish per sample site for a total of no less than 75 individual fish for the three sample sites would be required.***
   Osisko: Of the three sites selected for sampling a single cyprinid (one individual fish) was sampled for two of the sites.

In addition, insufficient detail was provided within the report to determine if other aspects such as sample collection techniques, preservation, and/or tissue size collections were completed properly.

Conclusions

In conclusion, the OFAH does not support the Osisko Hammond Reef Gold project as proposed because of the high potential for impacts to local fish and fish habitat. We do not believe the proposed compensation and mitigation measures will be adequate for the protection of fish, fish habitat and other important recreational fishery values within this area. We are also very concerned that the data collected for fish tissue contaminant analysis is wholly inadequate and cannot be considered sufficient to use as a baseline for subsequent monitoring.

We look forward to receiving a response to our concerns.

Yours in Conservation,
<Original signed by>

Shari Sokay
Land Use Specialist

/ss

cc: Ministry of Environment, Environmental Approvals Branch
OFAH Zone A Executive
OFAH Fisheries Advisory Committee
OFAH Land Use/Access/Trails Committee
Angelo Lombardo, OFAH Executive Director
Dr. Terry Quinney, OFAH Provincial Manager of Fish and Wildlife Services
Greg Farrant, OFAH Manager of Government Affairs and Policy
Matt DeMille, OFAH Assistant Manager of Fish and Wildlife Services

OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

MEETING NOTES
ATIKOKAN SPORTSMEN'S CLUB
May 21 2013

Attendees:

	Attendee	Organization
1	Lorne Ferguson	Sportsmen Club
2	W Jacgulack	Sportsmen Club
3	Matt Warren	Sportsmen Club
4	Dennis Fredrickson	Sportsmen Club
5	Roy DeCorte	Sportsmen Club
6	James Burns	Sportsmen Club
7	Hailey Heyens	Sportsmen Club
8	Sally Burns	Sportsmen Club
9	Dennis Brown	Sportsmen Club
10	John Charbonneau	Sportsmen Club
11	Wray Clement	Sportsmen Club
12	Max Clement	Sportsmen Club
13	Ken Sawchuck	Sportsmen Club
14	Bruce James	Sportsmen Club
15	Jeremy Dickson	Sportsmen Club
16	Erik Johansson	Sportsmen Club
17	Sandy Dickson	Sportsmen Club
18	Alexandra Drapack	Osisko Hammond Reef Gold
19	Martin Griffin	Osisko Hammond Reef Gold
20	Cathryn Moffett	Osisko Hammond Reef Gold

Meeting Purpose:
Present an update on the comments received on the DRAFT EIS/EA report and our approach to responding to the comments. (See attached Presentation)

Comments:

Q: Are there other contaminants besides mercury that could be increased by the Project? Has arsenic been included in the fish tissue sampling? If you have such a small sample size then you won't be able to compare it in the future to changes that occur in the next 20 years. Have all the potential metals been tested and identified that could be increased? What are these numbers that the OFAH is referencing? Where did they get the number of samples from?

A: The OFAH is referencing the MOE guidelines "*Protocol for the Collection of Sport Fish Samples for Inorganic and Organic Contaminant Analysis*". There is no "guideline" for how to complete a baseline fish tissue collection and analysis program to establish a baseline for a

mining EA. The Environmental Impact Statement (EIS) guidelines and the Terms of Reference (ToR) provide the basis for conducting the EA. Typically the baseline data collection (for all disciplines) is based on establishing what the current conditions, with an emphasis on, what the predicted impacts of the mine are anticipated to be, and in some cases, to better characterize existing impacts that may exist on the existing environment Fish tissue contaminant analyses are typically collected for an EA, when there is concern that impacts from the mine might result in release of contaminants that could bioaccumulate in fish tissue and subsequently pose either a human health or an environmental risk (for example result in mortality to fish eating birds). In the case of the Hammond Reef project, mercury is really the only metal that could potentially bioaccumulate (most metals do not) and the project will not cause any release of mercury to the environment. Osisko is not relying on the information collected for the baseline data for the EIS/EA as the only basis of the specific effects of Project operations. The Environmental Effects Monitoring (EEM) program is focused on locations and effects. There is also recent data (2010) from Upper Marmion Lake available through the provincial program and the lake is on the list for future sampling within that program.

Q: The creek that will be destroyed – is that the creek that comes out right by the camp?
A: Not, it is about 2km away from the camp.

Q: For the waterbodies that will be impacted – how many fish does that include? What is the total number of fish that will be impacted?
A: The loss of fish is calculated by habitat unit not fish abundance. We know the 24 species of fish living in the areas that will be impacted and we know what type of fish habitat those areas provide. We did not count the number of fish.

Q: What will be done with the beaver houses at Mitta Lake? Will they be relocated?
A: We will work with the local trappers to live capture any nuisance animals and transport them to a remote area. This would include beaver living on Mitta Lake.

Q: Does the restricted access include restriction to the Clement cabins?
A: No, access to the Clement cabins is not anticipated to be restricted.

Q: I am concerned about the waste rock being so close to Lizard Lake. Whatever is in the waste rock will seep right into Lizard Lake.
A: Seepage collection ponds will capture seepage and divert it away from the lake. The seepage water will be directed to the Process Plant Collection Pond (PPCP) and either reused in the process or treated prior to discharge to the Marmion Reservoir.

Q: In a wet year, what will stop an overflow from the ponds into the lake?
A: We have storage capacity off 400,000m^3 in the PPCP. The modeling indicated a need for a maximum capacity of 350,000 m^3, so the project has been designed to contain the volume.

Q: What about the wetlands around the ponds? Aren't they seeping into the lake?

A: The ponds are artificially constructed water management areas that do not have seepage into wetlands or the lake.

Q: Are all the ponds lined?
A: No, just the PPCP is lined.

Q: Have wells been drilled in the area to measure hydraulic conductivity?
A: Yes

Q: Isn't the waste rock somewhat innocuous?
A: Yes, geochemical testing shows no potential for acid rock drainage or metal leaching.

Osisko: Is there a way for the club to be supportive of the Project?
A: We never stated that we aren't supportive of the Project, we simply stated our concerns.

Osisko: Once the concerns are answered, would the club consider sending a letter of support that states their concerns have been addressed?
A: Yes, it is something we would consider.

Q: Golder should have worked with the Sportsmen Club to gather more fish. The study should meet the minimum number of fish required in the MOE protocol.
A: Osisko doesn't intend to collect more fish. The protocol is not intended for EA purposes and is meant to be met on a best effort basis.

Q: What is the standard that Osisko should be following if not the MOE protocol? What are the defined rules for baseline studies?
A: The guidelines we need to meet are the EIS Guidelines and ToR issued for the Project.

Other comments:
C: It was hard to read the entire EA on a computer. Both the OFAH and Lakehead University independently came up with the same conclusions on the fish tissue study. The sample sizes are not big enough and do not represent enough different sizes and ages of fish.

C: Even if it is not in Osisko's mandate to do so, maybe they should consider some extra data collection to put these fears to rest.

C: You should do more studies to keep the people happy.

C: If you aren't going to do more studies then at least get a letter from the MOE stating that Osisko was not required to meet the protocol.

C: The most important thing when starting a mine is background. Twelve extra fish could save you in the future.

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

Hammond Reef Gold Project

Comments on the Draft EIS/EA Report

Presentation Overview

- Summary of Comments on EIS/EA report
- Comments/Responses to Atikokan Sportsmen's Club & OFAH
- Potential Effects of the Project on Hunting, Fishing, Tourism & Recreation
- Mitigation Measures
- Visual Effects
- Wrap-up

Draft EIS/EA Report

- Published February 15
- 7 week public comment period
- Received comments from:
  - Aboriginal
  - Government
  - Public

Aboriginal Groups

- Seine River First Nation
- Lac des Mille Lac First Nation
- Metis Nation of Ontario

Government

Federal

- 166 comments
- Canadian Environmental Assessment Agency (40)
- Department of Fisheries and Oceans (38)
- Environment Canada (59)
- Health Canada (10)
- Natural Resources Canada (9)
- Transport Canada (16)

Government

Provincial

- 517 comments
- Ministry of Natural Resources (294)
- Ministry of Northern Development and Mines (48)
- Ministry of Environment (175)
- Additional letters provided on Air Model, Sewage Works, Archaeology and Heritage Assessment

Municipal

- 6 comments
- Town of Atikokan (2)
- City of Thunder Bay
- Township of O'Connor
- Township of Ignace
- Northwestern Ontario Municipal Association

Public

Open House

- Comment forms (40)

Non Governmental Organizations

- Atikokan Economic Development Corporation (2)
- Ontario Federation of Anglers and Hunters Committee
- Atikokan Sportsmen's Club

Local Citizens

- Crystal Beach Resort (3)
- Individual letters and emails (5)

The local residents strongly support the Project

Open House

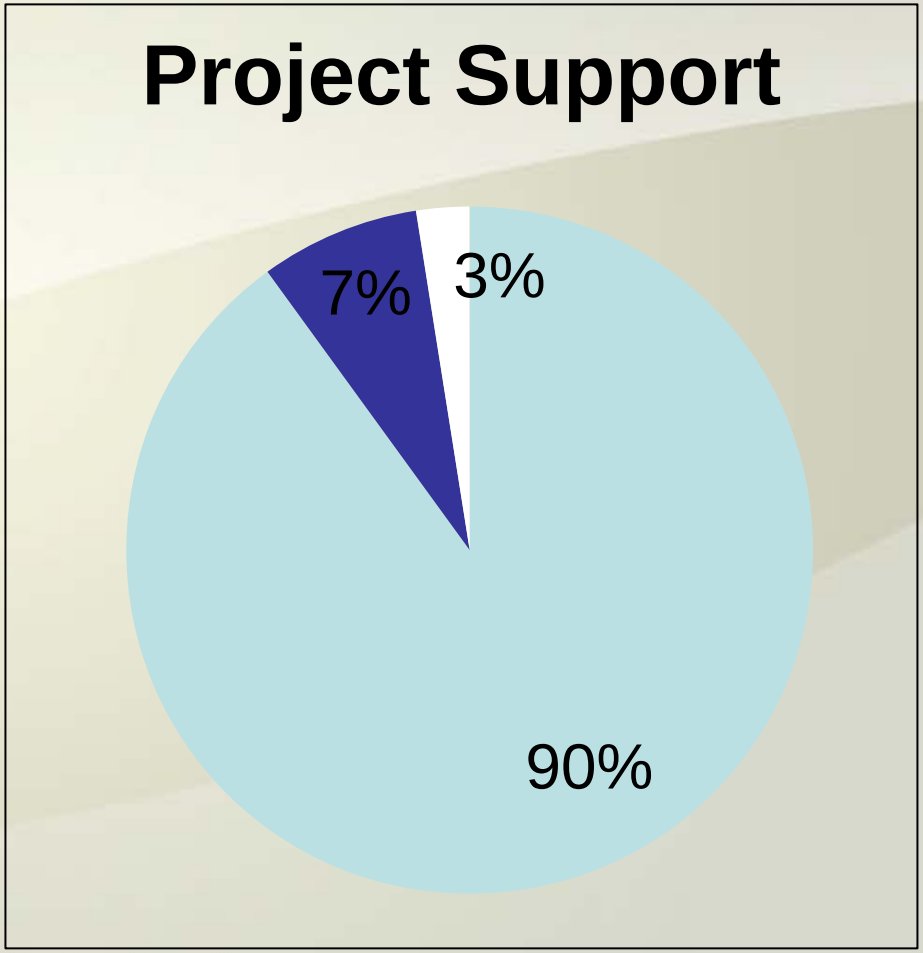
90% of respondents fully support the Project

My biggest **hope** relating to the Project is.....

-That it will be approved ASAP
-A good feasibility study
-Jobs for local people
-A place I can work and retire

My biggest **concern** relating to the Project is....

-It may be delayed
-Falling gold price
-Water quality of Marmion
-Not starting up soon enough
-Bringing in people who want to party and hang out

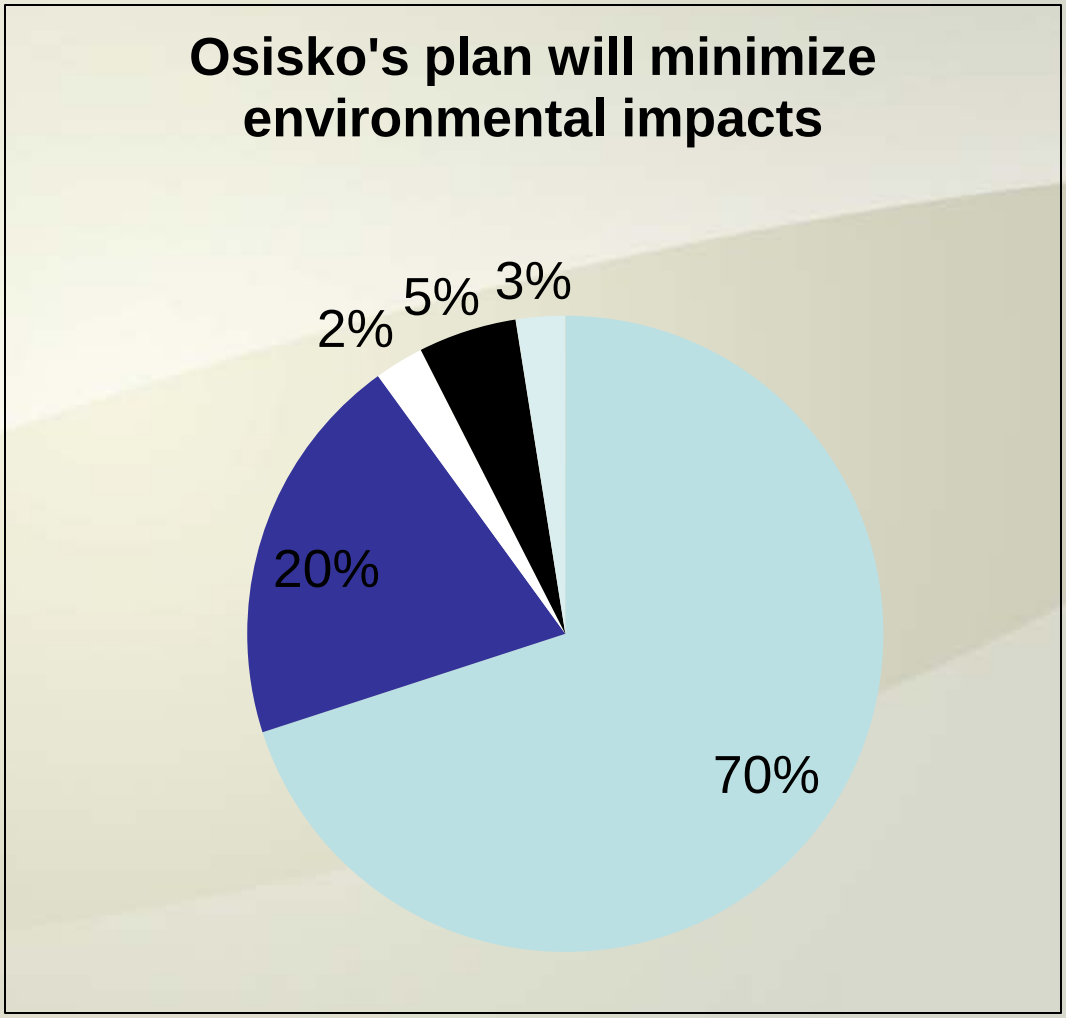


Open House

70% of respondents strongly agree Osisko's environmental management plan is sufficient

80% feel up to date on the Project

100% believe the quality of life in Atikokan will improve if the Project goes forward



People who depend on fishing and tourism are concerned about impacts and changes to the landscape

Atikokan Sportsmen's Club

Comment:

The fish collection methods proved satisfactory for determining the absence/presence of fish species in each examined water body. Fish habitat sampling involved a Habitat Suitability Index approach which ranks the value of each body of water examined.

Atikokan Sportsmen's Club

Comment:
Presence/absence data are a very qualitative measure of environmental impact from a particular action. While it tells you whether a species that was present before the impact is also present after the impact it does not measure the magnitude of any specific action on the fish species employed as indicators of environmental change. For example, while northern pike might still be present in Lake A after mining, the method does not measure the status of the pike population after mining activity has taken place and any degradation or improvement in this species population. Baseline data are not available in this report to measure such changes.

Atikokan Sportsmen's Club

Response:

Sufficient baseline data on fish communities within all of the lakes potentially impacted by the project was collected in order to assess project effects and develop mitigation and compensation measures as part of the EA. In addition, an Environmental Effects Monitoring (EEM) program will be implemented to collect additional baseline data as a benchmark to evaluate any potential for additional effects during operations.

Atikokan Sportsmen's Club

Comment:
The results of the *Fish Tissue Analysis* outlined in 2.1.4.3 are unacceptable to be considered adequate baseline data for the study area. The mathematical approach chosen by Golder Associates (2.1.4.3) was neither comprehensible nor comparable to the approach used by MOE, as was stated. Average mercury concentrations were reported for 8 fish of the most common size of fish caught and the results are very misleading. As seen in Table 2-8, higher levels of mercury contamination appear to exist in the walleye of Lizard Lake. However, the average total length and age were not reported for these fish. If the average length and weight were shown in the same table these walleye contaminant averages for Lizard Lake are less shocking.

Atikokan Sportsmen's Club

Response:

The length and weight information was provided to the Atikokan Sportsmen Club throughout the public comment period of the Draft EIS/EA Report.

Atikokan Sportsmen's Club

Comment:
Standardizing the total mercury concentration to a total length would create comparable values for interlake comparisons of contaminants according to species. The data that were collected are insufficient and would not provide a baseline for future conditions. The correct approach would involve sampling more than just 8 fish and would require sampling a full range of ages and sizes for each species. As the variability in fish length increases with age, ageing structures should be collected from each individual fish in order to determine how much variability in fish mercury concentrations is associated with age.

Atikokan Sportsmen's Club

Response:

The level of detail that is being requested is not appropriate for an EA. The information was collected and data is available for additional analysis should it be required in the future. The EEM Program will collect additional data on fish tissue contaminants, as well as detailed fish measurements.

Atikokan Sportsmen's Club

Comment:
Furthermore, northern pike and smallmouth bass should be included in the contaminant analysis. These sport fish are frequently consumed and changes in aquatic conditions could present a human health concern. Ignoring certain sport fish species and the human health concerns is not acceptable.

Atikokan Sportsmen's Club

Response:

Data was collected on one of the key sport fish: walleye. Walleye was chosen as a valued ecosystem component (VEC) through consultation with the government review team, the public and Aboriginal groups. We will consider additional species when we look at the EEM Program. Recommendations for consumption of fish is the mandate of MOE.

Atikokan Sportsmen's Club

Comment:
Moreover, the methods used for fish tissue analysis did not outline if the lab facilities chosen were accredited for Total Mercury in biological tissue. Laboratory results of fish tissue analysis were not presented in Appendix 2.IV. This appendix did not exist.

Response:
Yes, the laboratory was accredited for Total Mercury in biological tissue.Detailed laboratory results were provided to the Sporstmen's Club throughout the public comment period on the Draft EIS/EA Report.

Atikokan Sportsmen's Club

Comment:
As far as using benthos to indicate water quality five samples per site employing a Ponar dredge is not the most efficient way to detect any quantitative change with time. Much more intensive methods are available but of course more expensive and time consuming. These data are the most minimal that could have been presented.

Response:
The method is widely accepted and approved by regulators.

Atikokan Sportsmen's Club

Comment:
The Sewage Plant – "will meet MOE guidelines?" What process is used to ensure this outcome?

Response:
The Environmental Compliance Approval process will ensure that all sewage discharge meets water quality requirements. An Industrial Sewage works Certificate of Approval will be required prior to any discharge. Operational monitoring and reporting to regulators is also required.

Atikokan Sportsmen's Club

Comment:
The Sewage may meet water quality standards but what about phosphorous and nitrogen loading, resulting in algal blooms?

Response:
Nutrients are considered as an important water quality criteria in the accommodation camp discharge. The predicted nutrient mixing concentrations did not result in nutrient concentrations in exceedances of any water quality guidelines with the exception of phosphorus. The exceedances of the PWQO for phosphorus in Sawbill Bay will be addressed through modification to the treatment system prior to release of domestic waste water. The predicted results will be incorporated into the final design criteria for the domestic STP to ensure there are no predicted exceedances of the PWQO. The camp policies will include use of phosphate free soap.

Atikokan Sportsmen's Club

Comments (2 separate):
Blasting Effects - somewhat vague as to who will collect the data and what will be the mitigation measures to counteract any blasting effects detected.
Also, could you spell out what the exact measures will be to counteract blasting effects- it is very fuzzy at present.

Response:
Osisko will be responsible for monitoring and implementing a mitigation/avoidance plan as required.
There are a number of measures that can be implemented. Some examples are:
• Use of bubble curtains
• Adjust the magnitude of the blast (reduce hole diameter; deck blasts)
• Adjust the time of blasting to avoid sensitive life cycle stages of fish.

Atikokan Sportsmen's Club

Comment:
Cyanide and Copper Levels in Processing Waters- If these remain high how will this be addressed and treated?

Response:
A contingency plan will be developed that includes the treatment of metals, if necessary. The exceedances of the CWQG and PWQO for free cyanide are based on conservative assumptions. Free cyanide was assumed to equal total cyanide concentrations. The actual concentrations of free cyanide are predicted to be less than the values provided. The cyanide detoxification circuit in the processing plant can be modified if necessary to further reduce the cyanide concentration in tailings.

Atikokan Sportsmen's Club

Comment:

Closure Phase – Refilling of pits will not cause any direct impacts because stratification will result in water quality of the upper layer to be suitable for discharge! What about the bottom layer? What about the Steep Rock disaster? Are we creating another such scenario? Once the upper layer drains what about the lower layers?

Atikokan Sportsmen's Club

Response:

The pits will not be drained during the closure phase. They will slowly fill with water, allowing stratification and settling to occur naturally. The water at the bottom of the pit will not mix with the water at the top because of depth and small surface area = permanent thermal stratification. No, Osisko will not be creating a scenario similar to Steep Rock. Two key things differentiate this project from the Steep Rock mine. Firstly, the nature of the rock, tailings and process water at Hammond Reef is very different from the Steep Rock Mine. Geochemical testing has shown that there is no potential for acid rock drainage or metal leaching. Secondly, government regulations around closure have changed significantly in the past fifty years. Osisko has the responsibility to create a detailed closure plan which includes making a significant financial commitment before construction can begin.

Atikokan Sportsmen's Club

Comment:
The statement (pg. 95) that in general the predicted results are the same or marginally greater than average values in Lizard Lake concentrations high mercury and selenium above average. Is this the old bromide "the solution to pollution is dilution?"

Response:
The statement is referring to the magnitude of change to water quality and is not referencing dilution factors. There is no predicted change to mercury or selenium, for the CWQG based on MDL.

Atikokan Sportsmen's Club

Comment:

Regarding species habitat, the weightings assigned to various fish species favour sport fish- they ignore for example the Brassy Minnows- this is a very rare species of fish in the Thunder Bay region and North Western Ontario with a very scattered distribution. Given that two populations will be eliminated, serious thought should be given to save and reintroduce this scarce species as part of the rehabilitation plan and to give it a higher ranking in the weightings.

Atikokan Sportsmen's Club

Response:

Osisko did not assign species habitat weightings. A series of meetings regarding fish habitat compensation and no net loss planning have been taking place with government regulators over the past two years. Fish weightings were developed in cooperation with government regulators and all fish species are included in the weightings. In discussion with MNR, it was determined that Brassy Minnow was misidentified and is not found in the study area.

Atikokan Sportsmen's Club

Comment:
Another point that disturbs me is to imply that assistance with remediation of Steep Rock could substitute for remediation efforts on the mine site and adjacent habitats. I absolutely oppose this as a cop out- the duty of Osisko is to rehabilitate what they have impaired and not get caught up in the mess at Steep Rock- a totally separate disaster. Help us pay for treatment of toxic Steep Rock effluent and we will look the other way when it is your turn? Come on!

Atikokan Sportsmen's Club

Response:

Throughout our consultation, we heard that many people were concerned about the risks presented by Steep Rock. We included off site fish habitat compensation as an option in an effort to address these comments. However, as the Project planning proceeded, we heard from several groups that they would be opposed to this option. We have therefore refocused our fish habitat compensation plan to focus on on-site options.

Atikokan Sportsmen's Club

Comment:
Residual compensation by stocking is another dubious way to evade responsibility for correcting the damage resulting from this operation and does not substitute for rehabilitation.

Response:
Osisko did not develop the compensation measures alone and is in no way trying to be "dubious". A series of meetings regarding fish habitat compensation and no net loss planning have been taking place with government regulators over the past two years. Fish habitat compensation measures were developed in cooperation with government regulators. Stocking fishless lakes is an acceptable compensation method.

Atikokan Sportsmen's Club

Comment:

Also the claim that effluent would only be a problem in "wet years" with a statistical probability of 1 in 25 does not mean that a wet year can only occur in a 25 year period. This is another evasive maneuver. You could get three wet years in a row and then what? I would want to see a back-up plan should such an event occur.

Atikokan Sportsmen's Club

Response:

Table 6-18 shows no discharge in dry year return periods. It does show discharge in wet year return periods.

While it is statistically possible to have several wet years in a row this is very unlikely and would be considered an upset condition. Based on the water quality predictions, excess water under these high flow conditions is expected to be better than existing discharge scenarios, however an operational monitoring program will be in effect and contingencies will be developed to deal with upset conditions that would account for overall water storage on site. Storage areas that could potentially be used under upset conditions may include use of the TMF and/or the open pit if necessary

Atikokan Sportsmen's Club

Comment:
Overall we do realize that hard rock mining is a very ecologically destructive process and is financially riskier than for example oil production by conventional means. The ecological baseline data that were collected and are used to evaluate detrimental effects and rehabilitation of such effects are the bare minimum and mostly qualitative rather than quantitative in nature. The latter are needed to measure rehabilitation. Furthermore, how can we be certain the proponent will be able to carry out all the proposed actions of the post-closure monitoring and mitigation projects if it becomes insolvent? Who then pays for this portion of the plan? We have only to look at some entrepreneurs in the forest industry to see examples of this.

Atikokan Sportsmen's Club

Response:

Osisko's approach is to be as pro-active as possible and plan for stable, long-term restoration of the area, in order to support a healthy ecosystem, include the values of the local community, and be an example for mining in the future. Changes to the Ontario Mining Act, made after the Steep Rock Iron mine closed, ensure that mining companies can no longer abandon mines and leave the clean-up to the public. The Mining Act now requires that a company develop a plan for the rehabilitation of a mine site, and set aside financial assurance that will guarantee the work is completed. Simply put, before Osisko receives a permit to develop a mine, we will have to provide the government of Ontario with the money for mine closure.

Ontario Federation of Anglers & Hunters

The location and scale of the proposed development will undoubtedly result in significant impacts to fish and fish habitat. Changing groundwater flows, destroying or altering fish habitat by modifying surface water (draining a waterbody or creating a tailings pond), as well as the discharge of effluent and contaminants (with subsequent accumulation of contaminants in fish) are a few of the major ecological issues associated with mining operations. Developments are often permitted under a blanket statement that there will be "no negative impacts" or "no net loss". However, the reality of post-construction and long-term monitoring often shows that compensation measures are not reflective of pre-construction conditions. Therefore, avoidance must take priority over compensation and mitigation measures.

Ontario Federation of Anglers & Hunters

Response:
Yes, we agree that avoidance should take priority over compensation and mitigation. We are proud of our efforts throughout the planning process to minimize environmental impacts through design and siting of Project facilities. We have worked extensively with DFO and MNR to develop compensation measures that will contribute to an overall improvement in fish habitat in Upper Marmion Lake and through ongoing monitoring and assessment activities, in particular, the future Environmental Effects Monitoring Program, we will ensure that our project meets all regulatory requirements

Ontario Federation of Anglers & Hunters

The OFAH is deeply concerned with the impacts associated with this development. The large scale and location of this development will most certainly result in a significant impact to fish and fish habitat within the region. The project is located within Fisheries Management Zone (FMZ) 5 which has identified Walleye, Northern Pike and Smallmouth Bass as the top three preferred species, and all three of these species have been identified within the project location. FMZ 5 is a popular fishing destination with a staggering $48.4 million spent annually on recreational fishing alone. In addition, a well-know Smallmouth Bass fishing tournament takes place annually in the Marmion Lake, directly adjacent to the proposed development.

Ontario Federation of Anglers & Hunters

Response:
Yes, we understand that fishing is an important land use in the Project area. We support recreational fishing through our sponsorship of the Atikokan Bass Classic. We are confident in our ability to quantify and mitigate impacts to fish and fish habitat throughout the EA process and Not Net Loss Planning process. We anticipate ongoing work and support to enhance benefits to the local recreational fishery that can be realized should the Project move forward. While some fish habitats in waterbodies located within the mine site on the peninsula will be lost, these impacts have been limited to the mine site and valuable habitats within Upper Marmion Lake and Lizard Lake have been protected and enhanced.

Ontario Federation of Anglers & Hunters

The OFAH does not feel that sufficient pre-construction (baseline) information has been collected to accurately determine post-construction impacts. In particular, the potential for an increase in fish tissue contamination has been identified, however the details of the methodology for sampling is appallingly sparse. Without a sound sampling methodology the "results" are essentially meaningless. Therefore, the "baseline" study preformed is sorely lacking in scientific basis and does not provide for any meaningful comparison for post-construction monitoring.

Ontario Federation of Anglers & Hunters

Response:
The Project is not anticipated to result in an increase in fish tissue contamination. We are confident that the fish tissue analysis is sufficient to meet the requirements of the EA process and this is further substantiated by the baseline water and sediment quality analyses that were completed. We are committed to ongoing monitoring throughout the Project phases as required by the Environmental Effects Monitoring study that will be initiated which will involve establishing additional baseline contaminant levels in biota, water and sediment, that will continue to be monitored during the operational stage of the mining

Ontario Federation of Anglers & Hunters

The Ministry of Environment (MOE) regularly conducts fish tissue contaminant testing, and therefore has information available through the *Sport Fish Contaminant Monitoring Program,* including the *"Protocol for the Collection of Sport Fish Samples for Inorganic and Organic Contaminant Analysis".* The Osisko Draft Environmental Impact Statement *I* Environmental Assessment Report falls well short of what is recommended in the MOE protocol.

Ontario Federation of Anglers & Hunters

Response:
The purpose of the MOE protocol differs from the purpose of the Hammond Reef Environmental Assessment. Osisko does not strive to develop recommendations for public consumption of fish. The study carried out by Osisko meets the criteria required for the EA and is focused on the specific potential effects of the Project. We are not relying on the information as the only basis of the specific effects of Project operations. The EEM is focused on locations and effects. There is also recent data (2010) from Upper Marmion Lake available through the provincial program and the lake is on the list for future sampling within that program.

Ontario Federation of Anglers & Hunters

Protocol: Fish communities sampled a) within areas potentially impacted; and b) a reference area separated by a barrier to fish.

Osisko: Only three sample locations chosen. None of which would qualify as a reference area.

Response:
A reference location is not a specific requirement as part of evaluating project impact as part of the EA. By collecting baseline, pre-development data, we have a basis for comparisons of future conditions. The EEM Program, which will be established prior to mine operation will further establish a baseline condition in terms of water, sediment, benthic invertebrates and fish for both reference locations and areas around the mine. This program will operate during the operational life of the mine with regular reporting to regulatory agencies.

Ontario Federation of Anglers & Hunters

Protocol: Requires the collection of large fish in addition to forage fish.

Osisko: No apparent separation between collections. Only one forage fish species noted in collection.

Response:
Samples were collected from Lizard Lake and Upper Marmion Individual analyses for all species were completed, except for blacknose shiner, where a composite sample of several individuals was analysed. This information provided sufficient evidence of background conditions, in concert with the water and sediment quality data to characterize the existing environment for the purposes of the EA. The EEM Program will collect additional baseline information that will be used to monitor any future effects of mine operations.

Ontario Federation of Anglers & Hunters

Protocol: Large fish protocol recommends the collection of 20 individuals (per species and per area impacted) of at least 25-55 cm in size.

Osisko: Only three areas selected for sampling with a total of 88 individuals sampled. Number of individuals per area/per species ranged from only one to 18, therefore all samples were below the recommended 20 individuals, with only three samples even above 10 individuals. No fish lengths were provided.

Ontario Federation of Anglers & Hunters

Response:
The fish collection guidelines identified are those recommended for assessing the suitability for fish to be consumed and are intended as a guideline to be met on a best effort basis. The areas sampled represent the primary waterbodies potentially impacted by the project, two of which are in Upper Marmion Reservoir. For the EA, we have collected sufficient information on fish tissue contaminant levels to allow for an assessment of any potential for mine related effects. The fish tissue information is used in concert with sediment and water quality results. Results confirmed that there are naturally elevated levels of mercury in fish tissue and further that the mine will not represent a source of mercury contamination to the environment.

Ontario Federation of Anglers & Hunters

Protocol: Forage fish collection is the preferred method of sampling and requires composite samples (e.g. five to 10 individuals, per sample) of selected young-of-the-year species (typically Yellow Perch) or appropriate cyprinid species with a minimum of five composite samples. *Therefore, at minimum, 25 individual fish per sample site for a total of no less than 75 individual fish for the three sample sites would be required.*

Osisko: Of the three sites selected for sampling a single cyprinid (one individual fish) was sampled for two of the sites. In addition, insufficient detail was provided within the report to determine if other aspects such as sample collection techniques, preservation, and/or tissue size collections were completed properly.

Ontario Federation of Anglers & Hunters

Response:

See previous two comments & responses.

Ontario Federation of Anglers & Hunters

In conclusion, **the OFAH does not support the Osisko Hammond Reef Gold project as proposed** because of the high potential for impacts to local fish and fish habitat. We do not believe the proposed compensation and mitigation measures will be adequate for the protection of fish, fish habitat and other important recreational fishery values within this area. We are also very concerned that the data collected for fish tissue contaminant analysis is wholly inadequate and cannot be considered sufficient to use as a baseline for subsequent monitoring.

Ontario Federation of Anglers & Hunters

Response:
Through our EA we have demonstrated that fish habitat losses and effects on fish populations are limited to headwater waterbodies within the mine site on the peninsula. These habitat losses will be compensated for by creating nursery habitat along the shore of Upper Marmion Lake, by creating several small headwater ponds and by stocking several fishless headwater ponds. The measures we propose to implement will protect the Upper Marmion Lake sportsfishery. We will be implementing an EEM Program which will collect additional baseline data and operational data to ensure that mine operations meet environmental regulations and continue to protect fish and fish habitat.

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

OSISKO

HAMMOND REEF GOLD

Aquatic Biology





Golder Associates

Aquatic Biology Overview

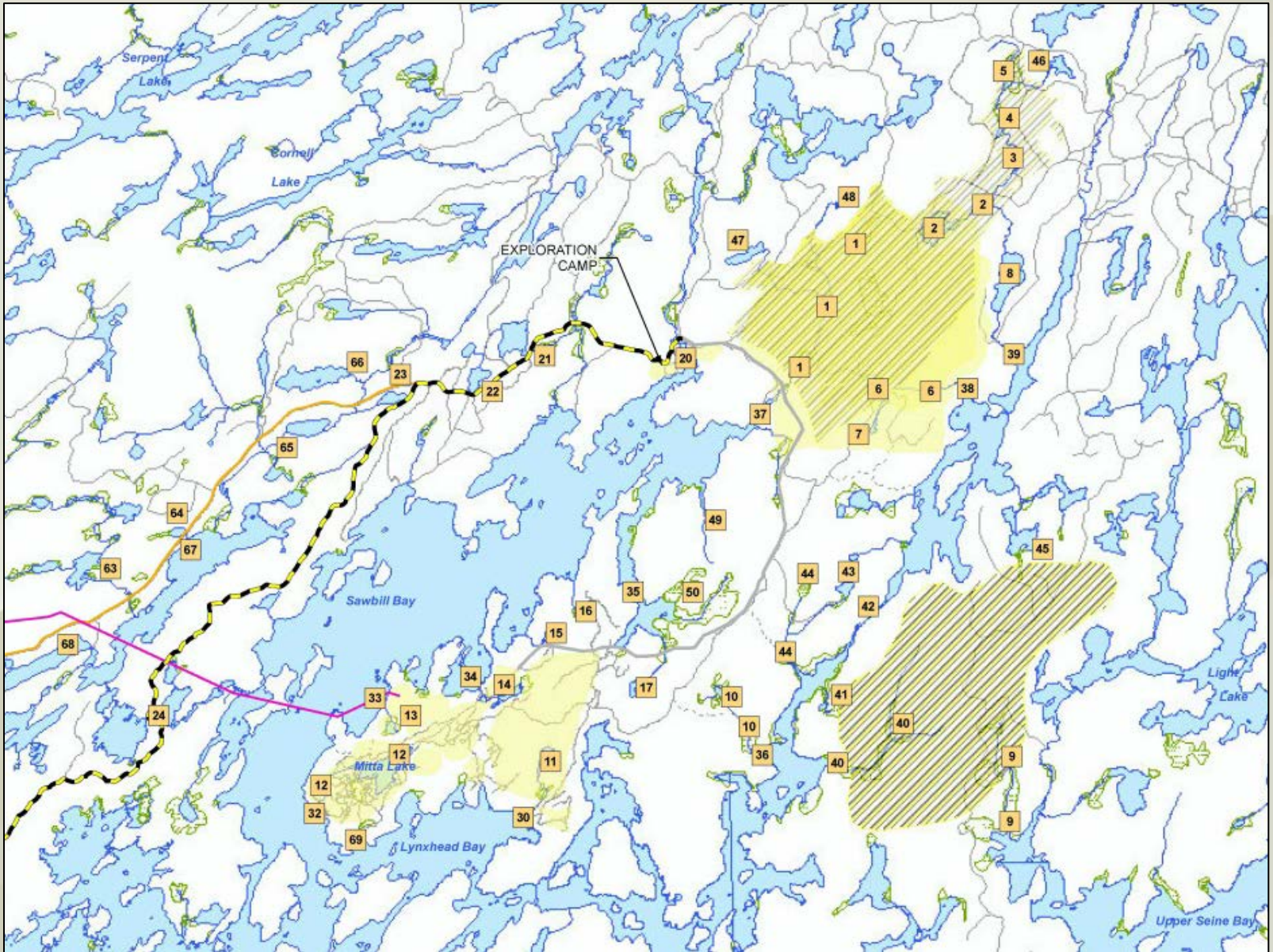
The study was focused on Valued Ecosystem Components, represented by the following fish species and aquatic indicators:

- Lower Reaches & Receivers
- Small-bodied fish - baitfish
- Sport fish – walleye, northern pike, smallmouth bass
- Benthic invertebrates

- 55 APIs were investigated over multiple seasons
- 24 species of fish were found
- Not all APIs supported fish

Field Data Collected	2010	2011	2012
Fish and Aquatic Habitat	May 8 -15, August 1-6, 18-29, September 23-30, October 14-20	May 3-10, May 27 - June 5, August 26-30, September 23-29	August 22-31, September 13-22
Fish Tissue	August 18-29	September 23-29	
Benthic Invertebrates	October 14-20		
Aquatic Sediments	October 14-20		

Aquatic Biology Baseline Field Survey Locations



Effects Assessment

- Water level changes or Effluent discharges
  - Predicted levels downstream of Upper Marmion Reservoir in the Seine River.
  - Changes in lake levels of less than 5 cm
  - No predicted impacts
  - Effluent discharges to receiving waters do not result in impacts to aquatic life.

- Loss of aquatic habitat
  - Project infrastructure
  - In-water structures (water intake structures, effluent discharge structures)
  - Road crossings
  - Can be offset by habitat compensation

Fish Habitat Loss

- Approximately 40 ha of aquatic habitat will be lost
  - 11 water bodies within the mine footprint
  - Streams, ponds, small lakes
- 14 watercourse crossings for the access road and mine road



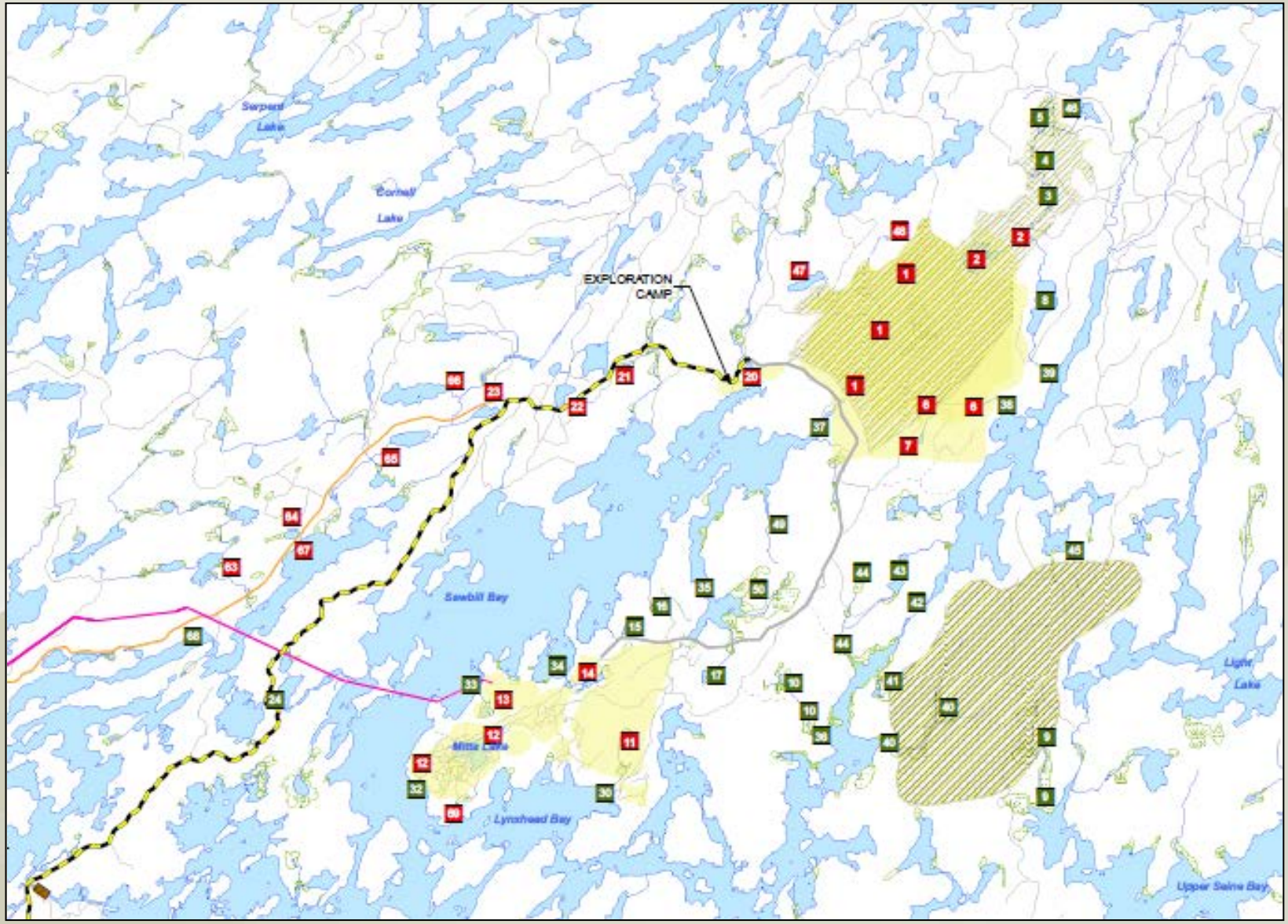
- Osisko will need to create or enhance fish habitat to offset the lost fish habitat so that there will be “No Net Loss” of fish habitat.



- **DFO approves the No Net Loss Plan.**

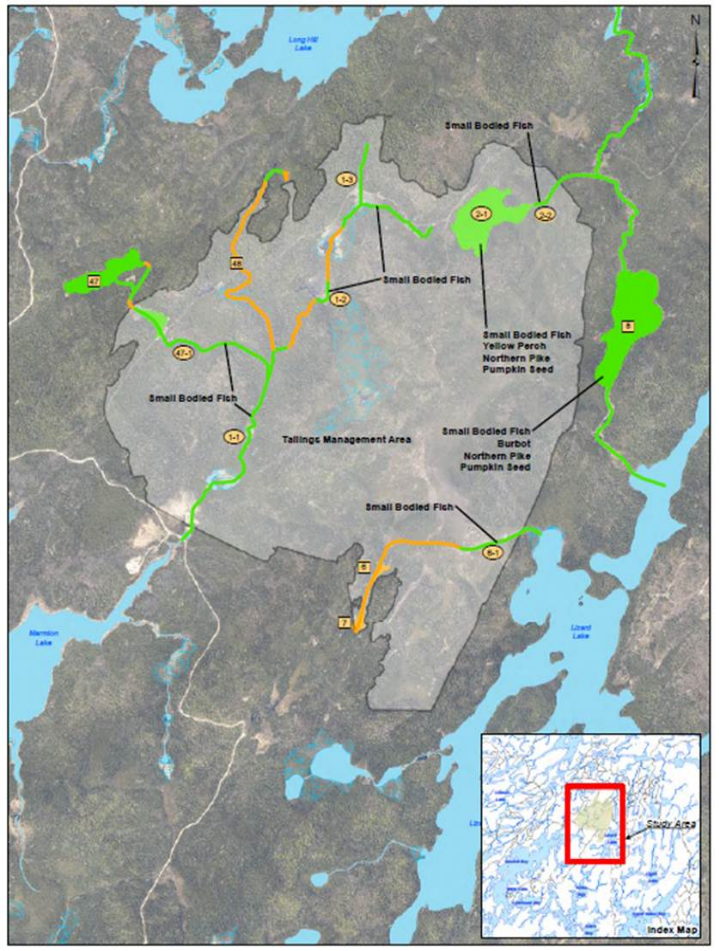
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Affected Waterbodies

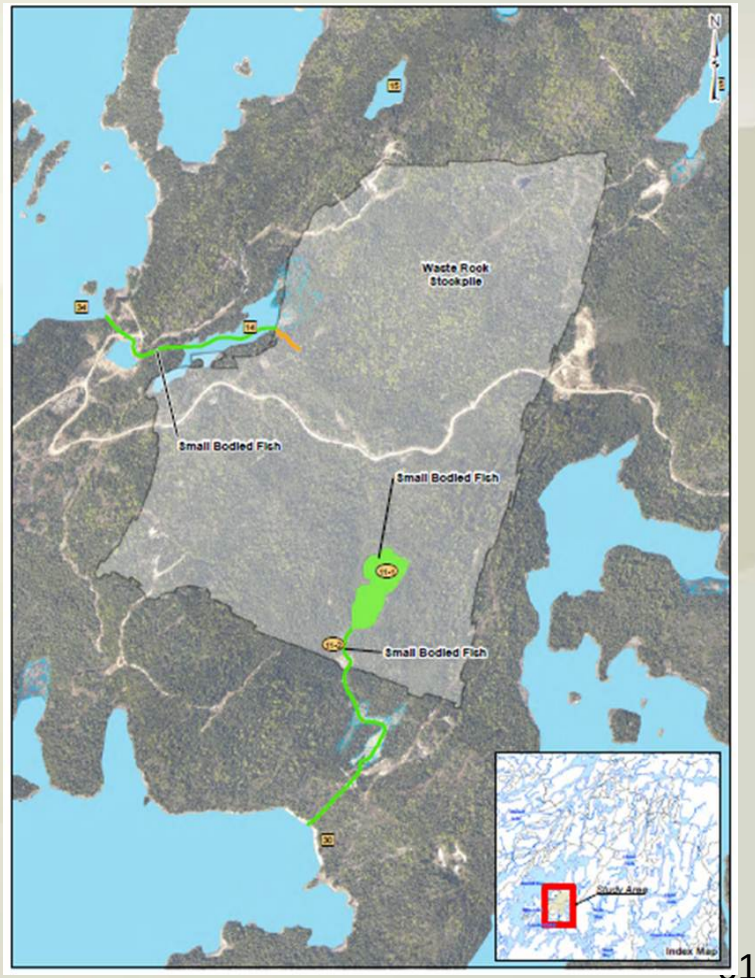


MMER Waterbodies

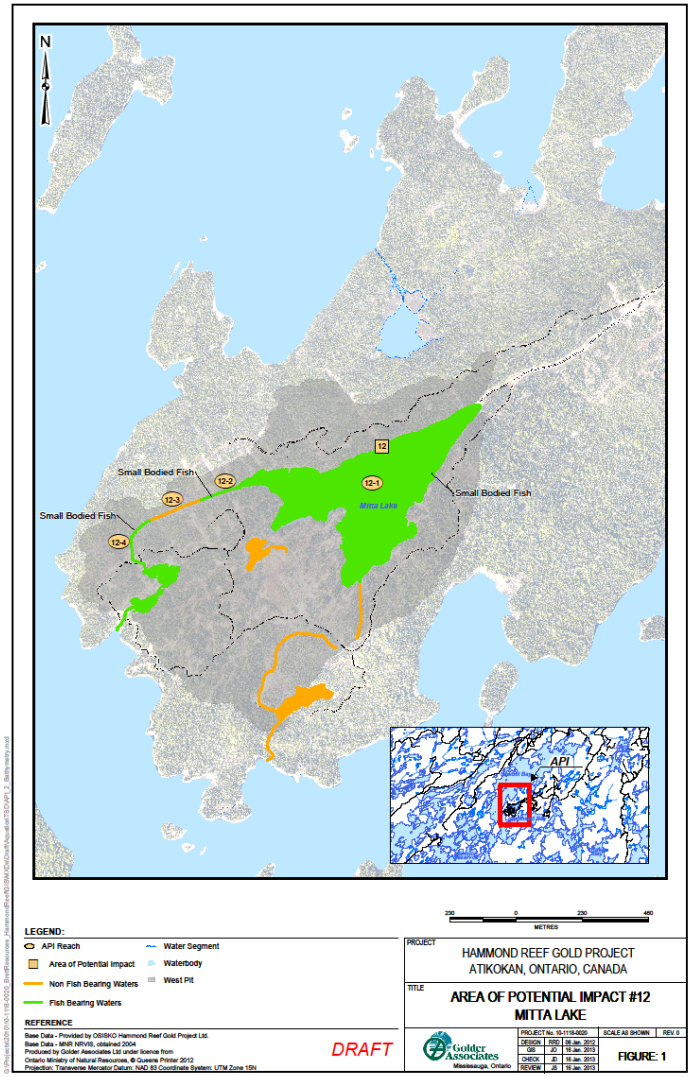
Tailings Management Facility



Waste Rock Stockpile



Waterbodies affected by the Open Pit



Fish compensation hierarchy (DFO):

- Creation of similar habitat at or near the Project site within the same ecological unit; that is, replace natural habitat with the same type of habitat at or near the site.
- Create similar habitat in a different ecological unit that supports the same stock or species.
- Increase the productive capacity of existing habitat at or near the development site and within the same ecological unit.
- Increase the productive capacity of a different ecological unit that supports the same stock or species.
- Increase the productivity capacity of existing habitat for a different species of fish either on or off site.

Fish Habitat Compensation – On Site

- A series of meetings took place to development approved Habitat Accounting Methodology which will be implemented in the no net loss planning for the Project. No net loss planning includes both habitat compensation and offsets

Onsite compensation plan to address valued fishery:

- Stock 3 fishless ponds and create 2 headwater ponds
- Create shallow water littoral spawning, nursery and forage habitat for baitfish, smallmouth bass and northern pike at 4 - 5 locations in Upper Marmion Lake
- Create stream habitat/remove fish barriers at 14 stream crossings (along the access and mine road)
- Undertake some microhabitat enhancements of shallow nearshore habitat in in Upper Marmion Lake around the Hammond Peninsula such as creating rocky shoals, introducing large woody debris to provide habitat structure.

Complete compensation measures during the construction phase of project and monitor during operations phase

Mitigation Measures

- Develop and implement Fish Compensation Plan
- Develop and implement Fish Relocation Plan

- Intake structures will be designed to minimize loss of aquatic organisms.
- Conduct test blast and adjust blasting operations to meet DFO guidelines for vibrations in fish habitat
- Implement standard in-design mitigation erosion control measures
- Maintain sufficient flows in streams during construction of stream crossings and avoid sensitive periods for fish.
- Restrict fishing by Osisko employees while at camp

Follow Up Program – Aquatic Effects Monitoring

- Monitor lake levels
  - Adjust water taking if levels fall below minimum to maintain fish habitat downstream in the Seine River.
- Monitor discharge water quality
  - Implement additional treatment if water quality exceeds predicted concentrations of metals, sulphate and cyanide.
- Monitor seepage from TMF to Lizard Lake
  - Implement control measures if water quality exceeds worst case predictions.
- Monitor water quality post-closure
  - Implement additional treatment if water quality exceeds predicted concentrations for metals.
- Additional Environmental Monitoring to confirm
  - Compensation Success
  - Construction Compliance
  - Environmental Effects Monitoring (EEM)

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January 2018 – 1656263

OSISKO

HAMMOND REEF GOLD

Terrestrial Ecology



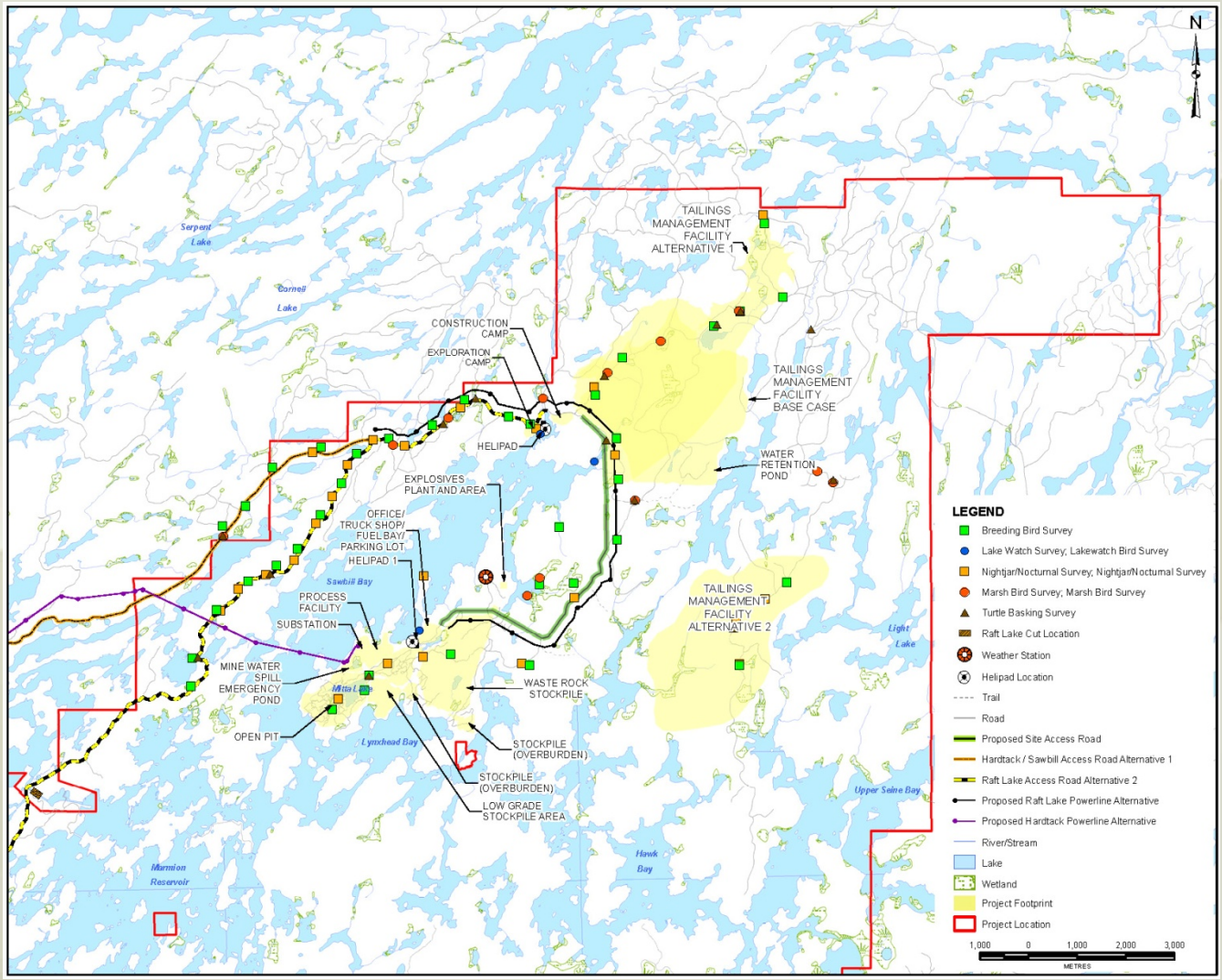
Golder Associates

Terrestrial Ecology Overview

Valued Ecosystem Components

- Habitat VECs
  - Wetlands
  - Forest Cover
- Group VECs
  - Furbearers
  - Upland Breeding Birds
  - Species At Risk
- Species VECs
  - Moose
  - Wild rice

Terrestrial Ecology Baseline Field Survey Locations



Residual Impacts and their Significance for the Terrestrial Ecology TSD

VEC	Effect	Geographic Extent	Magnitude	Duration	Overall Significance of the Effects
Wetlands	Loss and alteration of vegetation	low	moderate	moderate	**LOW**
	Alteration of Flows and Drainage Patterns	moderate	low	moderate	**LOW**
Forest cover	Loss and alteration of vegetation	low	moderate	low	**LOW**
Moose	Loss of habitat	low	negligible	low	**NEGLIGIBLE**
Furbearers	Loss of habitat	low	moderate	moderate	**LOW**
	Alteration of flows and drainage patterns	moderate	low	moderate	**LOW**
Species at risk	Loss of habitat	low	moderate	moderate	**LOW**
	Alteration of flows and drainage patterns	moderate	low	moderate	**LOW**
	Risk of Injury/Mortality	low	low	high	**LOW**
Upland breeding birds	Loss of habitat	low	moderate	moderate	**LOW**

Mitigation Measures

- Stockpile soil
- Capture runoff from stockpiles & TMF
- Domestic sewage effluent will be treated
- Excess water will be treated and returned to Marmion Reservoir
- Minimize wildlife/vehicle collisions.
  - Post speed limits & warning signs.
  - Awareness training for workers (especially for snapping turtles).
- Stop blasting temporarily if large mammals are observed within the zone.
- Vegetation clearing will consider breeding birds
- Develop a policy to restrict hunting, harvesting and trapping by Osisko employees while living at the accommodation camp
- Install markers on Transmission line and limit the use of guy wires.
- Selectively clear the pathway of the transmission line (not graded)
- Vegetated riparian buffers will remain around watercourses at access road crossings to the extent possible.
- Native species for re-vegetation at closure.
- Develop an invasive plant management strategy
- Develop an industrial and domestic waste management plan
- Animals that become a nuisance will be trapped and moved to remote locations for release.

Hunting

- Within the LSA, the Project is expected to remove 2,063 ha of land that would otherwise have been available for hunting.
- This represents 0.3% of the total area of Wildlife Management Unit and 2.0% of the total area of Bear Management Areas.
- The loss of this resource may result in increasing hunting pressure on similar areas in the LSA.

Protect Tourism and Recreation

- Ongoing sponsorships of events such as the Atikokan Bass Classic.
- Restrict hunting/fishing for workers while at camp.
- **Contribute to advertisement (web-site) to promote tourism?**

Outdoor Tourism and Recreation

- Visual Assessment
  - Perception of the LSA could change
  - Some views are no longer remote or pristine wilderness
  - Could affect outdoor tourism and recreation in the LSA
  - Nine locations modelled as shown in next slide

- Restricted Access
  - Campsites and tourism establishment
  - Must comply with noise standards
  - Minimize and reduce impacts to human health

Visual Effects

- Transmission line
- Placement of infrastructure
- Buffer zones
- Height of waste rock piles

- Visual effects were assessed based on overlay of planned infrastructure onto landscape

- Views were provided from defined receptor locations, including cabins and lodges

Wrap-up

Do you have outstanding concerns?

What is required for you to support the project???

Wrap-up

- Thank you for your time
- Do you have outstanding concerns?
- What is required for you to support the project???

From: Alexandra Drapack
Sent: May 24, 2013 9:32 AM
To: terry_quinney@ofah.org
Cc: Cathryn Moffett; Hindley, Brian; Shari Sokay; The DeCortes
Subject: FW: OFAH Response to Osisko Hammond Reef Gold Project
Attachments: OFAH_Response_Osisko.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Terry,

As discussed on the telephone today Osisko is interested in meeting with you to discuss your comments on our DRAFT EIS/EA report. Specifically we would like to discuss the topic of the MOE requirements for sport fish contaminant modeling vs. the requirements for the environmental assessment.

You mentioned the opportunity of meeting or having a teleconference next Friday, May 31 (morning) while Roy Decorte is also in town for other meetings. Please let us know if you would like us to travel to Peterborough or if a teleconference would suffice.

My coordinates are in my signature block below.

Thanks
Alix

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development / Directrice développement durable
155 University Avenue, Suite 1440 | Toronto, ON M5H 3B7
101 Goodwin Street | PO Box 2020 | Atikokan, ON P0T 1C0
Tel. : 416-363-8653 #110 | Cell. : 416-606-1692 | Fax: 416-363-7579
adrapack@osisko.com | www.osisko.com

From: Shari Sokay [mailto:shari_sokay@ofah.org]
Sent: Friday, April 05, 2013 02:34 PM Eastern Standard Time
To: Alexandra Drapack
Cc: EAASIBgen@ontario.ca <EAASIBgen@ontario.ca>
Subject: OFAH Response to Osisko Hammond Reef Gold Project

Hello Alexandra,

Please find attached a copy of our comments for the **Osisko Hammond Reef Gold Project** submitted by the Ontario Federation of Anglers and Hunters (OFAH).

Yours in Conservation,

Shari Sokay

Land Use Specialist

Ontario Federation of Anglers and Hunters
P.O. Box 2800, 601 Guthrie Drive
Peterborough, ON K9J 8L5
Phone: 705-748-6324 Ext. 268
Fax: 705-748-9577
E-mail: shari_sokay@ofah.org

Submitted as part of the Version 3 HRGP Amended EIS/EA Documentation
January 2018 – 1656263

ONTARIO FEDERATION OF ANGLERS & HUNTERS

P.O. Box 2800, 4601 Guthrie Drive, Peterborough, Ontario K9J 8L5
Phone: (705) 748.6324 • Fax: (705) 748.9577 • Visit: www.ofah.org • Email: ofah@ofah.org

Ontario Conservation Centre

OFAH FILE: 339/349A/420/451
April 4, 2013

Alexandra Drapack, Director Sustainable Development
Osisko Hammond Reef Gold
155 University Avenue, Suite 1440
Toronto, Ontario
M5H 3B7

Dear Alexandra:

Subject: Osisko Hammond Reef Gold Project

On behalf of the Ontario Federation of Anglers and Hunters (OFAH), its 100,000 members, subscribers and supporters, and 710 member clubs, we have reviewed the Draft Environmental Impact Statement / Environmental Assessment Report and have provided our questions and comments below.

The location and scale of the proposed development will undoubtedly result in significant impacts to fish and fish habitat. Changing groundwater flows, destroying or altering fish habitat by modifying surface water (draining a waterbody or creating a tailings pond), as well as the discharge of effluent and contaminants (with subsequent accumulation of contaminants in fish) are a few of the major ecological issues associated with mining operations. Developments are often permitted under a blanket statement that there will be "no negative impacts" or "no net loss". However, the reality of post-construction and long-term monitoring often shows that compensation measures are not reflective of pre-construction conditions. Therefore, avoidance must take priority over compensation and mitigation measures.

The OFAH is deeply concerned with the impacts associated with this development. The large scale and location of this development will most certainly result in a significant impact to fish and fish habitat within the region. The project is located within Fisheries Management Zone (FMZ) 5 which has identified Walleye, Northern Pike and Smallmouth Bass as the top three preferred species, and all three of these species have been identified within the project location. FMZ 5 is a popular fishing destination with a staggering $48.4 million spent annually on recreational fishing alone. In addition, a well-known Smallmouth Bass fishing tournament takes place annually in the Marmion Lake, directly adjacent to the proposed development.

The OFAH does not feel that sufficient pre-construction (baseline) information has been collected to accurately determine post-construction impacts. In particular, the potential for an increase in fish tissue contamination has been identified, however the details of the methodology for sampling is appallingly sparse. Without a sound sampling methodology the "results" are essentially meaningless. Therefore, the "baseline" study preformed is sorely lacking in scientific basis and does not provide for any meaningful comparison for post-construction monitoring.

The Ministry of Environment (MOE) regularly conducts fish tissue contaminant testing, and therefore has information available through the *Sport Fish Contaminant Monitoring Program*, including the *"Protocol for the Collection of Sport Fish Samples for Inorganic and Organic Contaminant Analysis"*. The Osisko Draft Environmental Impact Statement / Environmental Assessment Report falls well short of what is recommended in the MOE protocol. The following comparison of the aforementioned protocol versus what was reported by Osisko provides an example of the shortcomings of the baseline data collected:

.....2

1. **Protocol**: Fish communities sampled a) within areas potentially impacted; and b) a reference area separated by a barrier to fish.
   Osisko: Only three sample locations chosen. None of which would qualify as a reference area.
2. **Protocol**: Requires the collection of large fish in addition to forage fish.
   Osisko: No apparent separation between collections. Only one forage fish species noted in collection.
3. **Protocol**: Large fish protocol recommends the collection of 20 individuals (per species and per area impacted) of at least 25-55 cm in size.
   Osisko: Only three areas selected for sampling with a total of 88 individuals sampled. Number of individuals per area/per species ranged from only one to 18, therefore all samples were below the recommended 20 individuals, with only three samples even above 10 individuals. No fish lengths were provided.
4. **Protocol**: Forage fish collection is the preferred method of sampling and requires composite samples (e.g. five to 10 individuals, per sample) of selected young-of-the-year species (typically Yellow Perch) or appropriate cyprinid species with a minimum of five composite samples. ***Therefore, at minimum, 25 individual fish per sample site for a total of no less than 75 individual fish for the three sample sites would be required.***
   Osisko: Of the three sites selected for sampling a single cyprinid (one individual fish) was sampled for two of the sites.

In addition, insufficient detail was provided within the report to determine if other aspects such as sample collection techniques, preservation, and/or tissue size collections were completed properly.

Conclusions

In conclusion, the OFAH does not support the Osisko Hammond Reef Gold project as proposed because of the high potential for impacts to local fish and fish habitat. We do not believe the proposed compensation and mitigation measures will be adequate for the protection of fish, fish habitat and other important recreational fishery values within this area. We are also very concerned that the data collected for fish tissue contaminant analysis is wholly inadequate and cannot be considered sufficient to use as a baseline for subsequent monitoring.

We look forward to receiving a response to our concerns.

Yours in Conservation,

<Original signed by>

Shari Sokay
Land Use Specialist

/ss

cc: Ministry of Environment, Environmental Approvals Branch
OFAH Zone A Executive
OFAH Fisheries Advisory Committee
OFAH Land Use/Access/Trails Committee
Angelo Lombardo, OFAH Executive Director
Dr. Terry Quinney, OFAH Provincial Manager of Fish and Wildlife Services
Greg Farrant, OFAH Manager of Government Affairs and Policy
Matt DeMille, OFAH Assistant Manager of Fish and Wildlife Services

OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

TELECONFERENCE NOTES
ONTARIO FEDERATION OF ANGLERS AND HUNTERS (OFAH)
May 31 2013

Attendees:

	Attendee	Organization
1	Shari Sokay	OFAH
2	Terry Quinney	OFAH
3	Jeremy Funk	OFAH
4	Roy DeCorte	Atikokan Sportsmens' Conservation Club
5	Brian Hindley	Golder Associates
6	Alexandra Drapack	Osisko Hammond Reef Gold

Meeting Purpose:
To discuss the comments received on the DRAFT EIS/EA report. (See attached Presentation).

Comments (C) and Answers (A):
C: The OFAH doesn't oppose mining. We are seeking accommodation for impacts to the fishery. Is the presentation your response to our April 4 letter? Collectively, we are looking towards receiving a response to our letter.
A: The presentation is not our formal response. We will provide a formal response to your letter. The presentation is meant to aid in our discussion today.

C: What you are saying is that OFAH was incorrectly using the MOE guidance to evaluate the validity of your baseline data collection.
A: We are saying that it is not a requirement to meet the MOE guidance for baseline data collection for EA purposes. And, we are saying that further collection of baseline data is required for the Environmental Effects Monitoring program (EEM) including fish tissue collection focussed on specific locations where the mine might impact the aquatic environment. We are not saying that the MOE guidance is irrelevant – just that the purpose of the MOE guidance is different than what is required for an Environmental Assessment. We will provide additional information on what is typically required for EA purposes in terms of fish tissue collection. MNR submitted fish tissue samples in 2010 to the MOE for their program and we are planning to obtain this additional data as well.

C: We need to know more about the EEM.
A: We will send information on the EEM.

C: Were any comments received from the regulators on the fish tissue collection?
A: No comments were received from MNR or DFO on fish tissue collection but 1 comment was received from MOE (surface water branch). We will forward on the comment from MOE surface water.

OSISKO MINING CORPORATION
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Next Steps:

- Osisko to provide Minutes and Presentation from this teleconference
- Osisko to provide additional information on the rationale for fish tissue collection.
- Osisko to provide the comment from MOE surface water branch
- Osisko to provide additional information on EEM.
- Osisko to prepare a formal response to OFAH's April 4 letter and set up a teleconference or meeting to discuss.



Hammond Reef Gold Project

Comments on the Draft EIS/EA Report

Presentation Overview

- Summary of Comments on EIS/EA report
- Comments/Responses to OFAH
- Potential Effects of the Project on Hunting, Fishing, Tourism & Recreation
- Mitigation Measures
- Visual Effects
- Wrap-up

Draft EIS/EA Report

- Published February 15
- 7 week public comment period
- Received comments from:
  - Aboriginal
  - Government
  - Public

Aboriginal Groups

- Seine River First Nation
- Lac des Mille Lac First Nation
- Metis Nation of Ontario

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Open House

- Comment forms (40)

Non Governmental Organizations

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- Ontario Federation of Anglers and Hunters Committee
- Atikokan Sportsmen's Club

Local Citizens

- Crystal Beach Resort (3)
- Individual letters and emails (5)

The local residents strongly support the Project

Open House

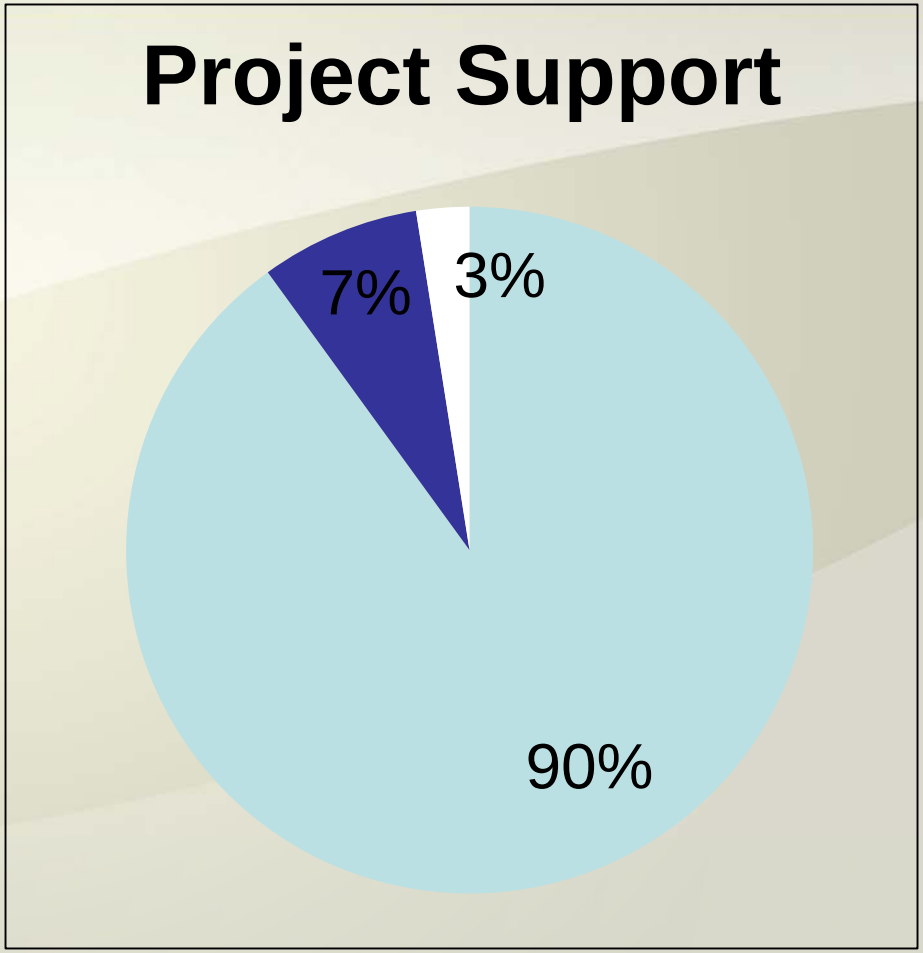
90% of respondents fully support the Project

My biggest **hope** relating to the Project is.....

-That it will be approved ASAP
-A good feasibility study
-Jobs for local people
-A place I can work and retire

My biggest **concern** relating to the Project is....

-It may be delayed
-Falling gold price
-Water quality of Marmion
-Not starting up soon enough
-Bringing in people who want to party and hang out

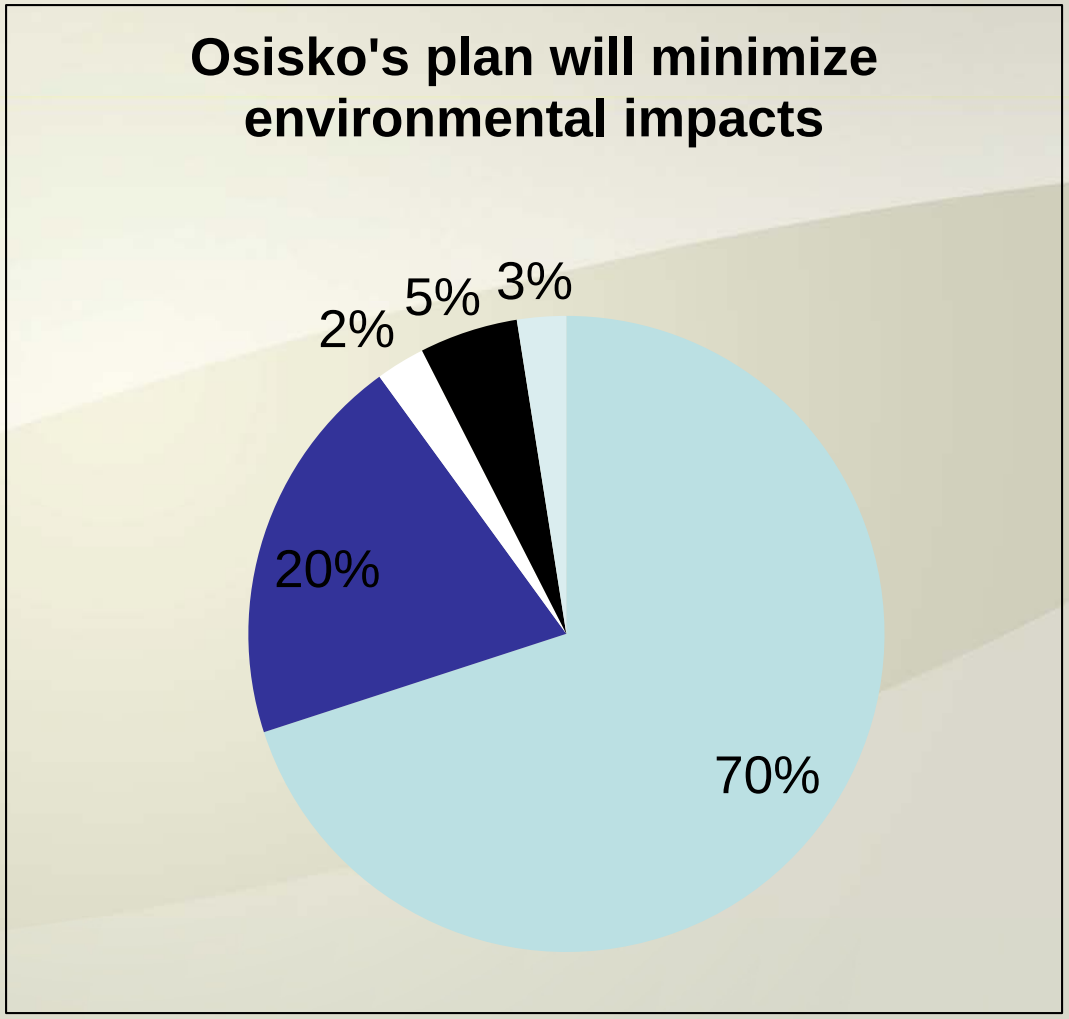


Open House

70% of respondents strongly agree Osisko's environmental management plan is sufficient

80% feel up to date on the Project

100% believe the quality of life in Atikokan will improve if the Project goes forward



People who depend on fishing and tourism are concerned about impacts and changes to the landscape

Ontario Federation of Anglers & Hunters

The location and scale of the proposed development will undoubtedly result in significant impacts to fish and fish habitat. Changing groundwater flows, destroying or altering fish habitat by modifying surface water (draining a waterbody or creating a tailings pond), as well as the discharge of effluent and contaminants (with subsequent accumulation of contaminants in fish) are a few of the major ecological issues associated with mining operations. Developments are often permitted under a blanket statement that there will be "no negative impacts" or "no net loss". However, the reality of post-construction and long-term monitoring often shows that compensation measures are not reflective of pre-construction conditions. Therefore, avoidance must take priority over compensation and mitigation measures.

Ontario Federation of Anglers & Hunters

Response:
Yes, we agree that avoidance should take priority over compensation and mitigation. We are proud of our efforts throughout the planning process to minimize environmental impacts through design and siting of Project facilities. We have worked extensively with DFO and MNR to develop compensation measures that will contribute to an overall improvement in fish habitat in Upper Marmion Lake and through ongoing monitoring and assessment activities, in particular, the future Environmental Effects Monitoring Program, we will ensure that our project meets all regulatory requirements

Ontario Federation of Anglers & Hunters

The OFAH is deeply concerned with the impacts associated with this development. The large scale and location of this development will most certainly result in a significant impact to fish and fish habitat within the region. The project is located within Fisheries Management Zone (FMZ) 5 which has identified Walleye, Northern Pike and Smallmouth Bass as the top three preferred species, and all three of these species have been identified within the project location. FMZ 5 is a popular fishing destination with a staggering $48.4 million spent annually on recreational fishing alone. In addition, a well-know Smallmouth Bass fishing tournament takes place annually in the Marmion Lake, directly adjacent to the proposed development.

Ontario Federation of Anglers & Hunters

Response:
Yes, we understand that fishing is an important land use in the Project area. We support recreational fishing through our sponsorship of the Atikokan Bass Classic. We are confident in our ability to quantify and mitigate impacts to fish and fish habitat throughout the EA process and Not Net Loss Planning process. We anticipate ongoing work and support to enhance benefits to the local recreational fishery that can be realized should the Project move forward. While some fish habitats in waterbodies located within the mine site on the peninsula will be lost, these impacts have been limited to the mine site and valuable habitats within Upper Marmion Lake and Lizard Lake have been protected and enhanced.

Ontario Federation of Anglers & Hunters

The OFAH does not feel that sufficient pre-construction (baseline) information has been collected to accurately determine post-construction impacts. In particular, the potential for an increase in fish tissue contamination has been identified, however the details of the methodology for sampling is appallingly sparse. Without a sound sampling methodology the "results" are essentially meaningless. Therefore, the "baseline" study preformed is sorely lacking in scientific basis and does not provide for any meaningful comparison for post-construction monitoring.

Ontario Federation of Anglers & Hunters

Response:
The Project is not anticipated to result in an increase in fish tissue contamination. We are confident that the fish tissue analysis is sufficient to meet the requirements of the EA process and this is further substantiated by the baseline water and sediment quality analyses that were completed. We are committed to ongoing monitoring throughout the Project phases as required by the Environmental Effects Monitoring study that will be initiated which will involve establishing additional baseline contaminant levels in biota, water and sediment, that will continue to be monitored during the operational stage of the mining

Ontario Federation of Anglers & Hunters

The Ministry of Environment (MOE) regularly conducts fish tissue contaminant testing, and therefore has information available through the *Sport Fish Contaminant Monitoring Program,* including the *"Protocol for the Collection of Sport Fish Samples for Inorganic and Organic Contaminant Analysis".* The Osisko Draft Environmental Impact Statement */* Environmental Assessment Report falls well short of what is recommended in the MOE protocol.

Ontario Federation of Anglers & Hunters

Response:
The purpose of the MOE protocol differs from the purpose of the Hammond Reef Environmental Assessment. Osisko does not strive to develop recommendations for public consumption of fish. The study carried out by Osisko meets the criteria required for the EA and is focused on the specific potential effects of the Project. We are not relying on the information as the only basis of the specific effects of Project operations. The EEM is focused on locations and effects. There is also recent data (2010) from Upper Marmion Lake available through the provincial program and the lake is on the list for future sampling within that program.

Ontario Federation of Anglers & Hunters

Protocol: Fish communities sampled a) within areas potentially impacted; and b) a reference area separated by a barrier to fish.

Osisko: Only three sample locations chosen. None of which would qualify as a reference area.

Response:
A reference location is not a specific requirement as part of evaluating project impact as part of the EA. By collecting baseline, pre-development data, we have a basis for comparisons of future conditions. The EEM Program, which will be established prior to mine operation will further establish a baseline condition in terms of water, sediment, benthic invertebrates and fish for both reference locations and areas around the mine. This program will operate during the operational life of the mine with regular reporting to regulatory agencies.

Ontario Federation of Anglers & Hunters

Protocol: Requires the collection of large fish in addition to forage fish.

Osisko: No apparent separation between collections. Only one forage fish species noted in collection.

Response:
Samples were collected from Lizard Lake and Upper Marmion Individual analyses for all species were completed, except for blacknose shiner, where a composite sample of several individuals was analysed. This information provided sufficient evidence of background conditions, in concert with the water and sediment quality data to characterize the existing environment for the purposes of the EA. The EEM Program will collect additional baseline information that will be used to monitor any future effects of mine operations.

Ontario Federation of Anglers & Hunters

Protocol: Large fish protocol recommends the collection of 20 individuals (per species and per area impacted) of at least 25-55 cm in size.

Osisko: Only three areas selected for sampling with a total of 88 individuals sampled. Number of individuals per area/per species ranged from only one to 18, therefore all samples were below the recommended 20 individuals, with only three samples even above 10 individuals. No fish lengths were provided.

Ontario Federation of Anglers & Hunters

Response:
The fish collection guidelines identified are those recommended for assessing the suitability for fish to be consumed and are intended as a guideline to be met on a best effort basis. The areas sampled represent the primary waterbodies potentially impacted by the project, two of which are in Upper Marmion Reservoir. For the EA, we have collected sufficient information on fish tissue contaminant levels to allow for an assessment of any potential for mine related effects. The fish tissue information is used in concert with sediment and water quality results. Results confirmed that there are naturally elevated levels of mercury in fish tissue and further that the mine will not represent a source of mercury contamination to the environment.

Ontario Federation of Anglers & Hunters

Protocol: Forage fish collection is the preferred method of sampling and requires composite samples (e.g. five to 10 individuals, per sample) of selected young-of-the-year species (typically Yellow Perch) or appropriate cyprinid species with a minimum of five composite samples. *Therefore, at minimum, 25 individual fish per sample site for a total of no less than 75 individual fish for the three sample sites would be required.*

Osisko: Of the three sites selected for sampling a single cyprinid (one individual fish) was sampled for two of the sites. In addition, insufficient detail was provided within the report to determine if other aspects such as sample collection techniques, preservation, and/or tissue size collections were completed properly.

Ontario Federation of Anglers & Hunters

Response:

See previous two comments & responses.

Ontario Federation of Anglers & Hunters

In conclusion, **the OFAH does not support the Osisko Hammond Reef Gold project as proposed** because of the high potential for impacts to local fish and fish habitat. We do not believe the proposed compensation and mitigation measures will be adequate for the protection of fish, fish habitat and other important recreational fishery values within this area. We are also very concerned that the data collected for fish tissue contaminant analysis is wholly inadequate and cannot be considered sufficient to use as a baseline for subsequent monitoring.

Ontario Federation of Anglers & Hunters

Response:
Through our EA we have demonstrated that fish habitat losses and effects on fish populations are limited to headwater waterbodies within the mine site on the peninsula. These habitat losses will be compensated for by creating nursery habitat along the shore of Upper Marmion Lake, by creating several small headwater ponds and by stocking several fishless headwater ponds. The measures we propose to implement will protect the Upper Marmion Lake sportsfishery. We will be implementing an EEM Program which will collect additional baseline data and operational data to ensure that mine operations meet environmental regulations and continue to protect fish and fish habitat.

From: Alexandra Drapack
Sent: June 14, 2013 2:24 PM
To: Shari Sokay; Terry Quinney; Roy DeCorte
Cc: Brian' 'Hindley; Cathryn Moffett; Liu,Amy [CEAA]; Whitmore, Michelle (ENE); Barnes, Patrick (MNDM)
Subject: Osisko Hammond Reef Gold: May 31 2013 - Minutes from May 31 Teleconference & Additional Info
Attachments: 2013-05-31 OFAH Teleconference.pdf; Mercury FactSheet.pdf; EC presentation on EEM 2009 BR.PDF

All,

Thank you for attending the teleconference with us on May 31 to discuss the comments you provided on the OHRG DRAFT EIS/EA report. Attached are Minutes from the teleconference, including the presentation that was prepared for discussion on the call. I have also included a Fact Sheet on Mercury that was handed out at our meeting with the Atikokan Sportsmens' Conservation Club.

During the call, we committed to providing additional information on fish tissue collection, comments from regulators and Environmental Effects Monitoring (EEM) for your consideration:

Fish Tissue:

- Specifically, the EIS guidelines state that the EIS must contain characterization of existing metal levels in fish tissue in areas that may be impacted by effluent or seepage from the mine. The EIS shall provide details of existing and predicted metal levels in fish. Using the baseline data on metal levels in fish tissue in areas that may be impacted by effluent or seepage from the mine, the EIS shall evaluate the predicted changes in metal levels due to the Project.
- The Terms of Reference state that indicators used to evaluate the Valued Ecosystem Components (VECs) of Marmion Reservoir and Lizard Lake would include contaminants in fish tissue. The ToR also says that baseline studies will include sampling and analysis of relevant environmental media (e.g., meteorological conditions, water, sediment, soil, vegetation, fish tissues, etc).
- The Ontario Sportsfish Contaminant Database (and its guidelines for tissue collection/submission) is a provincial program that is designed to provide information to assist the province in identifying potential risks to various groups of eating sportsfish. The program focuses specifically on mercury (and some other organic contaminants) but typically analyses for a range of metals, inorganic and organic parameters. Their guidelines recommend collecting a minimum of 10 (ideally 20) individuals of sportsfish, in the size range that fishers typically catch in order that the ministry can provide this risk information. Only in special cases, has this programs been used to collect data on baitfish or other non-game fish species. Its purpose is to provide information on contaminant levels by length/weight of fish (not age), because the risk information is generally presented as a level of risk based on fish size. So for example, there may be no restrictions on eating small walleye, but restrictions on eating large ones (regardless of age of fish, which is not typically collected).
- There is no "guideline" for how to complete a baseline fish tissue collection and analysis program to establish a baseline for a mining EA. Typically, the baseline data collection (for all disciplines) is based on establishing what the current conditions, with an emphasis on, what the predicted impacts of the mine are anticipated to be, and in some cases, to better characterize existing impacts that may exist on the existing environment.
- Fish tissue contaminant analyses are typically collected for an EA, when there is concern that impacts from the mine might result in release of contaminants that could bioaccumulate in fish tissue and subsequently pose either a human health or an environmental risk (for example result in mortality to fish eating birds) – in our case, mercury is really the only metal that could potentially bioaccumulate (most metals do not) **and the project will not cause any release of mercury to the environment.**
- In terms of looking at potential impacts to fish (and other wildlife), water and sediment quality are typically collected and analysed because, in the case of metals, the main concern with metals is that they reach

concentrations in water and sediment that may pose a threat (chronic or acute toxicity) to fish – we have sampled water and sediment quite extensively in our EA work

- In establishing existing conditions under an EA, we collect baseline information that characterizes the "pre-development" environment. For an EA, reference site data is not typically collected, because we can compare this "pre-development" data to post development data collected in the same way – this is a standard study design often called BACI - Before After Control Impact, where post development results are compared to pre development results; in our case we are assuming (which is reasonable) that the baseline condition is unlikely to change significantly during the 11 or so years of mining operation…so we do not require a reference site for this
- Once a decision is made to proceed with the project, an Environmental Effects Monitoring Program would be set up, which also collects baseline data; and in this case a reference location is established, because in that case we are looking to compare results in a more quantitative way
- Osisko and Golder believe sufficient information on fish contaminants has been collected (see the table for the actual numbers below) from both sport and non-sport fish to sufficiently characterize tissue contaminant levels. We believe that our fish tissue collection meets both the EIS guidelines and the ToR for the project. We have also collected extensive water and sediment quality data, which is equally, if not more important, in terms of predicting potential impacts of the project on the environment. Detailed measuresments of individual fish were collected (except blacknose shiner) in order that more detailed analyses of this data could be completed if necessary, however this was not done as the project will not cause any release of mercury to the environment.
- We are also aware that, in 2010, MNR submitted fish tissue samples from Upper Marmion Lake to be analysed in the MOE sportfish contaminant monitoring program and we are planning to obtain this additional data.

Table 2-8: Total Mercury Levels in Fish Tissue Samples (µg/g wet weight; Detection Limit 0.050 µg/g)

Water Body	Species	Average	Maximum	Minimum
Turtle Bay (Marmion)	Blacknose Shiner (n= 1)	0.083	0.083	0.083
	Lake Whitefish (n=8)	0.241	0.329	0.135
	Walleye (n=8)	0.461	0.935	0.267
	White Sucker (n= 5)	0.185	0.301	0.072
Sawbill Bay (Marmion)	Blacknose Shiner (n=1)	0.066	0.066	0.066
	Lake Whitefish (n=14)	0.214	0.335	0.102
	Walleye (n=18)	0.523	1.660	0.232
	White Sucker (n= 11)	0.244	0.374	0.124
Lizard Lake	Cisco (n=8)	0.155	0.178	0.140
	Walleye (n= 8)	1.210	1.730	0.796
	White Sucker (n= 6)	0.239	0.408	0.140

One comment was received from MOE on Mercury Levels in Fish, as follows:

Environment - Surface Water	Water Quality	Table 2-8. Total Mercury Levels in Fish	It is encouraging that fish are being collected to establish baseline body burdens, however, further information is needed to better understand these existing conditions.	Base fully unde impa robu deve for v Bay

Environmental Effects Monitoring (EEM):

- Attached is a presentation on Environmental Effects Monitoring for the Pulp and Paper and Metal Mining industries prepared by an Environment Canada (EC) staff in 2009.

- Additional information can be found on the 2012 EEM guidelines at the following link: http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=D175537B-24E3-46E8-9BB4-C3B0D0DA806D
- Following is general overview on EEM from the web-site:

  Environmental Effects Monitoring

  The pollution prevention provision (section 36) of the Fisheries Act prohibits the deposit of deleterious substances such as effluents in water frequented by fish unless authorized by Regulations. Environmental Effects Monitoring (EEM) is a condition governing authority to deposit effluent under two effluent regulations, namely the Pulp and Paper Effluent Regulations (PPER) and the Metal Mining Effluent Regulations (MMER), both of which are pursuant to the Fisheries Act.

  The EEM regulatory requirements are meant to identify effects, if any, on fish, fish habitat and use by man of fish which may be caused by these effluents.

  EEM is a science-based performance measurement tool used to evaluate the adequacy of these regulations in protecting fish, fish habitats and the use of fisheries resources. The pulp and paper and metal mining industries are required to meet their regulatory requirements which include conducting:

  - water quality studies
  - effluent characterization studies
  - sublethal toxicity testing
  - biological monitoring studies in the receiving environment

  These biological monitoring studies and chemical/toxicological analyses are conducted by the regulated industries to assess and investigate the effects caused by their effluent discharges.

Next Steps:
We are preparing a formal response to your April 4 letter. I will contact you when it has been prepared so that we can arrange for a follow-up discussion.

Please let me know if we can provide any additional clarification or information.

Thanks
Alix

OSISKO

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development / Directrice développement durable
155 University Avenue, Suite 1440 | Toronto, ON M5H 3B7
101 Goodwin Street | PO Box 2020 | Atikokan, ON P0T 1C0
Tel. : 416-363-8653 #110 | Cell. : 416-606-1692 | Fax: 416-363-7579
adrapack@osisko.com | www.osisko.com

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C: We need to know more about the EEM.
A: We will send information on the EEM.

C: Were any comments received from the regulators on the fish tissue collection?
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OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

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- Crystal Beach Resort (3)
- Individual letters and emails (5)

The local residents strongly support the Project

Open House

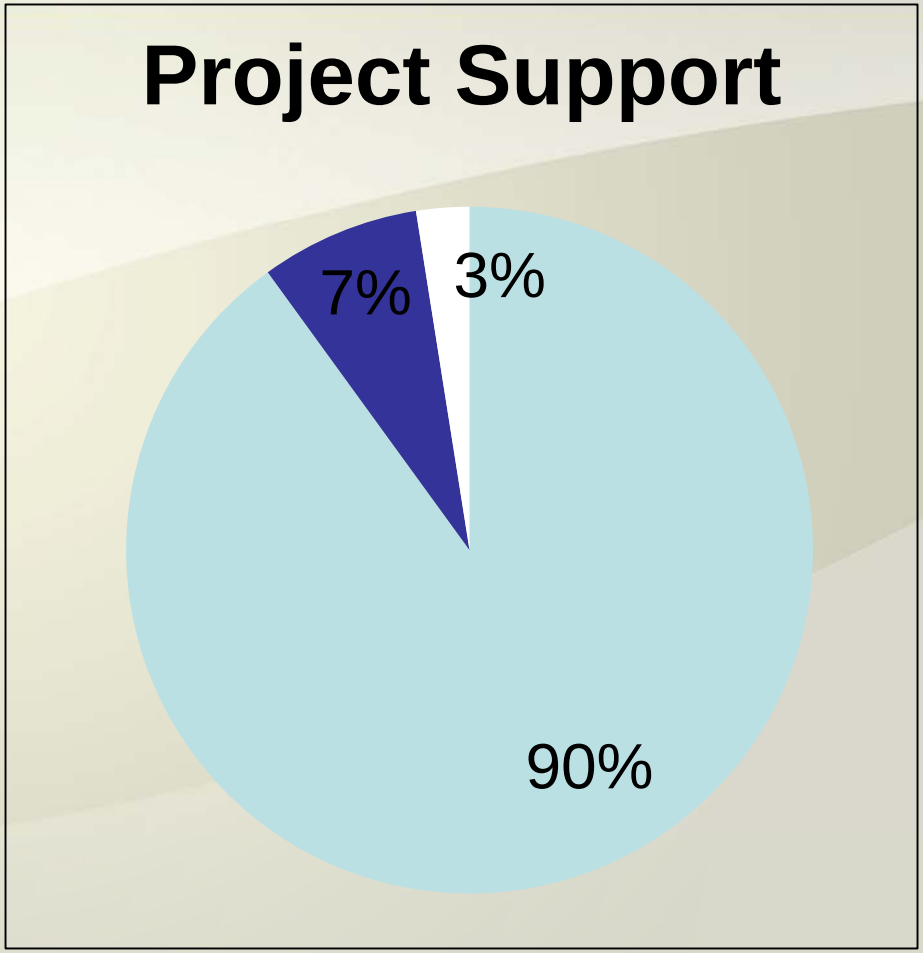
90% of respondents fully support the Project

My biggest **hope** relating to the Project is.....

-That it will be approved ASAP
-A good feasibility study
-Jobs for local people
-A place I can work and retire

My biggest **concern** relating to the Project is....

-It may be delayed
-Falling gold price
-Water quality of Marmion
-Not starting up soon enough
-Bringing in people who want to party and hang out

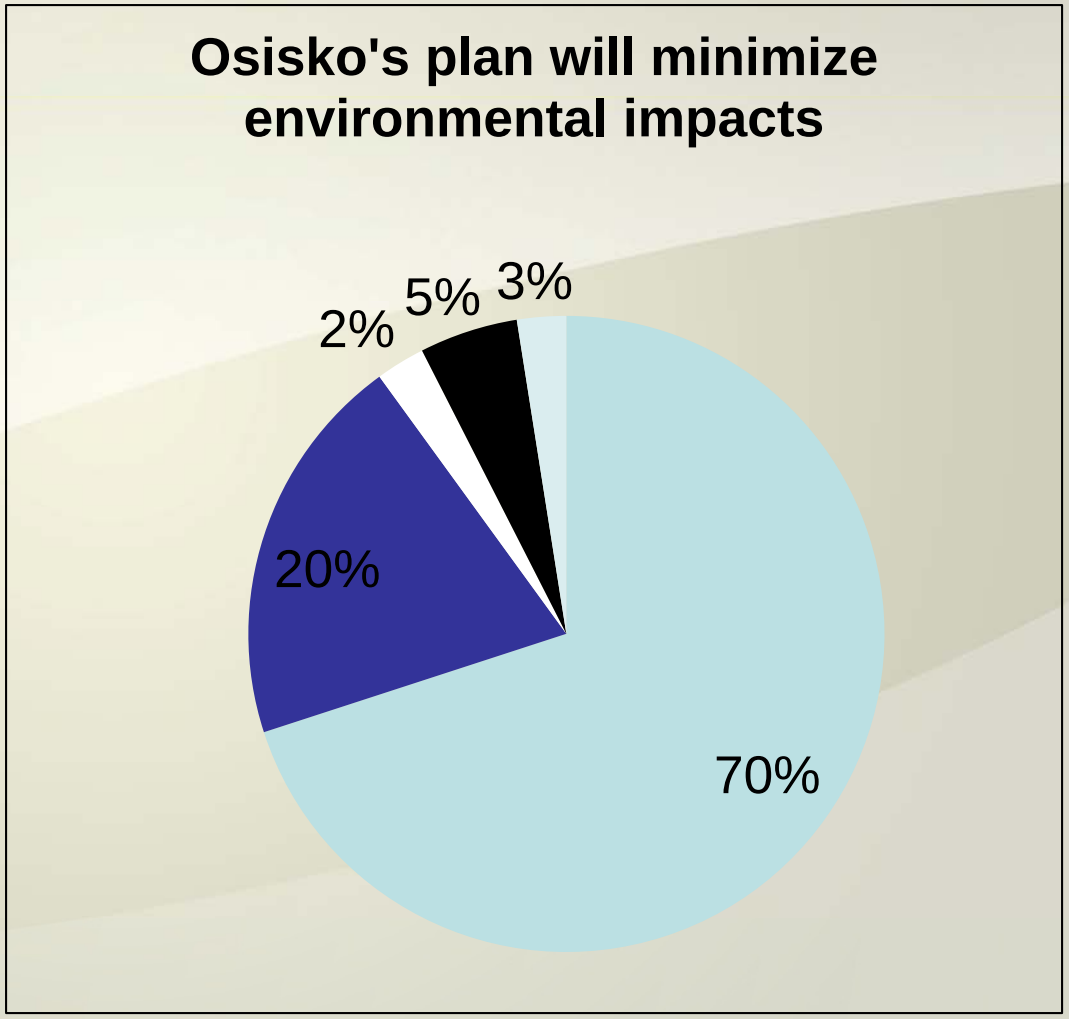


Open House

70% of respondents strongly agree Osisko's environmental management plan is sufficient

80% feel up to date on the Project

100% believe the quality of life in Atikokan will improve if the Project goes forward



People who depend on fishing and tourism are concerned about impacts and changes to the landscape

Ontario Federation of Anglers & Hunters

The location and scale of the proposed development will undoubtedly result in significant impacts to fish and fish habitat. Changing groundwater flows, destroying or altering fish habitat by modifying surface water (draining a waterbody or creating a tailings pond), as well as the discharge of effluent and contaminants (with subsequent accumulation of contaminants in fish) are a few of the major ecological issues associated with mining operations. Developments are often permitted under a blanket statement that there will be "no negative impacts" or "no net loss". However, the reality of post-construction and long-term monitoring often shows that compensation measures are not reflective of pre-construction conditions. Therefore, avoidance must take priority over compensation and mitigation measures.

Ontario Federation of Anglers & Hunters

Response:
Yes, we agree that avoidance should take priority over compensation and mitigation. We are proud of our efforts throughout the planning process to minimize environmental impacts through design and siting of Project facilities. We have worked extensively with DFO and MNR to develop compensation measures that will contribute to an overall improvement in fish habitat in Upper Marmion Lake and through ongoing monitoring and assessment activities, in particular, the future Environmental Effects Monitoring Program, we will ensure that our project meets all regulatory requirements

Ontario Federation of Anglers & Hunters

The OFAH is deeply concerned with the impacts associated with this development. The large scale and location of this development will most certainly result in a significant impact to fish and fish habitat within the region. The project is located within Fisheries Management Zone (FMZ) 5 which has identified Walleye, Northern Pike and Smallmouth Bass as the top three preferred species, and all three of these species have been identified within the project location. FMZ 5 is a popular fishing destination with a staggering $48.4 million spent annually on recreational fishing alone. In addition, a well-know Smallmouth Bass fishing tournament takes place annually in the Marmion Lake, directly adjacent to the proposed development.

Ontario Federation of Anglers & Hunters

Response:
Yes, we understand that fishing is an important land use in the Project area. We support recreational fishing through our sponsorship of the Atikokan Bass Classic. We are confident in our ability to quantify and mitigate impacts to fish and fish habitat throughout the EA process and Not Net Loss Planning process. We anticipate ongoing work and support to enhance benefits to the local recreational fishery that can be realized should the Project move forward. While some fish habitats in waterbodies located within the mine site on the peninsula will be lost, these impacts have been limited to the mine site and valuable habitats within Upper Marmion Lake and Lizard Lake have been protected and enhanced.

Ontario Federation of Anglers & Hunters

The OFAH does not feel that sufficient pre-construction (baseline) information has been collected to accurately determine post-construction impacts. In particular, the potential for an increase in fish tissue contamination has been identified, however the details of the methodology for sampling is appallingly sparse. Without a sound sampling methodology the "results" are essentially meaningless. Therefore, the "baseline" study preformed is sorely lacking in scientific basis and does not provide for any meaningful comparison for post-construction monitoring.

Ontario Federation of Anglers & Hunters

Response:
The Project is not anticipated to result in an increase in fish tissue contamination. We are confident that the fish tissue analysis is sufficient to meet the requirements of the EA process and this is further substantiated by the baseline water and sediment quality analyses that were completed. We are committed to ongoing monitoring throughout the Project phases as required by the Environmental Effects Monitoring study that will be initiated which will involve establishing additional baseline contaminant levels in biota, water and sediment, that will continue to be monitored during the operational stage of the mining

Ontario Federation of Anglers & Hunters

The Ministry of Environment (MOE) regularly conducts fish tissue contaminant testing, and therefore has information available through the *Sport Fish Contaminant Monitoring Program,* including the *"Protocol for the Collection of Sport Fish Samples for Inorganic and Organic Contaminant Analysis".* The Osisko Draft Environmental Impact Statement */* Environmental Assessment Report falls well short of what is recommended in the MOE protocol.

Ontario Federation of Anglers & Hunters

Response:
The purpose of the MOE protocol differs from the purpose of the Hammond Reef Environmental Assessment. Osisko does not strive to develop recommendations for public consumption of fish. The study carried out by Osisko meets the criteria required for the EA and is focused on the specific potential effects of the Project. We are not relying on the information as the only basis of the specific effects of Project operations. The EEM is focused on locations and effects. There is also recent data (2010) from Upper Marmion Lake available through the provincial program and the lake is on the list for future sampling within that program.

Ontario Federation of Anglers & Hunters

Protocol: Fish communities sampled a) within areas potentially impacted; and b) a reference area separated by a barrier to fish.

Osisko: Only three sample locations chosen. None of which would qualify as a reference area.

Response:
A reference location is not a specific requirement as part of evaluating project impact as part of the EA. By collecting baseline, pre-development data, we have a basis for comparisons of future conditions. The EEM Program, which will be established prior to mine operation will further establish a baseline condition in terms of water, sediment, benthic invertebrates and fish for both reference locations and areas around the mine. This program will operate during the operational life of the mine with regular reporting to regulatory agencies.

Ontario Federation of Anglers & Hunters

Protocol: Requires the collection of large fish in addition to forage fish.

Osisko: No apparent separation between collections. Only one forage fish species noted in collection.

Response:
Samples were collected from Lizard Lake and Upper Marmion Individual analyses for all species were completed, except for blacknose shiner, where a composite sample of several individuals was analysed. This information provided sufficient evidence of background conditions, in concert with the water and sediment quality data to characterize the existing environment for the purposes of the EA. The EEM Program will collect additional baseline information that will be used to monitor any future effects of mine operations.

Ontario Federation of Anglers & Hunters

Protocol: Large fish protocol recommends the collection of 20 individuals (per species and per area impacted) of at least 25-55 cm in size.

Osisko: Only three areas selected for sampling with a total of 88 individuals sampled. Number of individuals per area/per species ranged from only one to 18, therefore all samples were below the recommended 20 individuals, with only three samples even above 10 individuals. No fish lengths were provided.

Ontario Federation of Anglers & Hunters

Response:
The fish collection guidelines identified are those recommended for assessing the suitability for fish to be consumed and are intended as a guideline to be met on a best effort basis. The areas sampled represent the primary waterbodies potentially impacted by the project, two of which are in Upper Marmion Reservoir. For the EA, we have collected sufficient information on fish tissue contaminant levels to allow for an assessment of any potential for mine related effects. The fish tissue information is used in concert with sediment and water quality results. Results confirmed that there are naturally elevated levels of mercury in fish tissue and further that the mine will not represent a source of mercury contamination to the environment.

Ontario Federation of Anglers & Hunters

Protocol: Forage fish collection is the preferred method of sampling and requires composite samples (e.g. five to 10 individuals, per sample) of selected young-of-the-year species (typically Yellow Perch) or appropriate cyprinid species with a minimum of five composite samples. *Therefore, at minimum, 25 individual fish per sample site for a total of no less than 75 individual fish for the three sample sites would be required.*

Osisko: Of the three sites selected for sampling a single cyprinid (one individual fish) was sampled for two of the sites. In addition, insufficient detail was provided within the report to determine if other aspects such as sample collection techniques, preservation, and/or tissue size collections were completed properly.

Ontario Federation of Anglers & Hunters

Response:

See previous two comments & responses.

Ontario Federation of Anglers & Hunters

In conclusion, **the OFAH does not support the Osisko Hammond Reef Gold project as proposed** because of the high potential for impacts to local fish and fish habitat. We do not believe the proposed compensation and mitigation measures will be adequate for the protection of fish, fish habitat and other important recreational fishery values within this area. We are also very concerned that the data collected for fish tissue contaminant analysis is wholly inadequate and cannot be considered sufficient to use as a baseline for subsequent monitoring.

Ontario Federation of Anglers & Hunters

Response:
Through our EA we have demonstrated that fish habitat losses and effects on fish populations are limited to headwater waterbodies within the mine site on the peninsula. These habitat losses will be compensated for by creating nursery habitat along the shore of Upper Marmion Lake, by creating several small headwater ponds and by stocking several fishless headwater ponds. The measures we propose to implement will protect the Upper Marmion Lake sportsfishery. We will be implementing an EEM Program which will collect additional baseline data and operational data to ensure that mine operations meet environmental regulations and continue to protect fish and fish habitat.

OSISKO
HAMMOND REEF GOLD

A Fresh Outlook on Mining.

Hammond Reef Gold Project
Mercury and the Environment





We have heard that people are concerned about mercury in the environment. This is a common concern for many communities in Northern Ontario. The Ministry of Environment has been studying contaminants in sport fish within the province since 1976 and publishes recommended fish consumption levels for many lakes throughout the province.

Existing Environment

Field studies carried out at Hammond Reef included measuring existing levels of mercury in ground water, lake water, sediment and fish. The results showed that mercury levels in the water are low, and higher levels are found in sediments and fish. The Ministry of Environment has also recognized that mercury levels found in fish living in the Marmion Reservoir are high.

Assessment of Effects

The assessment of potential effects from the Hammond Reef Gold Project included laboratory testing and computer models to predict how air quality and water quality could change during Project construction and operations. The assessment also included an evaluation of any health or ecological risks that could be increased because of the Project.

Tailings Measurements

Laboratory testing measured mercury levels in tailings that would be created from the Project. The results of the laboratory tests showed that the tailings water had a non-acidic pH, and that mercury concentrations in the tailings water would be below the detection limit and below the surface water quality guidelines. Mercury is not found in the rock at Hammond Reef and will not be added during processing of the ore.

Air Quality

Mercury was not included as an indicator compound in air modeling, because it is not found in our process chemicals. Air modeling did include a prediction of changes to sulphate concentrations – some scientists believe that elevated sulphate levels can be linked to the release of mercury from sediment. The Project is predicted to cause a small increase sulphate concentrations in lake water from their existing levels, and is not expected to trigger any additional release of mercury from sediments.

Water Quality

Mercury was included in water quality modeling. Our predictions show operation of the discharge will not result in an increase in mercury. The concentrations will be identical to baseline concentrations.

Risks to Humans, Fish and Wildlife

Our studies show that the Project does not pose a risk of mercury exposure to humans, wildlife or fish. Mercury levels in the air and water will not increase as a result of the Project, and fish will not be exposed to increased mercury from the Project. Mercury is not a contaminant of concern for the Project because it is not found in the ore and will not be used in any of our processes.

Environnement Canada Environment Canada

Canada

The Evolution of the Environmental Effects Monitoring Programs





Canadian Society of Environmental Biologists
48 Annual Meeting, Edmonton

Bonna Ring
National EEM Office

Objectives

- Provide an overview of the Pulp and Paper and Metal Mining EEM Programs
- Evolution of the program
- Findings (National analysis)



EEM within Regulations

To evaluate the effects of metal mine / pulp and paper mill effluents on the aquatic environment specifically fish, fish habitat and the use of fisheries resources as defined in the Fisheries Act.

Pulp and Paper Effluent Regulations & Metal Mining Effluent Regulations

- EEM introduced into PPER in 1992 (amended twice)
- Metal mining EEM introduced in 2002 under MMER
- Scientific assessment of the health of fish, fish habitat and the use of fisheries resources
- Why EEM? To assess adequacy of regulations;
  - Because of the variability in receiving environments, there was uncertainty that effluent limits would protect all aquatic receiving environments on a site-specific basis

EEM Requirements

Supporting Variables

- **Sublethal toxicity testing (laboratory)**
- **Water quality monitoring**
- **Sediment monitoring**
- **Effluent characterization (MMER only)**
  - Annual Effluent and Water Quality Monitoring Report

EEM Requirements

Core Component

- **Fish Population Survey**
  - Relative gonad size; Relative liver size; Condition; Age; Weight at age
- **Invertebrate Communities Surveys** (fish habitat)
  - Total density; Taxon richness; Bray-Curtis; Evenness
- ***Study respecting fish tissue***
  - PPER - fish specimens tested for dioxins and furans
  - MMER - fish specimens tested for total mercury

EEM Program Overview

- Tiered phases of monitoring, interpretation and reporting
- Frequency depends on regulation and previous results
  - Currently in 5th cycle for Pulp and Paper
  - Just completed 2nd phase for Metal Mining

➢ ***Study design and Interpretative report are submitted to AO***

EEM Effects

- An effect is defined in the regulations as a **statistical difference** between data from an exposure area and a reference area

- Conduct biological monitoring surveys; confirmation monitoring
- If effects are not found and confirmed: reduced monitoring
- If effects are found and confirmed: magnitude and extent (focussed monitoring) studies and / or investigations of cause studies
- For PP EEM, if causes determined, conduct Investigation of Solution

Pulp and Paper and Metal Mining
Program Reviews

Programs reviewed periodically to ensure that the program is effective, efficient and based on the most current scientific knowledge

- **Pulp and Paper Review of Cycle 1 (expert working groups) / Smart Regulation Project on Improving the Effectiveness and Efficiency of Pulp and Paper EEM / Metal Mining EEM Review Team**
  - Multistakeholders; National EEM Team; Science Committee
- **Resulted in continuous improvements over the past decade for PP**
- **Changes / updates in technical guidance document**
  - Updated for reporting, study designs, incorporation of science developments (alternative methods, non lethal sampling), updates in decision trees
- **PPER EEM Amendments:**
  - Tiered monitoring and addition of IOC and IOS
  - Streamlining sublethal toxicity test
  - Independent frequency (biological monitoring)
  - exemption for benthic invertebrate studies (rapid dilution)

Program Reviews leads to policy development

- Policy Development to streamline the program – introduction of CES

➢ ***Critical Effect Sizes identifies the magnitude of a statistically significant effect which is of sufficient ecological concern to allow for identification of facilities expected to conduct more specific investigations in the EEM program.***

Fish Population *(effect endpoints)*	***CES***	***Benthic Invertebrate*** *(effect endpoints)*	***CES***
Condition	±10%	***Density (total abundance)***	±2SD
Relative liver size	±25%	***Taxon richness (number of taxa)***	±2SD
Relative gonad size	±25%	***Bray-Curtis index of dissimilarity***	+2SD
Weight-at-age (growth rate)	±25%	***Simpson's evenness***	±2SD
Age	±25%		

Pulp and Paper EEM
National Analysis

- ***National analysis:*** conducted after each phase; 4 cycles completed; 5th cycle due March 2010

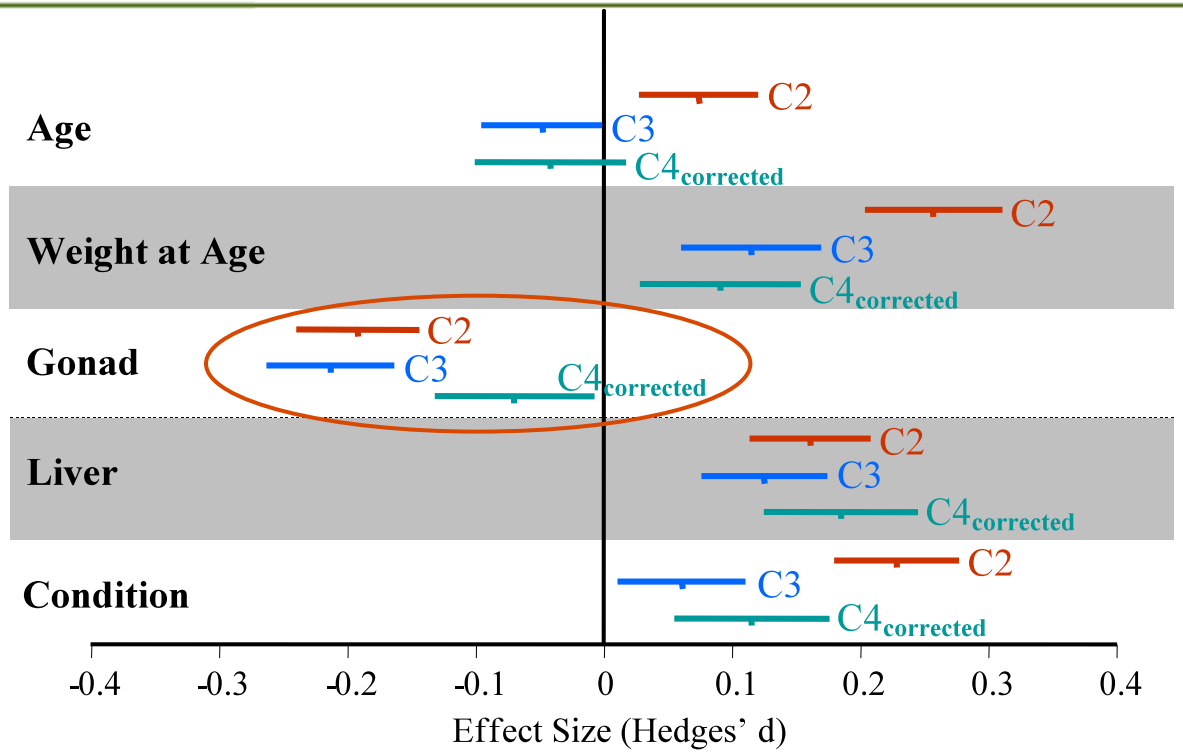
- ***Identification of National trends:***

  Fish (nutrient enrichment conditions, disruption in resource allocation in gonadal growth): increased condition, growth rate, and relative liver size, together with decreased relative gonad size

  Benthos (various degrees of eutrophication): increased density and changes in community structure and variations of change in taxon richness

- ***Effects***
  - biological monitoring studies showed that mill effluents were affecting fish and fish habitat, and very rarely the use of fisheries resources.
  - 70% of mills have confirmed statistical significant effects when both fish and benthos considered

Pulp and Paper EEM
National Analysis – Fish

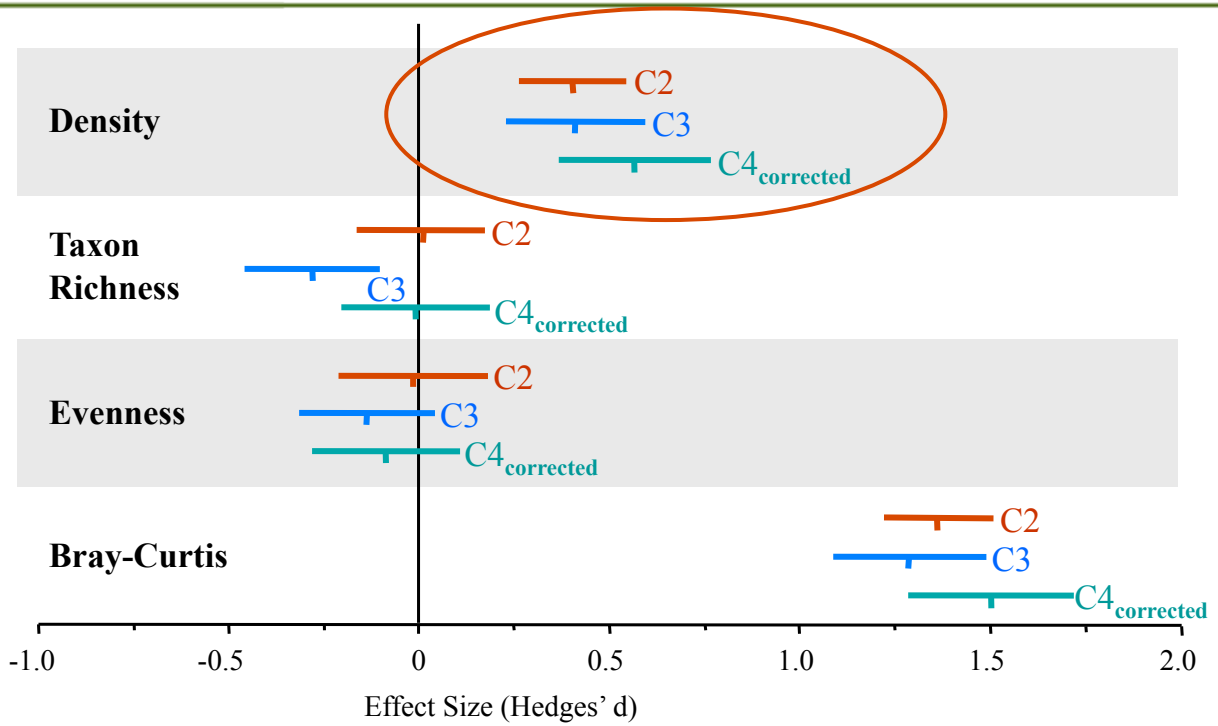


Pulp and Paper National Average Fish Effects for Cycles 2 to 4 (C4 corrected for missing IOC mills).

- **National pattern of significant effects on all endpoints accept age**

Pulp and Paper EEM

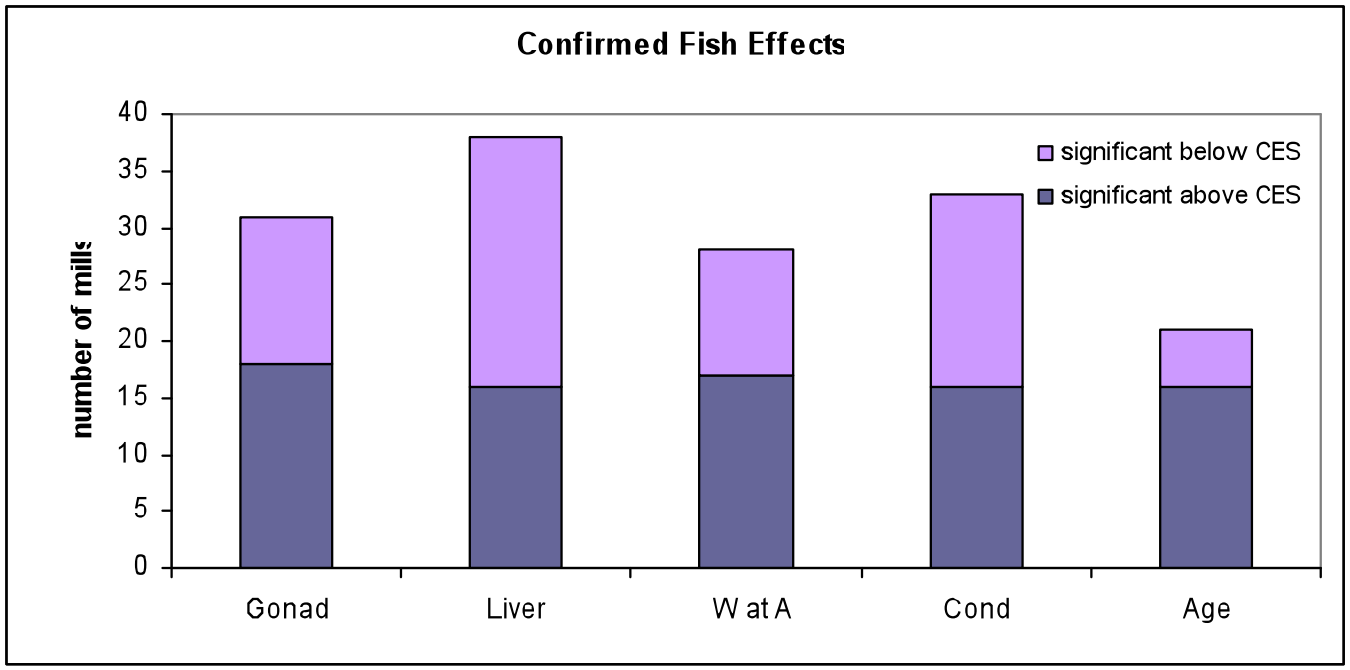
National Analysis – Benthic invertebrate



Pulp and Paper National Average Benthos Effects - Cycles 2-4 (C4 corrected for missing IOC mills).

- **National pattern of significant effects on density and Bray-Curtis endpoints**

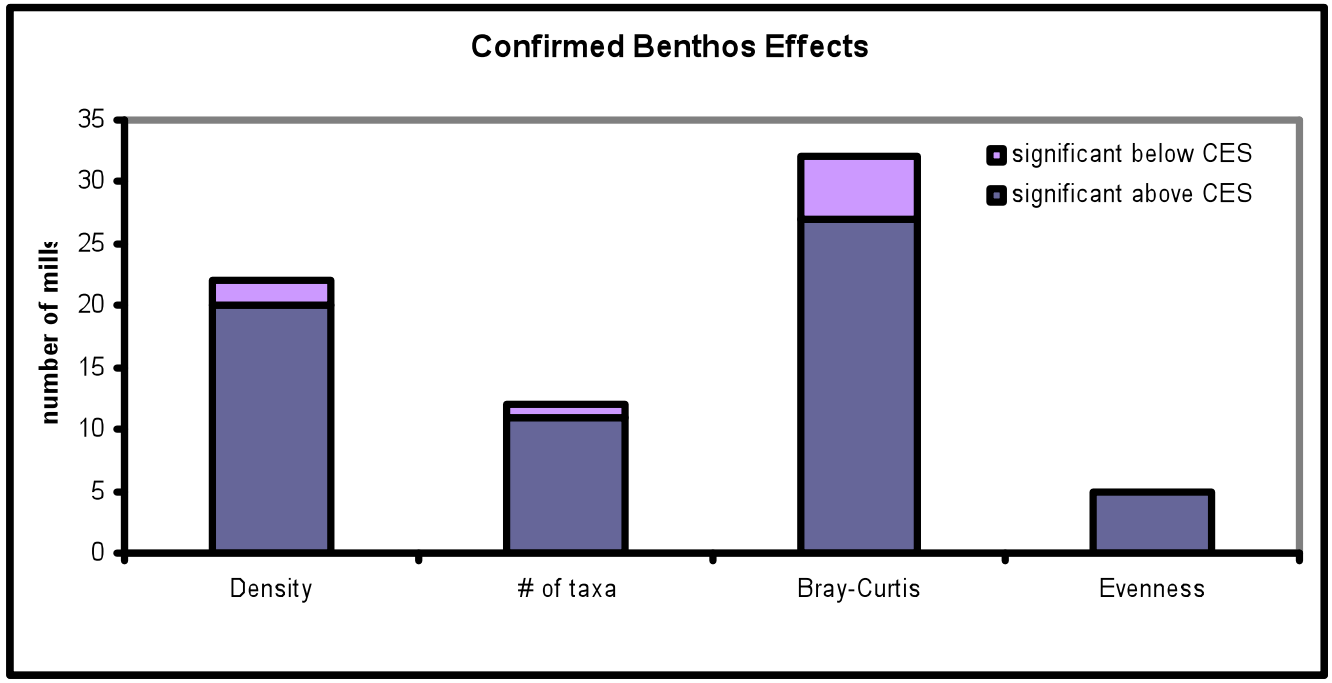
Pulp and Paper EEM
National Analysis – Fish



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Pulp and Paper EEM

National Analysis – Benthic invertebrate



Pulp and Paper EEM
Overview

- Out of the 70% of mills showing a confirmed effect, 57% of these effects were above the CES
- The gonad CES (±25%) was exceeded at ~ 20% of the mills; benthic eutrophication effect was considered to be pronounced at ~ 30% of the mills.
- Introduction and use of CES resulted in 28 mills with large effects engaging in IOC studies in cycle 4.
- Moving from routine monitoring to investigating the cause and solutions
  - National study on reduced gonads initiated
  - Industry developed Best Management Practices guide for eutrophication
- Cycle 5 will contain a mixture of standard monitoring, IOC and IOS studies

Metal Mining EEM

National Analysis

- ***National assessments:***
  - 1st: tended to be inhibitory more than stimulatory
  - 2nd: submitted in March, 2009; preliminary results (mainly phase 2 studies but also includes a subset of Phase 1 studies from new mines)

- ***1st National Assessment trend:***

  Fish : decreased condition and liver

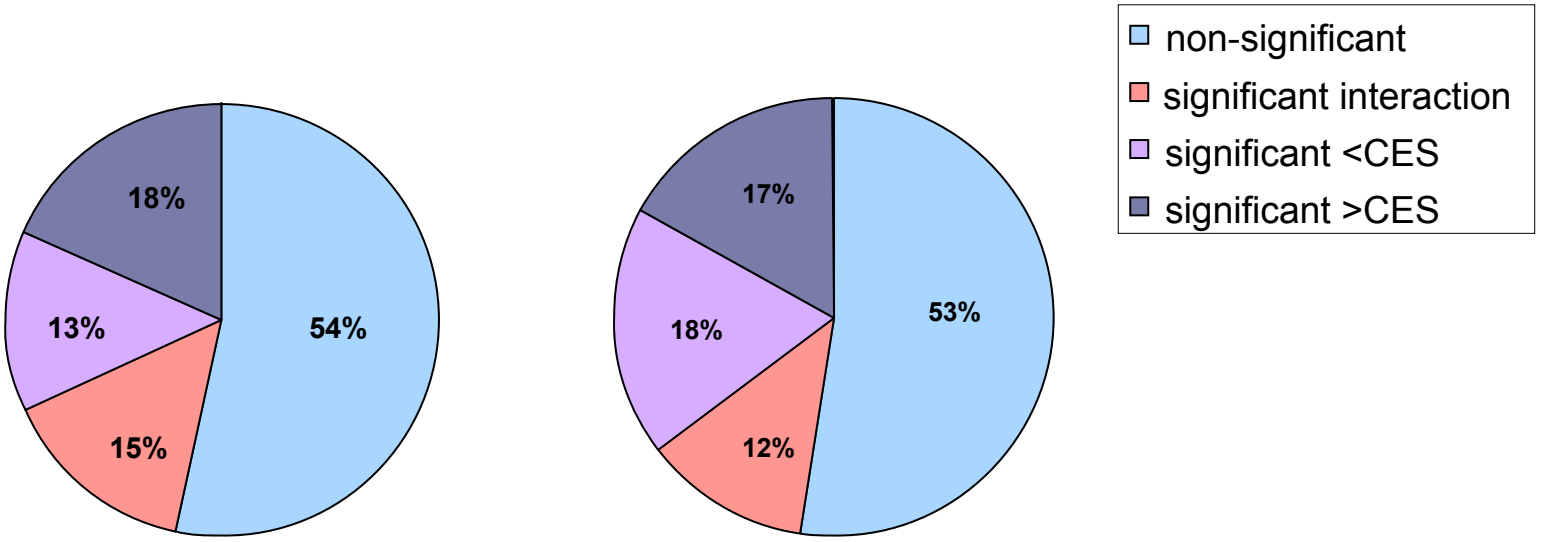
  Benthos: reduction in density, taxon richness and changes in community structure (Bray Curtis and Simpson's evenness)

- ***2nd National Assessment preliminary findings:***

  Fish: Decreased condition, liver size and growth rate

  Benthos: Decreased taxon richness, increased density

Metal Mining EEM
National Analysis - Fish



1st National Assessment

(n = 455)

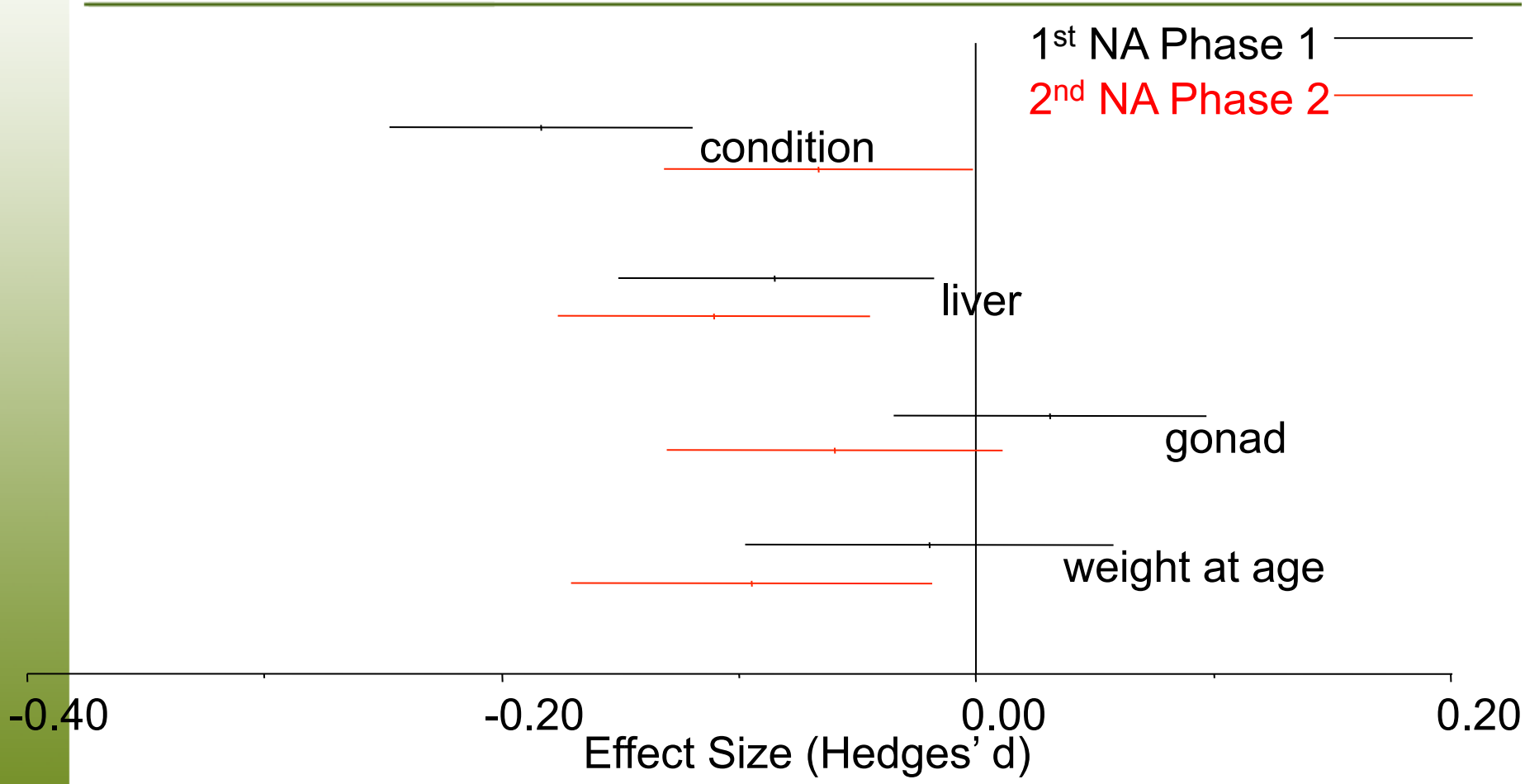
2nd National Assessment

(n = 565)

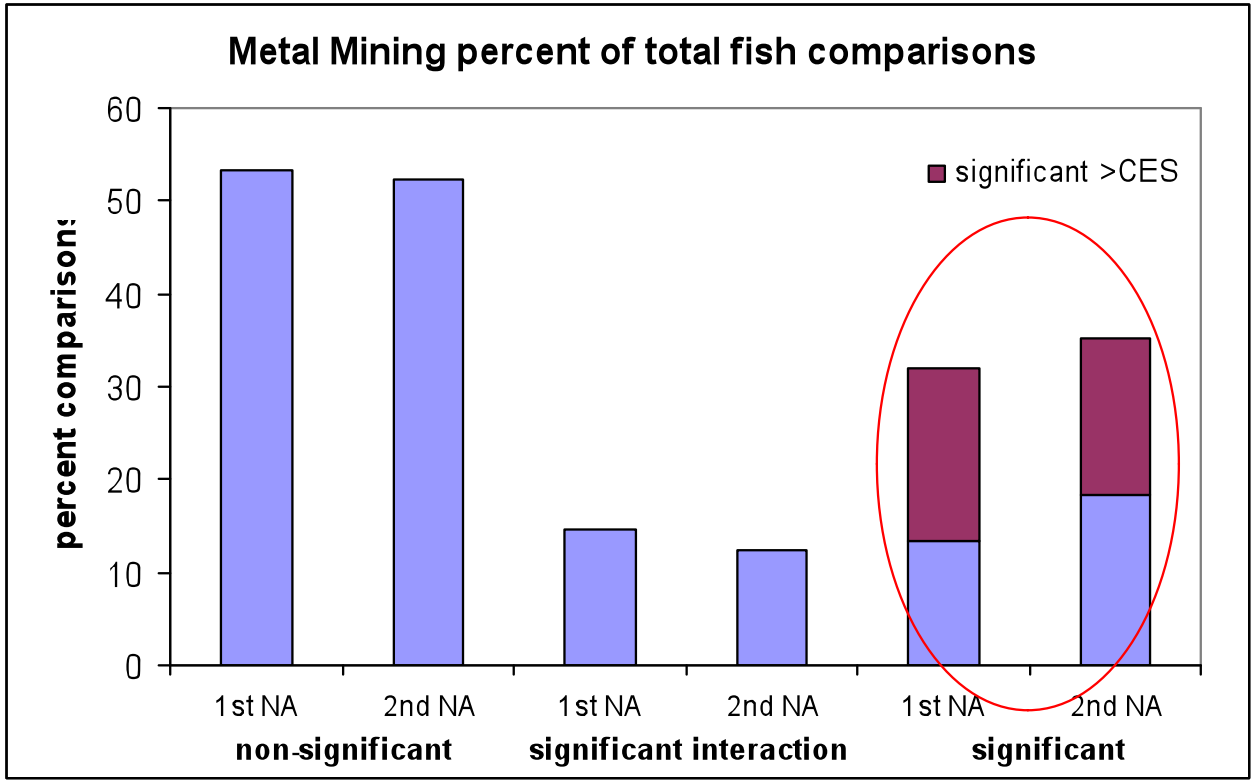
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Metal Mining EEM

National Analysis – Fish

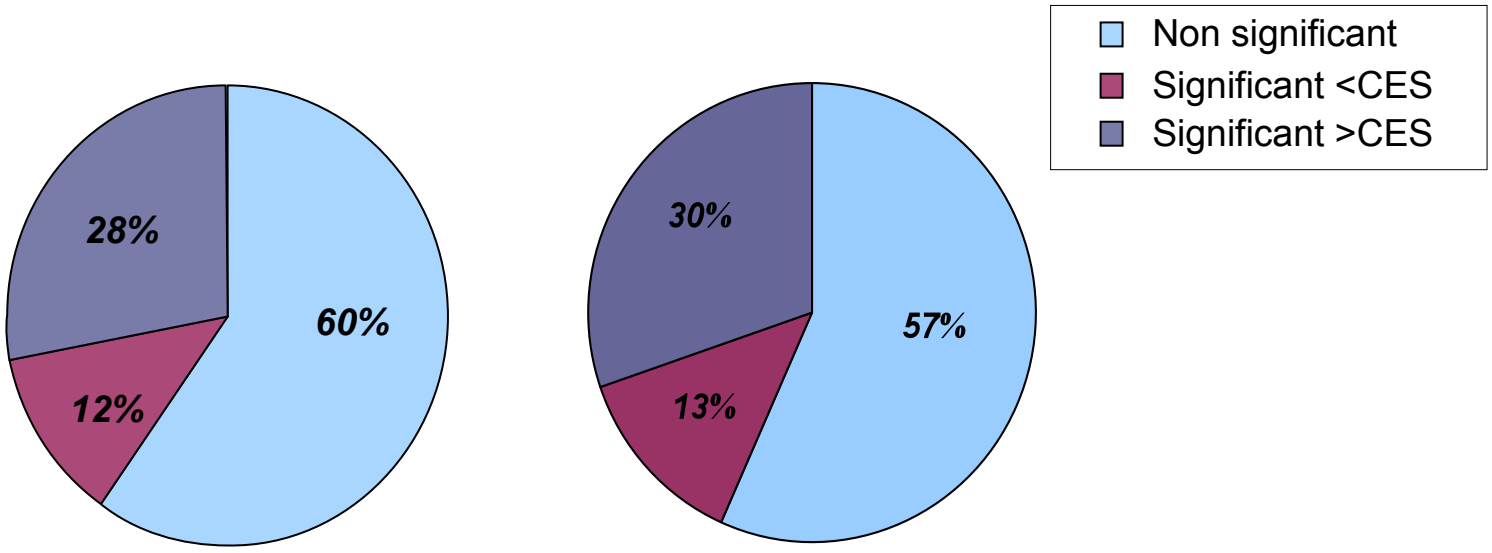


Metal Mining EEM
National Analysis - Fish



Metal Mining EEM

National Analysis - Benthos



1st National Assessment

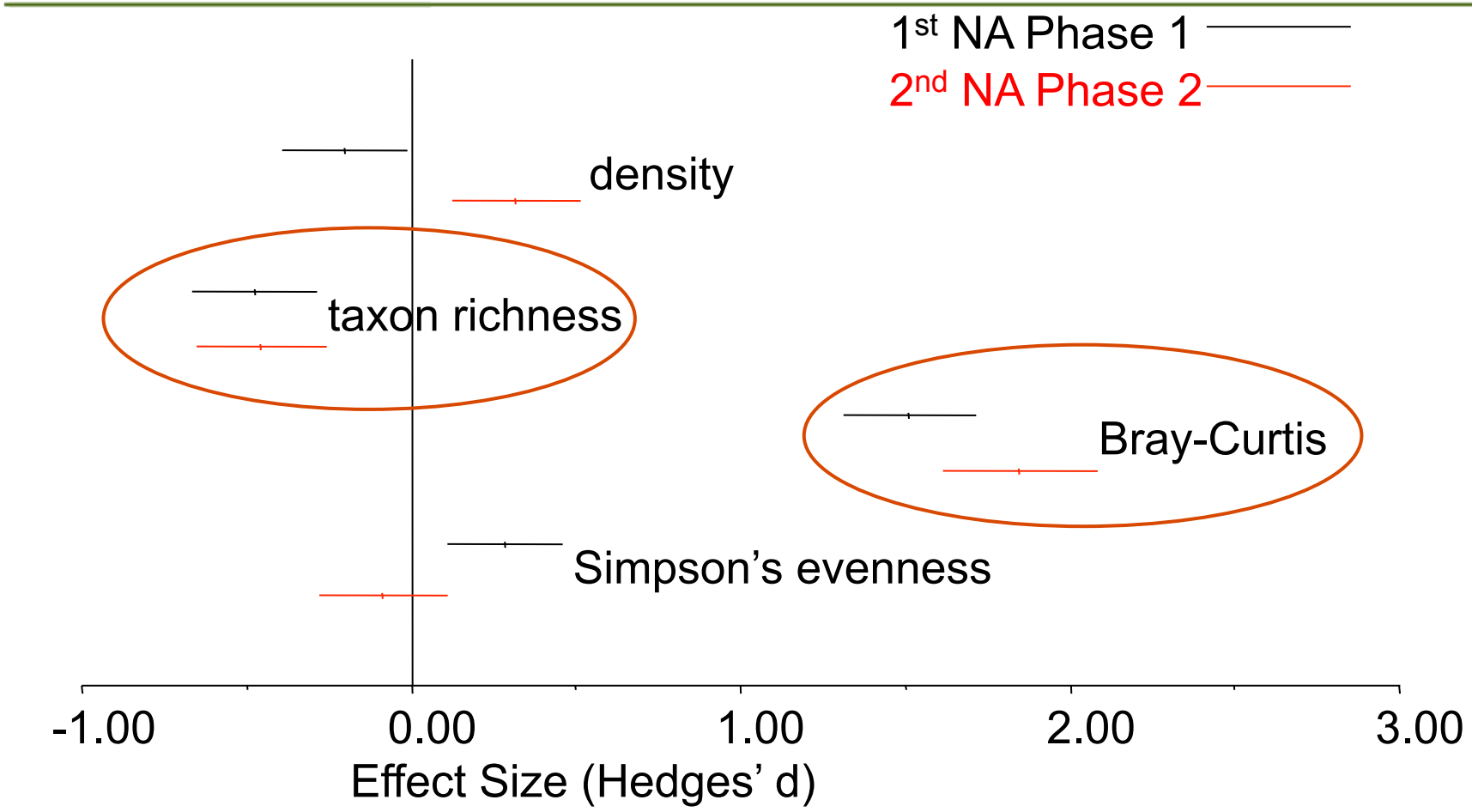
(n = 232)

2nd National Assessment

(n = 284)

Metal Mining EEM

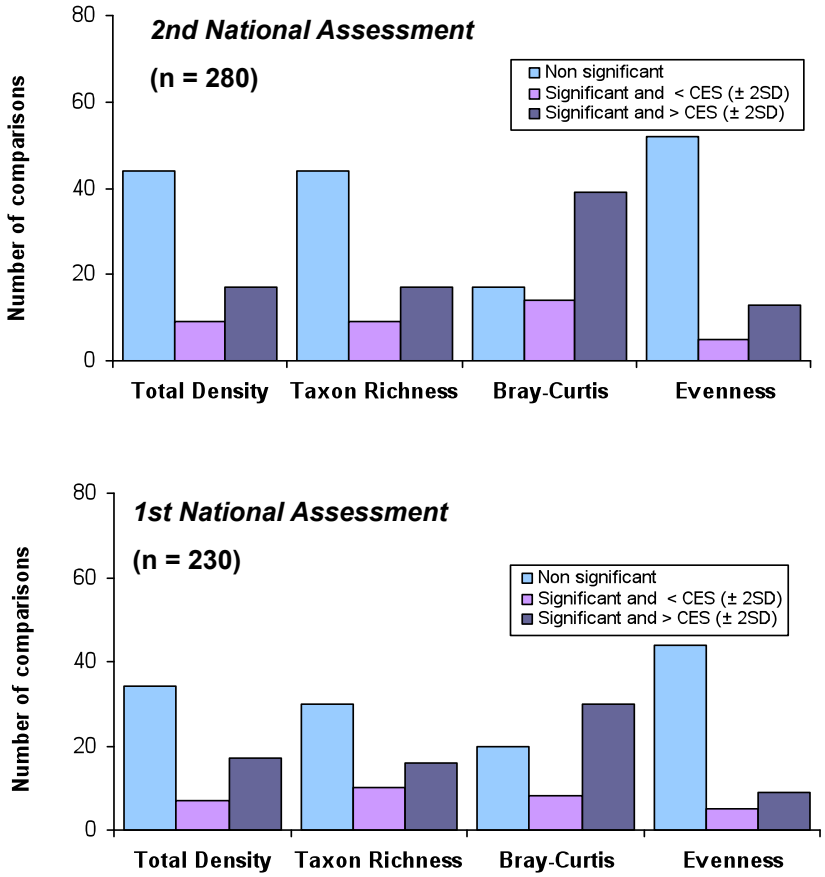
National Analysis – Benthos



Metal Mining EEM

National Analysis – Benthos

Number of comparisons showing non-significant and significant differences and significant and above CES for the benthic invertebrate endpoints



Metal Mining
Overview

- Significant effects were found in approximately half of the comparisons
- The use of P&P CES may prove useful in focussing efforts on largest effects
- Proportion of significant vs non-significant effects between assessment periods was consistent
- Number of mines with confirmed effects has not yet been determined
- We expect that many mines will be moving forward into investigation of cause studies
- Conducting IOC workshop to consolidate knowledge regarding possible causes

EEM – Conclusions

- EEM is an effective, science based monitoring tool for:
  - Evaluating environmental impacts of mill and mine effluents
  - Assessing the adequacy of effluent regulations

- Efforts to review and improve the programs is an iterative, ongoing process

- For additional information visit:

  http://www.ec.gc.ca/esee-eem/
  - **About EEM and general information**
  - **Technical Guidance Documents**
  - **Publications**
  - **Results**



OSISKO

November 8, 2013

John Charbonneau and Roy DeCorte
Atikokan Sportsmen's Conservation Club
PO Box 788
Atikokan, ON P0T1C0

Dear John Charbonneau and Roy DeCorte:

Thank you for your comments on April 4, 2013 regarding the Environmental Assessment (EA) submitted by Osisko for the Hammond Reef Gold Project. We are pleased to provide the following clarifications in response to your concerns (original questions marked in bold).

With respect to your specific concerns, we offer the following clarifications.

a. **Presence/absence data are a very qualitative measure of environmental impact from a particular action. While it tells you whether a species that was present before the impact is also present after the impact it does not measure the magnitude of any specific action on the fish species employed as indicators of environmental change.**
Sufficient baseline data on fish communities within all of the lakes potentially impacted by the project was collected in order to assess project effects and develop mitigation and compensation measures as part of the EA. In addition, an Environmental Effects Monitoring (EEM) program will be implemented to collect additional baseline data as a benchmark to evaluate any potential for additional effects during operations.

b. **The results of the *Fish Tissue Analysis* are unacceptable to be considered adequate baseline data for the study area. Higher levels of mercury contamination appear to exist in the walleye of Lizard Lake. However, the average total length and age were not reported for these fish. If the average length and weight were shown in the same table these walleye contaminant averages for Lizard Lake are less shocking.**
The length and weight information of the fish sampled and used in the *Fish Tissue Analysis* was provided to the Atikokan Sportsmen Club during the public comment period of the Draft Environmental Impact Statement/Environmental Assessment (EIS/EA) Report.

c. **Standardizing the total mercury concentration to a total length would create comparable values for interlake comparisons of contaminants according to species. The data that were collected are insufficient and would not provide a baseline for future conditions. The correct approach would involve sampling more than just 8 fish and would require sampling a full range of ages and sizes for each species. As the variability in fish length increases with age, ageing structures should be collected from each individual fish in order to determine how much variability in fish mercury concentrations is associated with age.**
The level of detail that is being requested is not appropriate for an EA. The information was collected and data is available for additional analysis should it be required in the future. The EEM Program will collect additional data on fish tissue contaminants, as well as detailed fish measurements.

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www.osisko.com

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d. **Northern pike and smallmouth bass should be included in the contaminant analysis. These sport fish are frequently consumed and changes in aquatic conditions could present a human health concern. Ignoring certain sport fish species and the human health concerns is not acceptable.**
Data was collected on one of the key sport fish: walleye. Walleye was chosen as a valued ecosystem component (VEC) through consultation with the government review team, the public and Aboriginal groups. We will consider additional species when we look at the EEM Program. Recommendations for consumption of fish are the mandate of MOE and are not part of the requirements for an EA.

e. **The methods used for fish tissue analysis did not outline if the lab facilities chosen were accredited for Total Mercury in biological tissue. Laboratory results of fish tissue analysis were not presented in Appendix 2.IV. This appendix did not exist.**
The laboratory was accredited for Total Mercury in biological tissue. Detailed laboratory results were provided to the Sporstmen's Club during the public comment period on the Draft EIS/EA Report.

f. **As far as using benthos to indicate water quality five samples per site employing a Ponar dredge is not the most efficient way to detect any quantitative change with time. Much more intensive methods are available but of course more expensive and time consuming. These data are the most minimal that could have been presented.**
The use of a Ponar dredge is a method that is widely accepted and approved by regulators.

g. **The Sewage Plant – "will meet MOE guidelines?" What process is used to ensure this outcome?**
The Environmental Compliance Approval (ECA) process will ensure that all sewage discharge meets water quality requirements. An Industrial Sewage ECA will be required prior to any discharge. Operational monitoring and reporting to regulators is also required through the ECA.

h. **The Sewage may meet water quality standards but what about phosphorous and nitrogen loading, resulting in algal blooms?**
Nutrients are considered an important water quality criterion in the accommodation camp discharge. The predicted nutrient mixing concentrations did not result in nutrient concentrations in exceedances of any water quality guidelines with the exception of phosphorus. The exceedances of the PWQO for phosphorus in Sawbill Bay will be addressed through modification to the treatment system prior to release of domestic waste water. The predicted results will be incorporated into the final design criteria for the domestic sewage treatment plant to ensure there are no predicted exceedances of the PWQO. The camp policies will include use of phosphate free soap.

i. **Blasting Effects - somewhat vague as to who will collect the data and what will be the mitigation measures to counteract any blasting effects detected. Also, could you spell out what the exact measures will be to counteract blasting effects- it is very fuzzy at present.**
Osisko will be responsible for monitoring and implementing a mitigation/avoidance plan as required to offset blasting effects. There are a number of measures that can be implemented. Some examples are:
- Use of bubble curtains
- Adjust the magnitude of the blast (reduce hole diameter; deck blasts)
- Adjust the time of blasting to avoid sensitive life cycle stages of fish.

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j. **Cyanide and Copper Levels in Processing Waters- If these remain high how will this be addressed and treated?**

A contingency plan will be developed that includes the treatment of metals, if necessary. The exceedances of the CWQG and PWQO for free cyanide are based on conservative assumptions. Free cyanide was assumed to equal total cyanide concentrations. The actual concentrations of free cyanide are predicted to be less than the values provided. The cyanide detoxification circuit in the processing plant can be modified if necessary to further reduce the cyanide concentration in tailings. In addition, as the feasibility process advanced, the concentration of cyanide exiting the cyanide detoxification circuit was reduced from 20 ppm to 5 ppm. This resulted in lower concentrations in the tailings stream and is reflected in the revised EIS/EA report that will be submitted as the final report.

k. **Closure Phase – Refilling of pits will not cause any direct impacts because stratification will result in water quality of the upper layer to be suitable for discharge! What about the bottom layer? What about the Steep Rock disaster? Are we creating another such scenario? Once the upper layer drains what about the lower layers?**

The pits will not be drained during the closure phase. They will slowly fill with water, allowing stratification and settling to occur naturally. The water at the bottom of the pit will not mix with the water at the top because of depth and small surface area = permanent thermal stratification. No, Osisko will not be creating a scenario similar to Steep Rock. Two key things differentiate this project from the Steep Rock mine. Firstly, the nature of the rock, tailings and process water at Hammond Reef is very different from the Steep Rock Mine. Geochemical testing has shown that there is no potential for acid rock drainage or metal leaching. Secondly, government regulations around closure have changed significantly in the past fifty years. Osisko has the responsibility to create a detailed closure plan which includes making a significant financial commitment before construction can begin.

l. **The statement (pg. 95) that in general the predicted results are the same or marginally greater than average values in Lizard Lake concentrations high mercury and selenium above average. Is this the old bromide "the solution to pollution is dilution?"**

The statement is referring to the magnitude of change to water quality and is not referencing dilution factors. There is no predicted change to mercury or selenium, for the Canadian Water Quality Guidelines (CWQG) based on method detection limit (MDL).

m. **Regarding species habitat, the weightings assigned to various fish species favour sport fish- they ignore for example the Brassy Minnows- this is a very rare species of fish in the Thunder Bay region and North Western Ontario with a very scattered distribution. Given that two populations will be eliminated, serious thought should be given to save and reintroduce this scarce species as part of the rehabilitation plan and to give it a higher ranking in the weightings.**

Osisko did not assign species habitat weightings. A series of meetings regarding fish habitat compensation and no net loss planning have been taking place with government regulators over the past two years. Fish weightings were developed in cooperation with government regulators and all fish species are included in the weightings. In discussion with MNR, it was determined that Brassy Minnow was misidentified and is not found in the study area.

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n. **Another point that disturbs me is to imply that assistance with remediation of Steep Rock could substitute for remediation efforts on the mine site and adjacent habitats. I absolutely oppose this as a cop out- the duty of Osisko is to rehabilitate what they have impaired and not get caught up in the mess at Steep Rock- a totally separate disaster. Help us pay for treatment of toxic Steep Rock effluent and we will look the other way when it is your turn? Come on!**
Throughout our consultation, we heard that many people were concerned about the risks presented by Steep Rock. We included off site fish habitat compensation as an option in an effort to address these comments. However, as the Project planning proceeded, we heard from several groups that they would be opposed to this option. We have therefore refocused our fish habitat compensation plan to focus on on-site options and compensation of Steep Rock is no longer envisioned.

o. **Residual compensation by stocking is another dubious way to evade responsibility for correcting the damage resulting from this operation and does not substitute for rehabilitation.**
Osisko did not develop the compensation measures alone and is in no way trying to be "dubious". A series of meetings regarding fish habitat compensation and no net loss planning have been taking place with government regulators over the past two years. Fish habitat compensation measures were developed in cooperation with government regulators. Stocking fishless lakes is an acceptable compensation method.

p. **Also the claim that effluent would only be a problem in "wet years" with a statistical probability of 1 in 25 does not mean that a wet year can only occur in a 25 year period. This is another evasive maneuver. You could get three wet years in a row and then what? I would want to see a back-up plan should such an event occur.**
Table 6-18 shows no discharge in dry year return periods. It does show discharge in wet year return periods. While it is statistically possible to have several wet years in a row this is very unlikely and would be considered an upset condition. Based on the water quality predictions, excess water under these high flow conditions is expected to be better than existing discharge scenarios, however an operational monitoring program will be in effect and contingencies will be developed to deal with upset conditions that would account for overall water storage on site. Storage areas that could potentially be used under upset conditions may include use of the TMF and/or the open pit if necessary.

q. **Overall we do realize that hard rock mining is a very ecologically destructive process and is financially riskier than for example oil production by conventional means. The ecological baseline data that were collected and are used to evaluate detrimental effects and rehabilitation of such effects are the bare minimum and mostly qualitative rather than quantitative in nature. The latter are needed to measure rehabilitation. Furthermore, how can we be certain the proponent will be able to carry out all the proposed actions of the post-closure monitoring and mitigation projects if it becomes insolvent? Who then pays for this portion of the plan? We have only to look at some entrepreneurs in the forest industry to see examples of this.**
Osisko's approach is to be as pro-active as possible and plan for stable, long-term restoration of the area, in order to support a healthy ecosystem, include the values of the local community, and be an example for mining in the future. Changes to the Ontario Mining Act, made after the Steep Rock Iron mine closed, ensure that mining companies can no longer abandon mines and leave the clean-up to the

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public. The Mining Act now requires that a company develop a plan for the rehabilitation of a mine site, and set aside financial assurance that will guarantee the work is completed. Simply put, before Osisko receives a permit to develop a mine, we will have to provide the Ontario Ministry of Northern Development and Mines (MNDM) a Certified Closure Plan including setting aside the money for mine closure.

Notwithstanding the fact that we believe that the fish tissue sampling undertaken for the EA was sufficient for EA purposes, we have committed to providing capacity support to Seine River First Nation (SRFN) to collect additional fish tissue and benthic samples in the Spring of 2014 in conjunction with an environmental study being undertaken with their community. We would be pleased to share the workplan with you for review and comment. We envision utilizing SRFN personnel in the fieldwork and sharing the data with SRFN, OFAH and the Sportsmen's club.

We trust these responses are satisfactory, and welcome the opportunity to meet with you and further discuss your questions.

Sincerely,

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development8

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November 8, 2013

Shari Sokay, Land Use Specialist
Ontario Federation of Anglers and Hunters
PO Box 2800, 4601 Guthrie Drive
Peterborough, ON K9J 8L5

Dear Shari Sokay:

Thank you for your comments on April 4, 2013 regarding the Environmental Assessment (EA) submitted by Osisko for the Hammond Reef Gold Project. We are pleased to provide the following clarifications in response to your concerns (original questions marked in bold).

With respect to your specific concerns, we offer the following clarifications.

a. **Developments are often permitted under a blanket statement that there will be "no negative impacts" or "no net loss". However, the reality of post-construction and long-term monitoring often shows that compensation measures are not reflective of pre-construction conditions. Therefore, avoidance must take priority over compensation and mitigation measures.**We agree that avoidance should take priority over compensation and mitigation. We are proud of our efforts throughout the planning process to minimize environmental impacts through design and siting of Project facilities. We have worked extensively with the Department of Fisheries and Oceans (DFO) and the Ontario Ministry of Natural Resources (MNR) to develop compensation measures that will contribute to an overall improvement in fish habitat in Upper Marmion Lake and through ongoing monitoring and assessment activities, in particular, the future Environmental Effects Monitoring (EEM) Program, we will ensure that our project meets all regulatory requirements

b. **The OFAH is deeply concerned with the impacts associated with this development. The large scale and location of this development will most certainly result in a significant impact to fish and fish habitat within the region.**
We understand that fishing is an important land use in the Project area. We support recreational fishing through our sponsorship of the Atikokan Bass Classic and partnership with the local hatchery. We are confident in our ability to quantify and mitigate impacts to fish and fish habitat throughout the EA process and Not Net Loss Planning process. We anticipate ongoing work and support to enhance benefits to the local recreational fishery that can be realized should the Project move forward. While some fish habitats in waterbodies located within the mine site on the peninsula will be lost, these impacts have been limited to the mine site and valuable habitats within Upper Marmion Lake and Lizard Lake have been protected and enhanced through the off-set plan.

c. **The OFAH does not feel that sufficient pre-construction (baseline) information has been collected to accurately determine post-construction impacts to fish tissue contamination. Without a sound sampling methodology the "results" are essentially meaningless.**
The Project is not anticipated to result in an increase in fish tissue contamination. With respect to mercury contamination, the ore and waste rock does not contain mercury and we will not be adding any mercury during ore processing. We are confident that the fish tissue analysis is

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sufficient to meet the requirements of the EA process and this is further substantiated by the baseline water and sediment quality analyses that were completed. We are committed to ongoing monitoring throughout the Project phases as required by the Environmental Effects Monitoring study that will be initiated which will involve establishing additional baseline contaminant levels in biota, water and sediment, that will continue to be monitored during the operational stage of the mining.

Notwithstanding the fact that we believe that the fish tissue sampling undertaken for the EA was sufficient for EA purposes, we have committed to providing capacity support to Seine River First Nation (SRFN) to collect additional fish tissue and benthic samples in the Spring of 2014 in conjunction with an environmental study being undertaken with their community. We would be pleased to share the workplan with you for review and comment. We envision utilizing SRFN personnel in the fieldwork and sharing the data with SRFN, OFAH and the Sportsmen's club

d. **The Osisko Draft Environmental Impact Statement / Environmental Assessment Report falls well short of what is recommended in the MOE *"Protocol for the Collection of Sport Fish Samples for Inorganic and Organic Contaminant Analysis".***
The purpose of the MOE protocol differs from the purpose of the Hammond Reef Environmental Assessment. Osisko does not strive to develop recommendations for public consumption of fish. The study carried out by Osisko meets the criteria required for the EA and is focused on the specific potential effects of the Project. We are not relying on the information as the only basis of the specific effects of Project operations. The EEM is focused on locations and effects. There is also recent data (2010) from Upper Marmion Lake available through the provincial program and the lake is on the list for future sampling within that program.

e. **Protocol: Fish communities sampled a) within areas potentially impacted; and b) a reference area separated by a barrier to fish**.
Osisko did not choose a reference area because there is no impact area. This is only appropriate once the Project is operational. A reference location is not a specific requirement as part of evaluating project impact as part of the EA. By collecting baseline, pre-development data, we have a basis for comparisons of future conditions. The EEM Program, which will be established prior to mine operation will further establish a baseline condition in terms of water, sediment, benthic invertebrates and fish for both reference locations and areas around the mine. This program will operate during the operational life of the mine with regular reporting to regulatory agencies.

f. **Protocol: Requires the collection of large fish in addition to forage fish.**
Samples were collected from Lizard Lake and Upper Marmion. Individual analyses for all species were completed, except for blacknose shiner, where a composite sample of several individuals was analysed. This information provided sufficient evidence of background conditions, in concert with the water and sediment quality data to characterize the existing environment for the purposes of the EA. The EEM Program will collect additional baseline information that will be used to monitor any future effects of mine operations.

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g. **Protocol: Large fish protocol recommends the collection of 20 individuals (per species and per area impacted) of at least 25-55 cm in size.**
The fish collection guidelines identified are those recommended for assessing the suitability for fish to be consumed and are intended as a guideline to be met on a best effort basis. The areas sampled represent the primary waterbodies potentially impacted by the project, two of which are in Upper Marmion Reservoir. For the EA, we have collected sufficient information on fish tissue contaminant levels to allow for an assessment of any potential for mine related effects. The fish tissue information is used in concert with sediment and water quality results. Results confirmed that there are naturally elevated levels of mercury in fish tissue and further that the mine will not represent a source of mercury contamination to the environment. With respect to mercury contamination, the ore and waste rock does not contain mercury and we will not be adding any mercury during ore processing.

h. **We do not believe the proposed compensation and mitigation measures will be adequate for the protection of fish, fish habitat and other important recreational fishery values within this area. We are also very concerned that the data collected for fish tissue contaminant analysis is wholly inadequate and cannot be considered sufficient to use as a baseline for subsequent monitoring.**
Through our EA we have demonstrated that fish habitat losses and effects on fish populations are limited to headwater waterbodies within the mine site on the peninsula. These habitat losses will be compensated for by creating nursery habitat along the shore of Upper Marmion Lake, by creating several small headwater ponds and by stocking several fishless headwater ponds. The measures we propose to implement will protect the Upper Marmion Lake sports fishery. We will be implementing an EEM Program which will collect additional baseline data and operational data to ensure that mine operations meet environmental regulations and continue to protect fish and fish habitat.

We trust these responses are satisfactory, and welcome the opportunity to meet with you and further discuss your questions.

Sincerely,

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development

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Tourism Operators

OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

MEETING NOTES
FINLAYSON LAKE RESORT
MAY 4, 2012
ATIKOKAN, ON

Attendees:

[redacted]: Finlayson Lake
Cathryn Moffett: Osisko Hammond Reef Gold Ltd.

Meeting Purpose

[redacted] were passing through Atikokan and heard that Osisko was in town. They stopped at Osisko's office on Goodwin Street and asked to meet with a consultation representative.

Information Materials

Project Overview Booklet was provided

Summary of Concerns

Meaningful Participation

- [redacted] spend the winter in southern Ontario
- They haven't attended consultation meetings in Atikokan; however they are interested in the Project
- They are concerned they may have missed some consultation deadlines
- The government had some specific timelines associated with public review of Terms of Reference and EIS Guidelines, however Osisko welcomes participation at any point in the Project

Business Plans

- The camp was run down when [redacted] bought it in 2009
- They have put a lot of work into it
- They were planning to sell it, but are worried that the value will be decreased due to exploration and potential mining activities

Recreation Experience

- They utilize camping spots at the Lynxhead Narrows near Trap Bay
- Some customers have complained about noise
- They are curious to see what the site will look like with an operating mine

Fishing and Hunting

- 95% of the customers fish in Marmion Reservoir
- Marmion has a very good reputation for fishing
- Hunting for moose and bear is also important to the business

Follow Up:

Schedule a meeting at the resort in the next few weeks (possibly end of May)

From: Crystal Beach Resort <crystalbeach@xplornet.com>
Sent: March 27, 2013 3:17 PM
To: Alexandra Drapack
Subject: questions about Sawbill Bay

Hello,
I had a question about Sawbill Bay. Recently I read a lot of 'things' that may go on in Sawbill Bay such as dredging, channelizing to other lakes, loss of fish habitat, etc. Could you please tell me what the intent of Osisko is to do to Sawbill Bay? I am only inquiring as myself, along with many of the guests at our resort fish walleye and bass in Sawbill Bay throughout the summer months and I was just concerned on the quality of it as a fishery? Also, what is going to be done with all the atrazine contaminated effluent discharges from the breakdown process?

thank you
[redacted]
Crystal Beach Resort
Atikokan, ON

From: Crystal Beach Resort <crystalbeach@xplornet.com>
Sent: March 28, 2013 4:56 PM
To: Alexandra Drapack
Subject: Impacts specifically on local tourism

Hello,
I have a list of questions about the proposed Hammond Reef Gold mine site.
I am a tourist operator, and approx. 75 % of our customers currently enjoy the great fishing the Marmion Lake/ Seine River has to offer. After getting educated about what all is proposed to happen at this mine site, there are some various concerns we have which we feel could possibly drastically affect our current business operations.

1.I recall a report a week or two in the Atikokan progress that there obviously will be an impact to the tourism in the area, but what is being addressed to help benefit our part of the industry to offset the impacts the mine will have if proceeded with? It was just a statement made and no response was given to help reclaim some of the losses the tourism industry in the local area will suffer. This, of course, is our biggest concern as to the future of tourism in our area and the impacts resulting from the procession of the mine operations. Has there been any consideration of how to help out the local tourist operators if conditions show significant losses in the tourism sector??

2. What, if anything, is being considered to maintain the quality of the Marmion fishery with the addition of the 1200 – man camp? Obviously, being right on the water, many of the workers will be going out on days /time off and fishing for relaxation. Assuming the camp will be only half full, 600 workers, I am sure at least a quarter to a third of them will be out when time permits enjoying the incredible fishing the Floodwaters have to offer, putting a large strain on fish population densities. That equates to an estimated 100 boats or possibly more that will be out catching and likely keeping fish out of the system. Regardless if my estimates are off or not, it is obvious there will be a significant increase of fishing pressure with a 1200 person camp positioned right in prime waters of the Floods. This will definitely result in a decrease of the quality of the fishery that our guests currently enjoy, many of them whom of which have been fishing the Floodwaters for over 20 years. Our concerns are that over a few years time, as the fishery gets impacted, our guests may choose other alternative resorts to go to, as the Floodwaters is the primary drive-to walleye fishery in our entire area. Has this even been discussed with the local biologists or other tourist camps in the area yet?

3. We are also concerned about guests boating into Sawbill and coming across a huge above water power line crossing, and the giant ore processing facility. Aesthetically, these things totally ruin the value of the natural environment and drastically take away the “nature” experience our guests come from as far away as 2300 miles away to enjoy. Can’t the power lines be pushed back as stated in 6-39 of the recent draft Environmental Assessment report? Is it possible to not have the ore processing facility right at the water’s edge –set it back to help keep the aesthetics of the shoreline as they naturally are now? We feel visual effects alone are enough to turn a lot of our current guests “off” on wanting to enjoy the Seine River fishery and possibly lose them as loyal customers. Who would want to sit in front of a large ore processing facility while trying to enjoy the natural environment on a fishing vacation, specifically after having choose the remote wilderness areas of Northwest Ontario as their destination of choice?

4. If the mine proceeds, what party is responsible for the effluent testing on the sewage treatment discharges, and effluent testing from the general mine operations, specifically the cyanide leaching processing/ treatment? (to be sure they are always within allowed concentrations)

5. How long is testing and monitoring of the tailings ponds, pits, and other water discharge areas required after the mine shuts down?

6. Is money being set aside to help solve future unforeseen problems like the one Atikokan is currently dealing with from the Steep Rock/ Caland mine practices and the Rawn Reservoir issues? (specifically problems that pop up after the Hammond Reef mine shuts down and is in reclamation or closure?) I know right now it seems to be a 20-100 million dollar mess on what to do with Rawn Reservoir resulting from past iron ore mining.

7. After the mine closure, can't the pit lakes and the tailings ponds be managed for future fish lakes to provide additional post mine – fishing opportunities such as many open pit mines around the world have been reclaimed? Or are the pits and tailing ponds going to be left sitting in the dormant stage of whatever condition they are in when the mine closes?

thank you for a timely response,

[redacted]
Crystal Beach Resort
Atikokan, ON

From: Alexandra Drapack
Sent: April 4, 2013 10:26 AM
To: 'Liu,Amy [CEAA]'; Whitmore, Michelle (ENE); Barnes, Patrick (MNDM)
Cc: Cathryn Moffett
Subject: FW: Tourism concerns
Attachments: Osisko Mine proposal - tourism effects.docx

Follow Up Flag: Follow up
Flag Status: Flagged

FYI

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From: Crystal Beach Resort [mailto:crystalbeach@xplornet.com]
Sent: April 3, 2013 8:27 PM
To: Alexandra Drapack
Subject: Tourism concerns

Hello Alex,
It was nice meeting you at the open house. Now we know who we are talking to anyway when sending and receiving email correspondence. Thank you for listening to our concerns dealing with effects on the tourism sector. I attached a copy of the questions we have at this point, I am sure more will arise in the future, especially if the mine proceeds. We will be thinking of other alternative methods of promoting the tourism camps that may be effective as time progresses, some of which we feel Osisko may be able to aid with if the project proceeds. Of course, if no action is taken to proceed, there will not be any necessary actions to take as the businesses (at least ours anyway) is operating at a successful level.

I know if the mine project proceeds, it will absolutely have some impact on tourism being that the Floodwaters is the primary fishery that keeps all the drive-in camps going in the local area. We can discuss future action if needed, pending on the future of the mine. At least is seems like we are somewhat on the same page.
regards,
[redacted]
Crystal Beach Resort
www.fishcrystal.com
fishcrystalbeach@gmail.com
crystalbeach@xplornet.com
807-929-1156

TOURISM CONCERS AND QUESTIONS:

[redacted] – owner/operators

CRYSTAL BEACH RESORT

Atikokan, ON

fishcrystalbeach@gmail.com 807-929-1156

1. Some of our guests currently enjoy fishing Lizard Lake, as it is a prime, remote lake, with a decent access point. Will this lake maintain the quality of the fishery it currently has before, during and after the mine operations?

2. Page 6-39, Transmission lines will have no structures and footings in the water and will be set back from the shorelines. Is this true and is there still any consideration of the alternative of running the line up Hardtack Road all the way rather than crossing Sawbill Bay with it?

- also, is the line taken down after closure of the mine?

3. What is going to be the tree "buffer" along the shoreline during mine construction and operations. I remember it was originally stated that there would be a 100' minimum buffer from the water's edge?

4. What is the protocol plan if there is evidence of a massive fish die-off or effluent discharges from either the accommodation camp or mine operations above acceptable guidelines?

-Who does the testing of these different effluents, and how regularly is it done?

5. Commitment 47 Sec 6.2.2

-states that: Fishing by personal while on-site will be restricted to help maintain the fish stocks. What does "on-site" refer to, and how do you plan to restrict it? Also, where is it stated (page #) under Section 6.2.2, as I must have missed it?

-what mitigation actions, if any, have been discussed to do if there is evidence of a drastic decline in the fishing quality of Marmion Lake/ Floodwaters after the mine opens?

6. Commitment 52 Sec 6.3 (similar to Commitment 47)

- states: Implement a policy to restrict hunting/fishing for workers while at camp. Please define "at camp", and from what I read in Sec 6.3, it only talks about implementing a gun policy for on-site workers, what about a "fishing policy" as stated in the Commitment 52? I could not find anything about a fishing policy as I read through Section 6.3, again I may have missed it.

7. Page 144 of 181 under the Effects Assessment

-Paragraph 1 talks about a limited access to some sites on Marmion, what sites specifically would these be? Please indicate on a map where the proposed restricted sites are. (such as the sites that Canoe Canada is concerned about)

-Paragraph 4 states: "In other cases, where there is POTENTIAL for a business or recreation opportunity to be affected, an agreement is entered/ developed by OHRG and the potentially affected party.", assuming this is referring to these restricted areas. Our concerns are that our guests too, more than likely utilize many of these same sites, maybe not for the exact same uses, but for shore lunch's/ relaxation etc., as part of their fishing experience.

What type of agreement can be entered into to protect the interests of our business as it relates to effects on our guests?

-Right now, it is highly likely our business will be affected due to the operations should the mine proceed. Not only visual/ aesthetic influences on our guests, but I am guessing the noise/sound generated as well from a large scale mine operation. Many of our guests, including myself while guiding clients, regularly fish the waters of Sawbill Bay and Lynxhead Bay as they are an extremely good part of the Floodwates fishery for not only fantastic walleye fishing, but huge smallmouth bass and northern pike. Not many people are going to enjoy fishing where they here blasting, see air and water discharges, and see mining equipment running around.

Our concern as an outfitter in the area, is the loss of some of our groups once they see the detrimental effects a mine operation has on the landscape and environment and may POTENTIALLY not want to re-book cabins with us in the future, in search of a new 'remote wilderness ' area to vacation in.

***95% of our guests regularly fish Marmion Lake and the Floodwaters, as it is by far the biggest and best drive-to fishery anywhere around our camp. They access it both by the main launch North of Atikokan, and many come in from the East end in Upper Seine Bay and Reserve Bay.

Just an estimation if the mine development proceeds, we anticipate losing 3-6 of our regular groups a year at a cost to us of approx. $5-10,000 annually, not to mention extra advertising costs we may have to put forth to try to re-fill any of our lost groups. Has there been any consideration to the tourist outfitters directly regarding this – possibly something like extra funding or paid for advertising of some sort to help re-fill vacant reservations if that occurs with the progression of opening the mine?

-Paragraph 5 states: There may be some perception of negative effects on outdoor tourism and recreation due to construction of a mine project in the area, and associated effects on visual aesthetics. However, these negative perceptions can be mitigated by reinforcing the positive outdoor tourism and recreation reputation of the Socio-economic Environmental LSA.

- What is meant directly by this?? - It does refer to donations ($5000 in 2012) to the Atikokan Bass Classic, which sounds great for tourist camps, and I agree IS a very beneficial function for the town; however, operating as a tourist camp, the ABC doesn't benefit our operations.

In fact, when I get inquiries from some of our groups that either have, or want to fish Marmion Lake, I direct them away from the week of the bass tournament, as many of our guests have complained about all the bass boats running around.

What other mitigations reinforce the positive outdoor tourism and recreation reputation has Osisko researched or contributed too?

* One question I asked at our conversation, what is the projected height of the waste ore piles near Lizard Lake above the current terrain?

8. In summary, we of course realize the economic benefits to all the residents of Atikokan if the mine develops. We realize the environment has to suffer a bit at the cost of progression in some instances. We, however, are concerned about the economic effects on our operations and finances, with our main concern being that we don't lose business we already have spent 11 years building. Have the management of Osisko put forth any thought to aid tourist outfitters such as ourselves, if the procession of the mine shows to have negative effects on our bottom line?

[redacted], Crystal Beach Resort , Atikokan, ON

Fishcrystalbeach@gmail.com 807-929-1156

From: Alexandra Drapack
Sent: May 14, 2013 12:34 PM
To: canoecanada@nwon.com; info@niobelakelodge.com; finlaysonresort@hotmail.com; davecunning@evalake.com; quentinlaptop@tbaytel.net; [redacted]; crystalbeach@xplornet.com; marr@perchlake.on.ca; info@queticonorth.com; moose@morris-camp.com
Cc: Cathryn Moffett
Subject: Tourism Operators Workshop - Atikokan - May 21 6-8 pm

Follow Up Flag: Follow up
Flag Status: Completed

On February 15 2013, Osisko Hammond Reef Gold Ltd. (OHRG) submitted the DRAFT EIS/EA report to the Canadian Environmental Assessment Agency and the Ministry of Environment, Environmental Approvals Branch and published it online for public review (link below):
http://www.osisko.com/en/properties/hammond-reef/enviromental.html

The first comment period closed on April 5 2013 and OHRG received a number of comments from Aboriginal groups, the public and the government review team. In order to address the comments relevant to tourism operators, OHRG would like to host a workshop in Atikokan on May 21 from 6 pm – 8 pm at our Main Street office.

Please let me know if you are interested and available to attend the workshop. We look forward to seeing you.

Thanks
Alix

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development / Directrice développement durable
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OSISKO MINING CORPORATION
HAMMOND REEF GOLD PROJECT LTD.

MEETING NOTES
TOURISM OUTFITTERS WORKSHOP
May 21 2013

Attendees:

	Attendee	Organization
1	[redacted]	Crystal Beach Resort
2	[redacted]	Canoe Canada Outfitters
3	[redacted]	Branches Resort
4	[redacted]	Branches Resort
5	[redacted]	Finlayson Lake Resort
6	[redacted]	Finalyson Lake Resort
7	Alexandra Drapack	Osisko Hammond Reef Gold
8	Martin Griffin	Osisko Hammond Reef Gold
9	Cathryn Moffett	Osisko Hammond Reef Gold

Meeting Purpose:
Present an update on the comments received on the DRAFT EIS/EA report and our approach to responding to the comments. (See attached Presentation)

Comments:
Crystal Beach: Is there a buffer zone between Marmion Reservoir and the waste rock pile?
A: Yes, there is a 30 metre buffer zone

Finlayson: We have 5 camping spots near Lynxhead Narrows. We have had complaints about the noise from drilling already. What will the view be like from these campsites?
A: We can do visual modeling from these sites.

Crystal Beach: The noise can travel and would have an effect on people who are going out to enjoy the peace and quiet.

Birches: Will water intake and discharge be regulated and recorded? What happens if the tests fail or the processes don't work?
A: Water intake and discharge is regulated under the Environmental Compliance Approval (ECA) process which is regulated by the Ontario Ministry of the Environment (MOE). If monitoring shows that the water is not in compliance, action will be taken to correct the problem.

Birches: How quickly do the sample results come in after the testing has taken place?
A: We have not planned at that level yet.

Crystal Beach: How effective are they at managing the groundwater? Wouldn't they need constant discharge to keep the pit dry? Are they worried about leaks and cracks?

A: We expect to be very effective at managing groundwater. The bedrock is tight and modeling has been completed to predict the inflows from groundwater and surface water into the pits. Pit dewatering will occur throughout the life of the mine, and water pumped from the pit will be recycled for use in our processing facility or treated to meet effluent discharge requirements and discharged to Sawbill Bay.

Birches: In a low water year water use will be a problem. I sit on the SRWMP Committee and we have been wondering where Osisko has been. Why weren't you at the last meeting?
A: We were unable to attend the last meeting because of the short notice. We have had discussions with water users in the SRWMP committee (H2O Power, Brookfield Renewable Resources, OPG) as well as the MNR to provide information that they have requested.

Crystal Beach: Will the discharge pipe we over the water or underwater?
A: The discharge pipe will be located underwater.

Birches: Does air quality monitoring take place? How far does the air quality monitoring extend?
A: Yes, air quality monitoring will take place during construction and operations. Compliance monitoring will be conducted and may include:

- Source testing to confirm process emissions,
- Ambient air monitoring for indicator compounds
- Monitoring potential receptor locations and restricting access if required

Should air quality complaints be registered a monitoring and evaluation plan would be developed and implemented.

Birches: What would happen if the gold price plummets during construction or operations?
A: It would be possible to temporarily suspend operations, but we feel that if the Project gets built, the investment is large enough that production would likely continue through some economic change.

Osisko: Would it be helpful to promote tourism in Atikokan through a website or other means of advertising? We are willing to discuss how we can help support your ability to prosper as recreational tourist outfitters in the area.

Crystal Beach: Operators do the best job at promoting their own businesses. Outfitters could get financial support from Osisko to go to a trade show.

Birches: It would be hard to make that type of support fair. Maybe bringing an "Atikokan" booth to some of the sports shows that are the most popular would be a good way to promote tourism together.

Canoe Canada: A lot of people who depend on tourism aren't operators. A co-op is a good idea and would be a good way to promote tourism and benefit many people.



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HAMMOND REEF GOLD PROJECT LTD.

Crystal Beach: Sports shows are good, but the internet is where we get 80% of our business.

Birches: We don't fish Marmion that much, but we are worried about the water levels.

Finlayson: All of my people fish in Marmion. They said to me "Let us know when the mine starts because we won't want to camp on Lynxhead anymore."

Finlayson: Has there been any discussion about direct compensation for financial losses that are demonstrated by tourism outfitters?
A: Not at this time.

Osisko: We will add a commitment to invest in advertisement to promote tourism in Atikokan (for example a website) in the final version of our EIS/EA Report.

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A Fresh Outlook on Mining

Hammond Reef Gold Project

Comments on the Draft EIS/EA Report

Presentation Overview

- Summary of Comments on EIS/EA Report
- Concerns from Tourism Operators
- Project Description/Visual Effects
- Potential Effects of the Project on Tourism
- Mitigation Measures
- Responses to Tourism Comments
- Wrap-up

Draft EIS/EA Report

- Published February 15
- 7 week public comment period
- Received comments from:
  - Aboriginal
  - Government
  - Public

Comments Received

Aboriginal

- 3 communities

Federal

- 166 comments

Provincial

- 517 comments

Municipal

- 6 comments

Public

Open House

- Comment forms (40)

Non Governmental Organizations

- Atikokan Economic Development Corporation (2)
- Ontario Federation of Anglers and Hunters Committee
- Atikokan Sportsmen's Club

Local Citizens

- **Crystal Beach Resort (3)**
- Individual letters and emails (5)

Open House

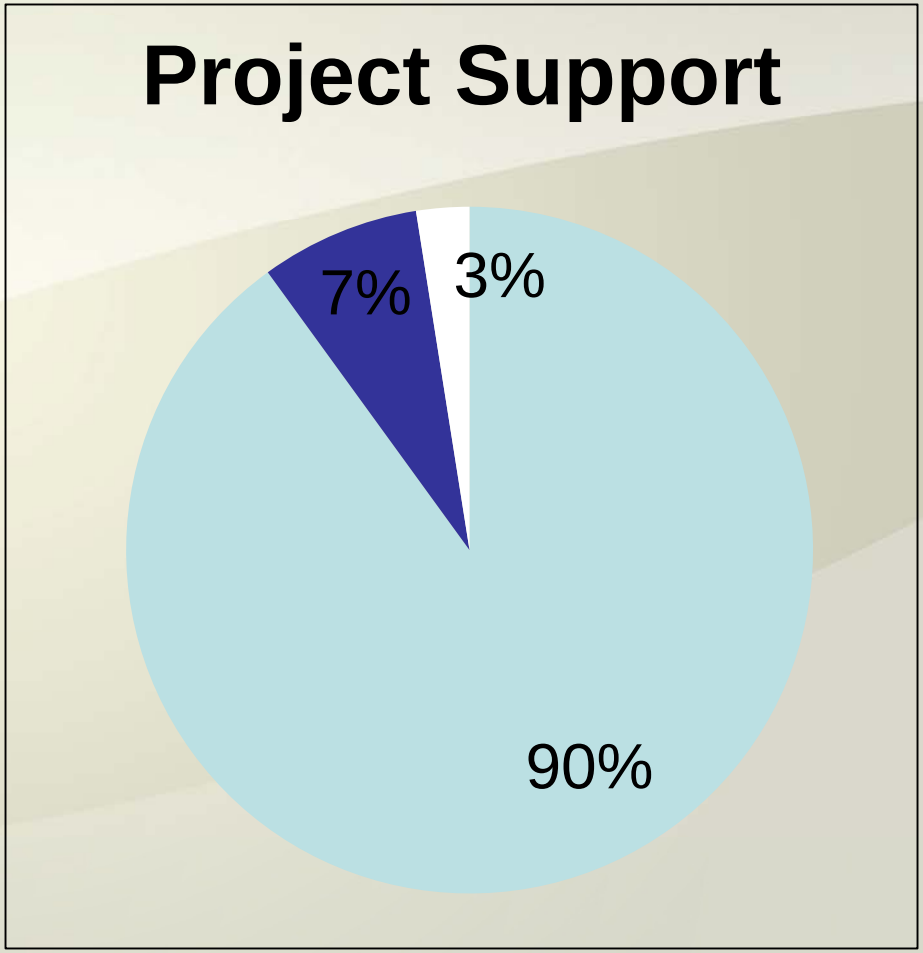
90% of respondents fully support the Project

My biggest **hope** relating to the Project is.....

-That it will be approved ASAP
-A good feasibility study
-Jobs for local people
-A place I can work and retire

My biggest **concern** relating to the Project is....

-It may be delayed
-Falling gold price
-Water quality of Marmion
-Not starting up soon enough
-Bringing in people who want to party and hang out

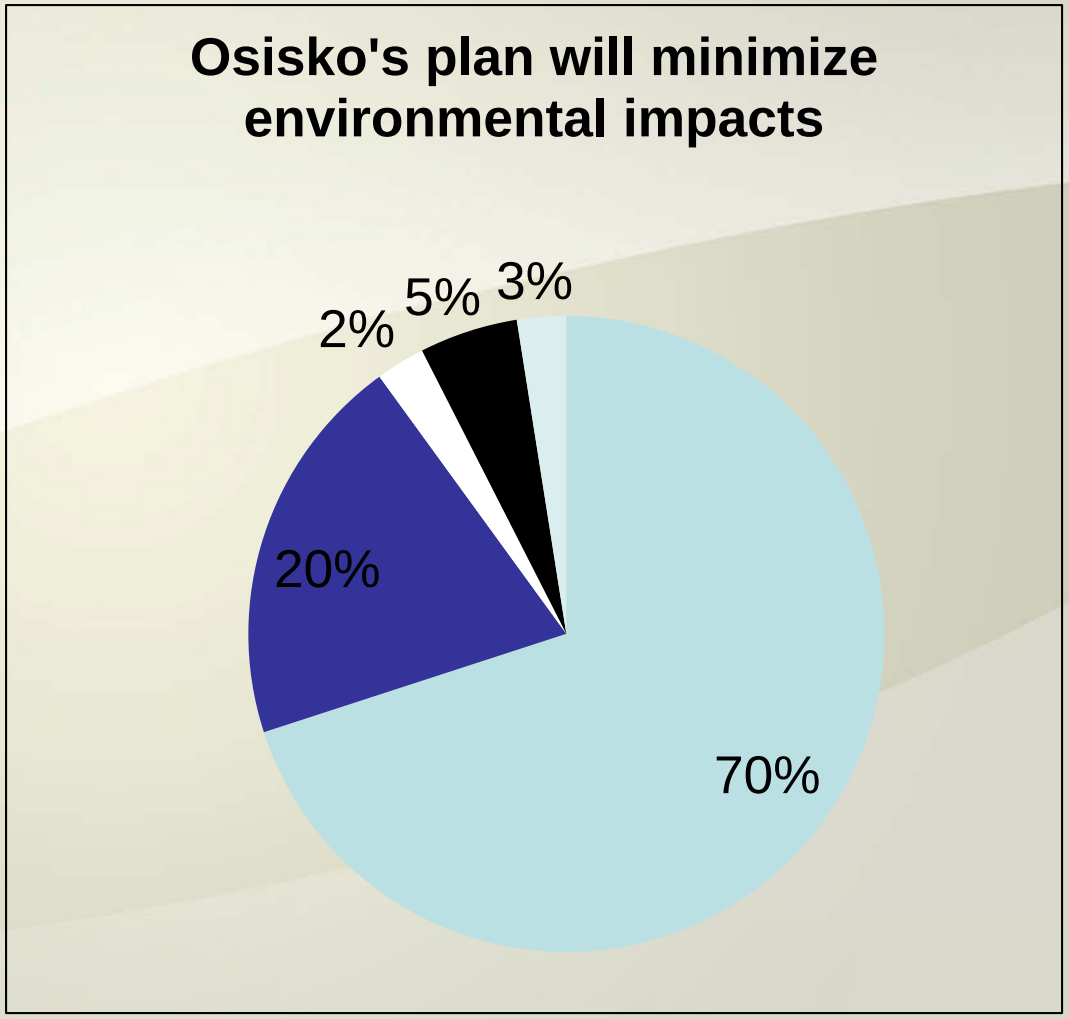


Open House

70% of respondents strongly agree Osisko's environmental management plan is sufficient

80% feel up to date on the Project

100% believe the quality of life in Atikokan will improve if the Project goes forward



Tourism Operators

Concerned about impacts to fish and changes to the landscape

- Construction details
- Benefits to tourism operators
- Fishing pressure from camp
- Visual effects
- Noise
- Restricted access
- Effluent testing
- Closure plan

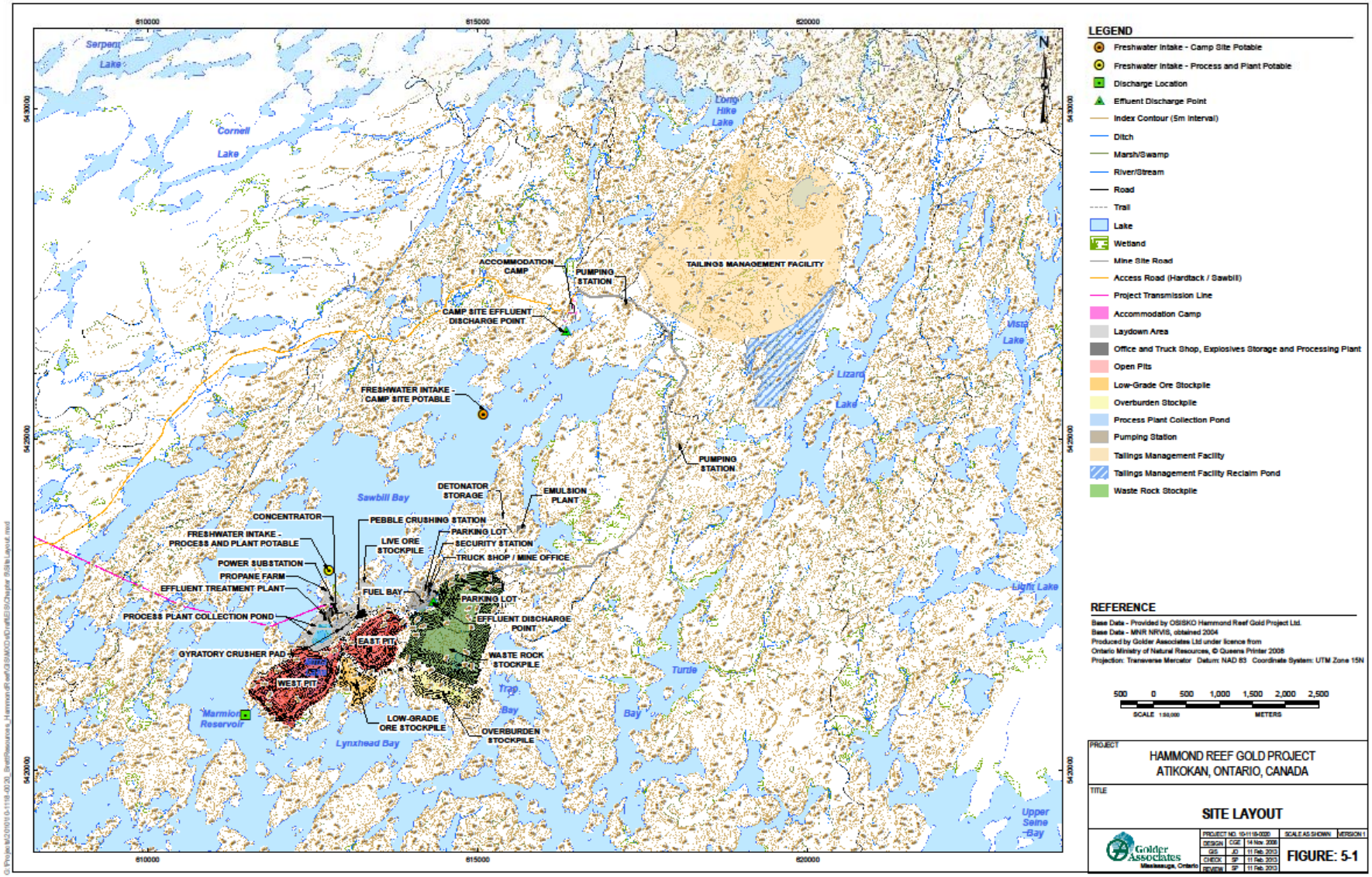
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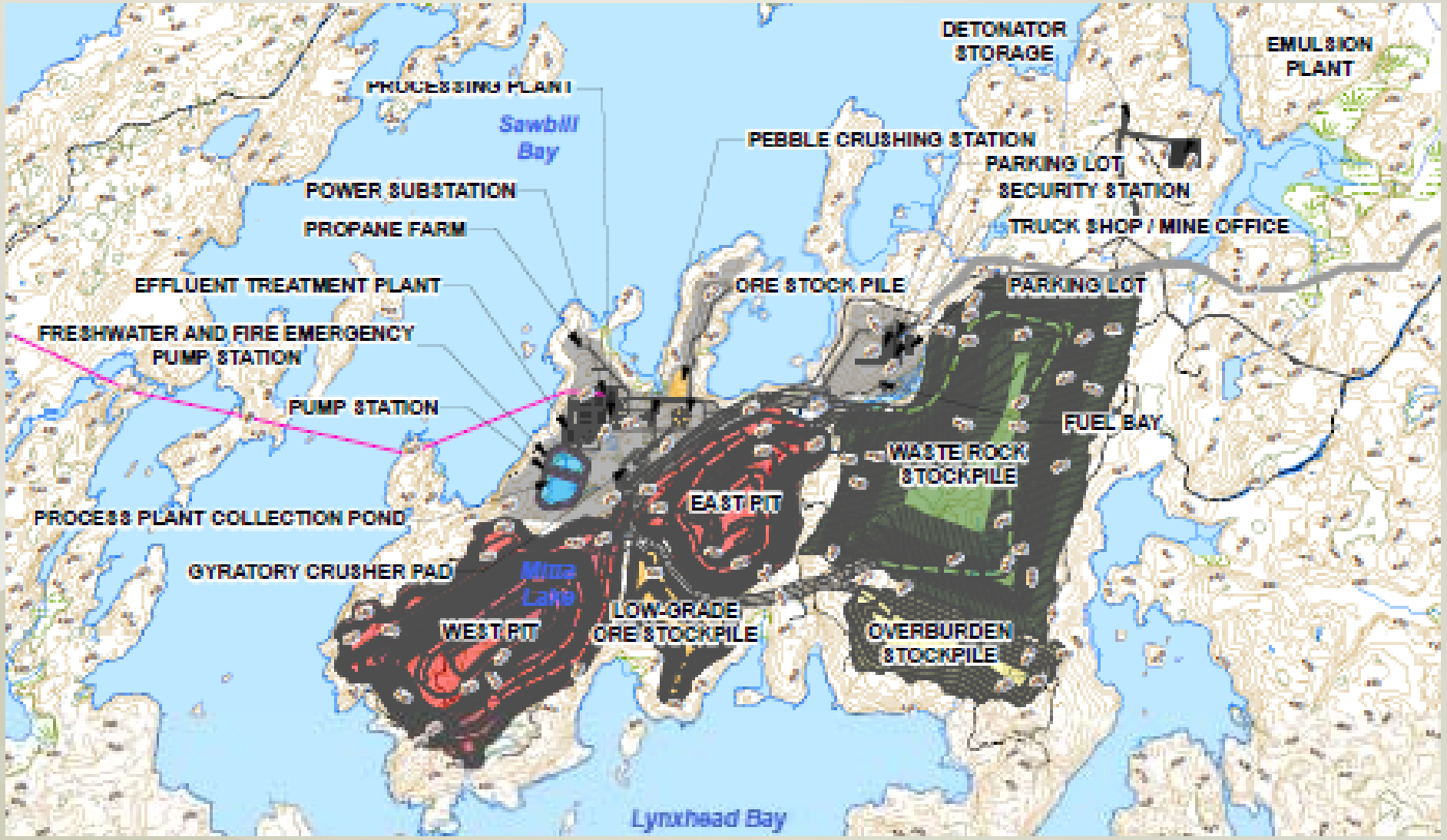


Project Description

Preferred Site Layout



Site Infrastructure



Project Components

- Mine, including two open pits (i.e., east pit and west pit).
- Waste Rock Management Facility (WRMF).
- Ore Processing Facility.
- Tailings Management Facility (TMF).
- Support and Ancillary Infrastructure.
- Water Management System.
- Linear Infrastructure.
- Borrow Sites.

Construction Phase

- 30 months
- Upgrading access roads.
- Construction of transmission lines and communication lines.
- Construction of workers accommodation.
- Site grading and construction of laydown areas.
- Transport of equipment
- Preparation of site components and facilities.
- Construction of infrastructure.
- Construction of Tailings Management Facility (TMF).

Operations Phase

- 11 years
- Maintaining roads, transmission lines and communication
- Maintaining accommodation camp
- Operation of the Mine
- Storage and production of explosives
- Operation of Process Facilities
- Operation of mine waste facilities
- Transport of equipment and supplies
- Transport of workforce
- Transport of gold doré bars

Closure & Post-closure

- 2 years active
- 10 years post-closure
- Stabilization of tailings surface and revegetation.
- Cessation of pit dewatering operations.
- Pumping of water from various seepage collection ponds to the open pits until water quality is acceptable for direct discharge to the environment.
- Grading of the surface of the waste rock stockpile and overburden stockpile.
- To the extent practical, using overburden stockpile materials as cover to promote vegetation growth in various site areas.
- Decommissioning of site Infrastructure **including removal of transmission line.**
- Establishment of open pit “safe lines” based on a rock mechanics evaluation.

In-design Mitigation

- Relocation of Infrastructure to avoid fish-bearing water bodies.
- Discussion with Aboriginal groups to avoid “special sites” that have been identified in the vicinity of the project.
- Adherence to set-back criteria and adjustments to the pit shell to maintain a buffer zone between the pit and the lake.
- Using west pit to store some of the waste rock from east pit in order to reduce the size of the waste rock stockpile.
- Avoidance of Lynxhead Narrows as an effluent discharge point due to identification of walleye spawning area.
- Inclusion of a contingency for treatment of suspended solids if necessary.
- Inclusion of a cyanide destruction circuit within the process.
- Use of existing transportation corridors where possible to minimize requirements for additional environmental disturbance.

Visual Effects

- Transmission line
- Placement of infrastructure
- Buffer zones
- Height of waste rock piles

- Visual effects were assessed based on overlay of planned infrastructure onto landscape

- Views were provided from defined receptor locations, including cabins and lodges

Noise Assessment

- MOE guidelines
  - Receptors defined as locations where people may stay overnight
  - Evaluated based on defined sound power levels
    - 40 dBA during the day
    - 45 dbA at night

- Health Canada guidelines
  - Evaluated based on percent change from existing sound levels
  - Rated based on annoyance to humans

- Forty receptors included in modelling
- Four were higher than MOE guidelines for night time
- Eight in total are planned for restricted access

Location	Name	Predicted Noise Level (dBA)	Criteria (dBA)	
			Day	Night
POR01	Eva Lake Resort	2	45	40
POR02	Walleyes Forever	15	45	40
POR03	Steep Rock Lake	13	45	40
POR04	Atikokan	10	45	40
POR05	Bow Lake	16	45	40
POR06	Marmion Reservoir	24	45	40
POR07	Marmion Reservoir	23	45	40
POR08	Marmion Reservoir	30	45	40
POR09	No Name Lake UTM-612400, 5438700	15	45	40
POR10	Sawbill Bay	44	45	40
POR11	Flood Bay	35	45	40
POR12	Marmion Reservoir	24	45	40
POR13	Upper Seine Bay	24	45	40
POR14	Bradshaw Bay	20	45	40
POR15	Designated Camping Site	20	45	40
POR16	Designated Camping Site	17	45	40
POR17	Designated Camping Site	26	45	40
POR18	Designated Camping Site	20	45	40
POR19	Designated Camping Site	32	45	40
POR20	Eva Lake Resort	22	45	40

Location	Name	Predicted Noise Level (dBA)	Criteria (dBA)	
			Day	Night
POR21	Pine Point Resort Limited	13	45	40
POR22	Canoe Canada Outfitters	16	45	40
POR23	Canoe Canada Outfitters	45	45	40
POR24	Trapper Cabin	24	45	40
POR25	Trapper Cabin	21	45	40
POR26	Trapper Cabin	17	45	40
POR27	Trapper Cabin	18	45	40
POR28	Trapper Cabin	18	45	40
POR29	Trapper Cabin	31	45	40
POR30	Trapper Cabin	17	45	40
POR31	Trapper Cabin	22	45	40
POR32	Trapper Cabin	27	45	40
POR33	Trapper Cabin	19	45	40
POR34	LUP REF-1124	16	45	40
POR35	Cottage	19	45	40
POR36	Designated Camping Site	42	45	40
POR37	Designated Camping Site	41	45	40
POR38	Designated Camping Site	27	45	40
POR39	Finlayson Resort	16	45	40
POR40	Reserve Bay	19	45	40

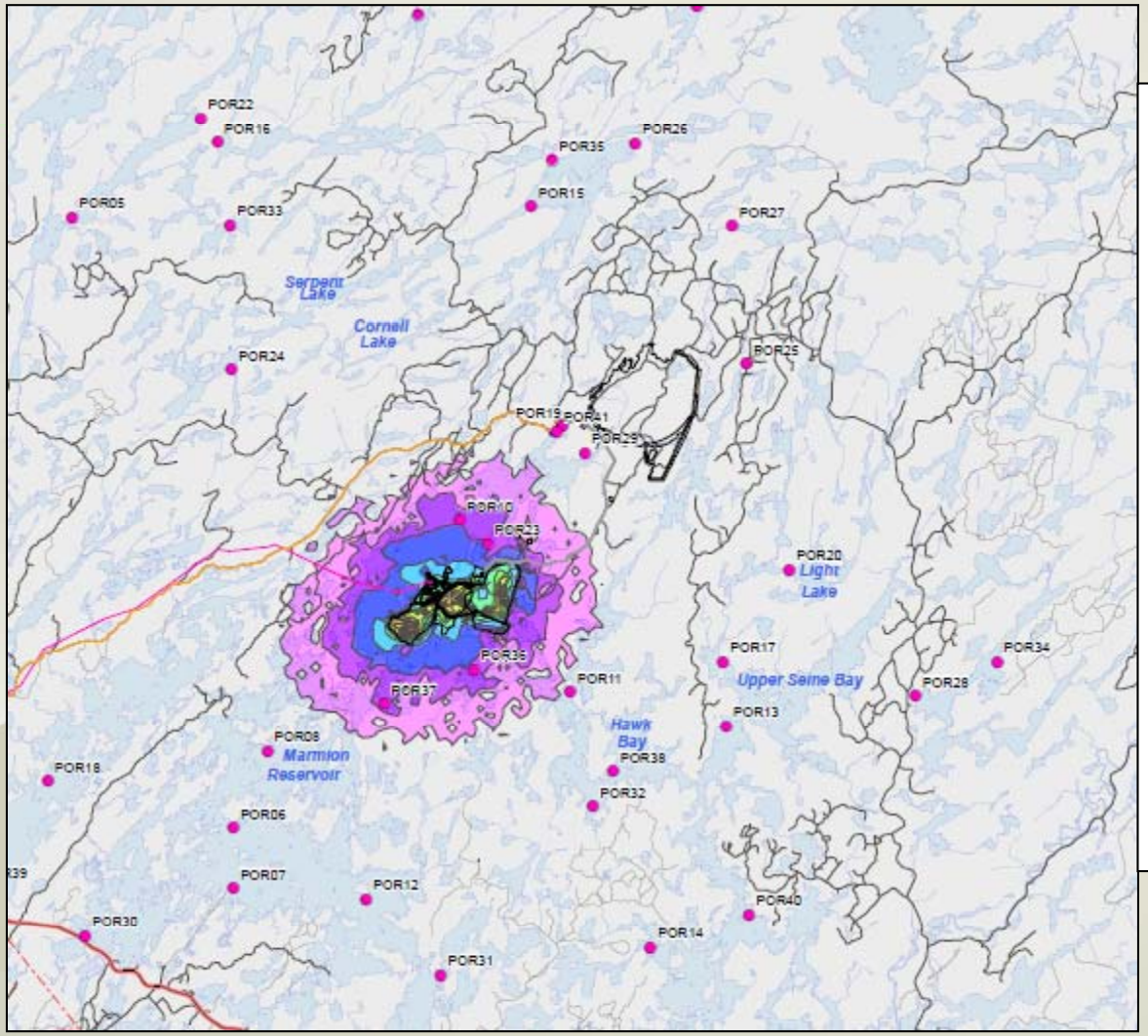
Receptors Exceeding MOE Noise Level Limits

Location	Predicted Level (dBA)	Amount Above MOE Daytime Limit (dB)	Amount Above MOE Nighttime Limit (dB)
POR10	44	0	4
POR23	45	0	5
POR36	42	0	2
POR37	41	0	1

Receptor Locations Requiring Restricted Access

Location	Description
POR10	Sawbill Bay – Designated Camping Site
POR11	Flood Bay – Designated Camping Site
POR17	Designated Camping Site
POR19	Designated Camping Site
POR23	Canoe Canada Outfitters
POR29	Trapper Cabin
POR36	Designated Camping Site
POR37	Designated Camping Site

Noise Modelling Map

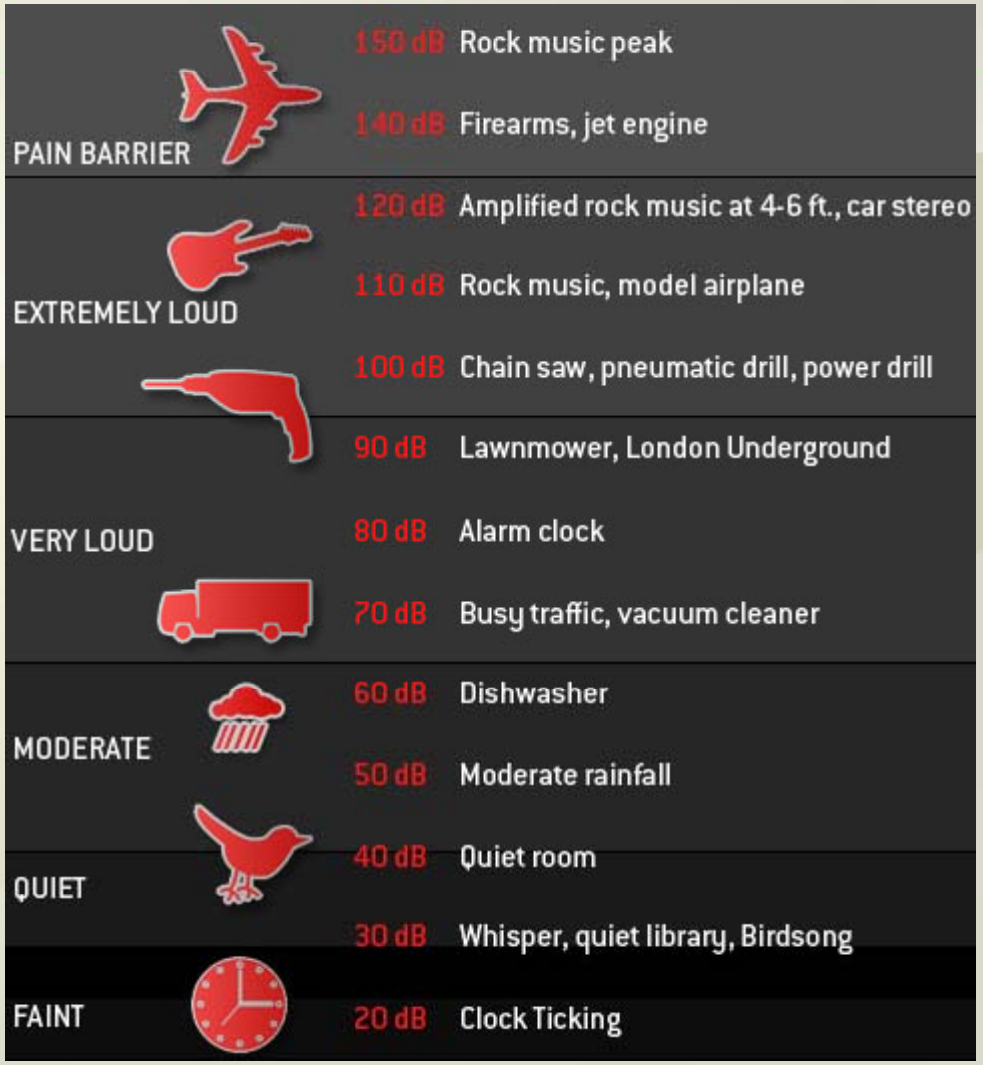


Predicted Noise Level (dBA)

- <35
- 35 - 40
- 40 - 45
- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- 70 - 75
- 75 - 80
- 80 - 85

Noise Level Results

- Canoe Canada is predicted to have experience sound levels of 45 dbA
- Considered “moderate” and comparable to the sound of a rainfall
- Three other receptors predicted between 44 and 41 dbA
- Considered “quiet” and comparable to activity in a quiet room



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Aquatic Biology



Golder Associates

Table 2-1: Summary of Field Program Dates

Aquatic Biology Overview

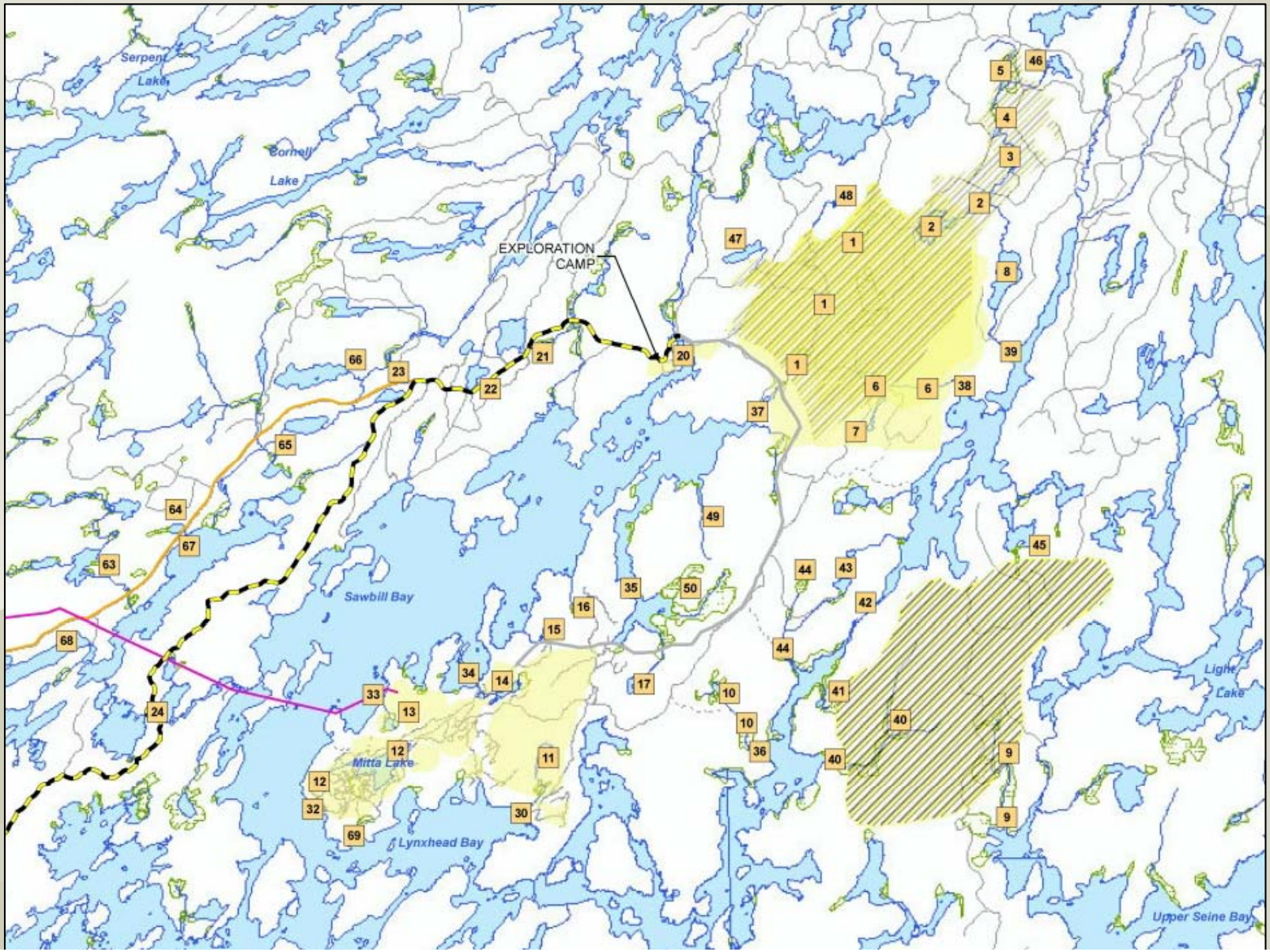
The study was focused on Valued Ecosystem Components, represented by the following fish species and aquatic indicators:

- Lower Reaches & Receivers
- Small-bodied fish - baitfish
- Sport fish – walleye, northern pike, smallmouth bass
- Benthic invertebrates

- 55 APIs were investigated over multiple seasons
- 24 species of fish were found
- Not all APIs supported fish

Field Data Collected	2010	2011	2012
Fish and Aquatic Habitat	May 8 -15, August 1-6, 18-29, September 23-30, October 14-20	May 3-10, May 27 - June 5, August 26-30, September 23-29	August 22-31, September 13-22
Fish Tissue	August 18-29	September 23-29	
Benthic Invertebrates	October 14-20		
Aquatic Sediments	October 14-20		

Aquatic Biology Baseline Field Survey Locations



Effects Assessment

- Water level changes or Effluent discharges
  - Predicted levels downstream of Upper Marmion Reservoir in the Seine River.
  - Changes in lake levels of less than 5 cm
  - No predicted impacts
  - Effluent discharges to receiving waters do not result in impacts to aquatic life.

- Loss of aquatic habitat
  - Project infrastructure
  - In-water structures (water intake structures, effluent discharge structures)
  - Road crossings
  - Can be offset by habitat compensation

Fish Habitat Loss

- Approximately 40 ha of aquatic habitat will be lost
  - 11 water bodies within the mine footprint
  - Streams, ponds, small lakes
- 14 watercourse crossings for the access road and mine road

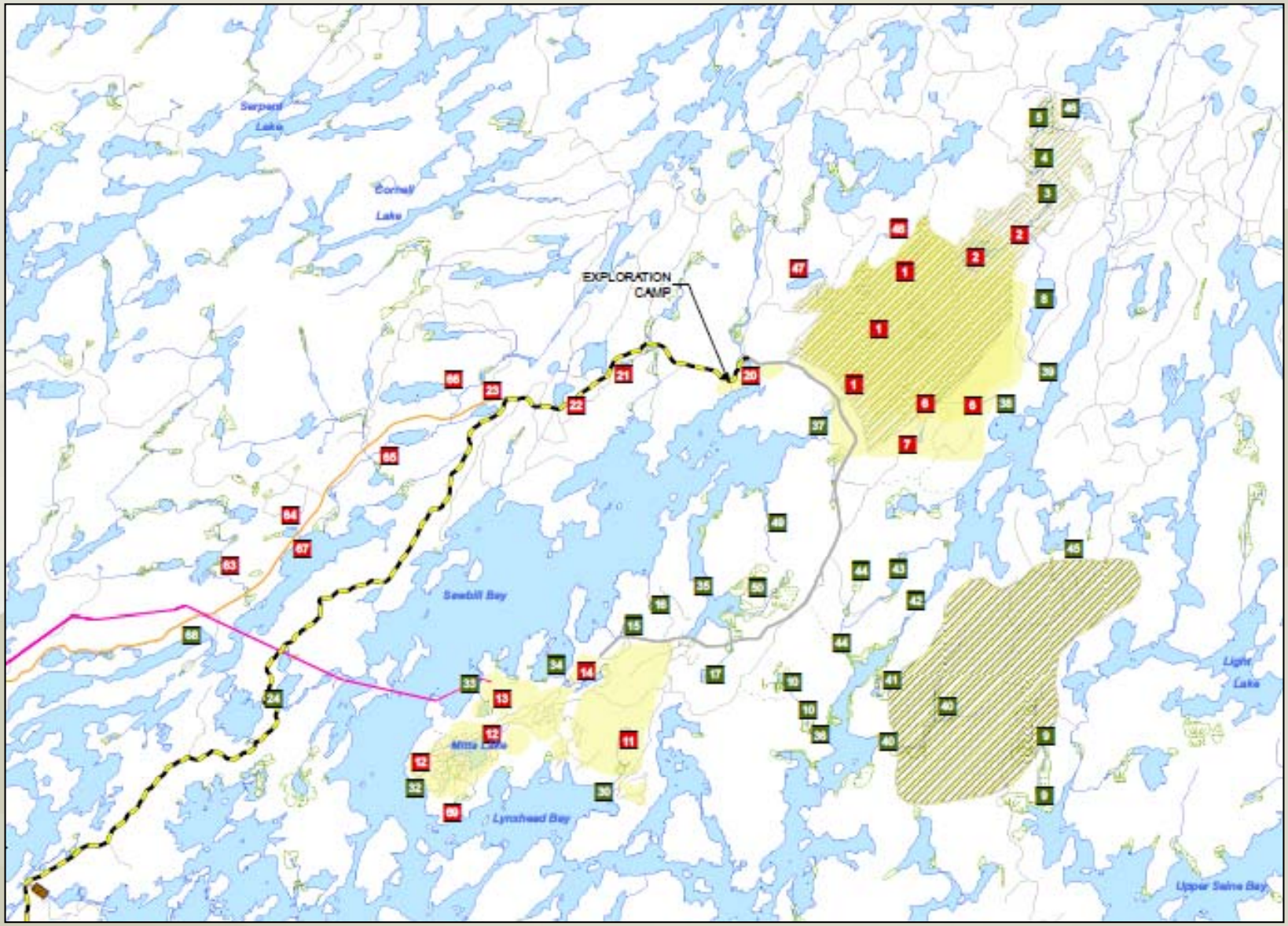


- Osisko will need to create or enhance fish habitat to offset the lost fish habitat so that there will be “No Net Loss” of fish habitat.



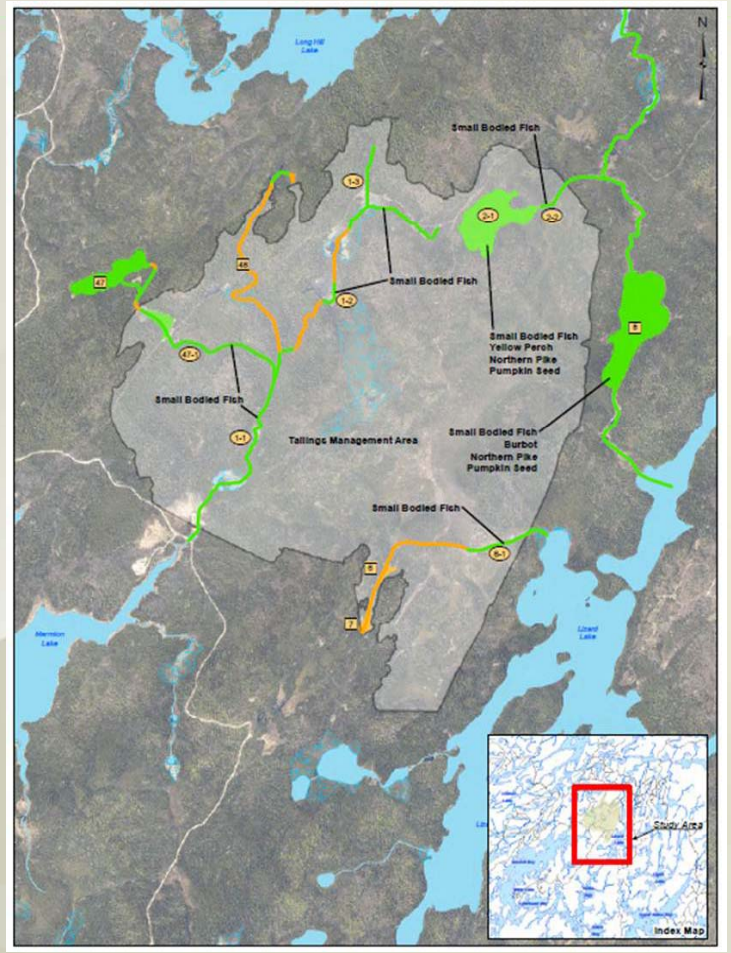
- **DFO approves the No Net Loss Plan.**

Affected Waterbodies

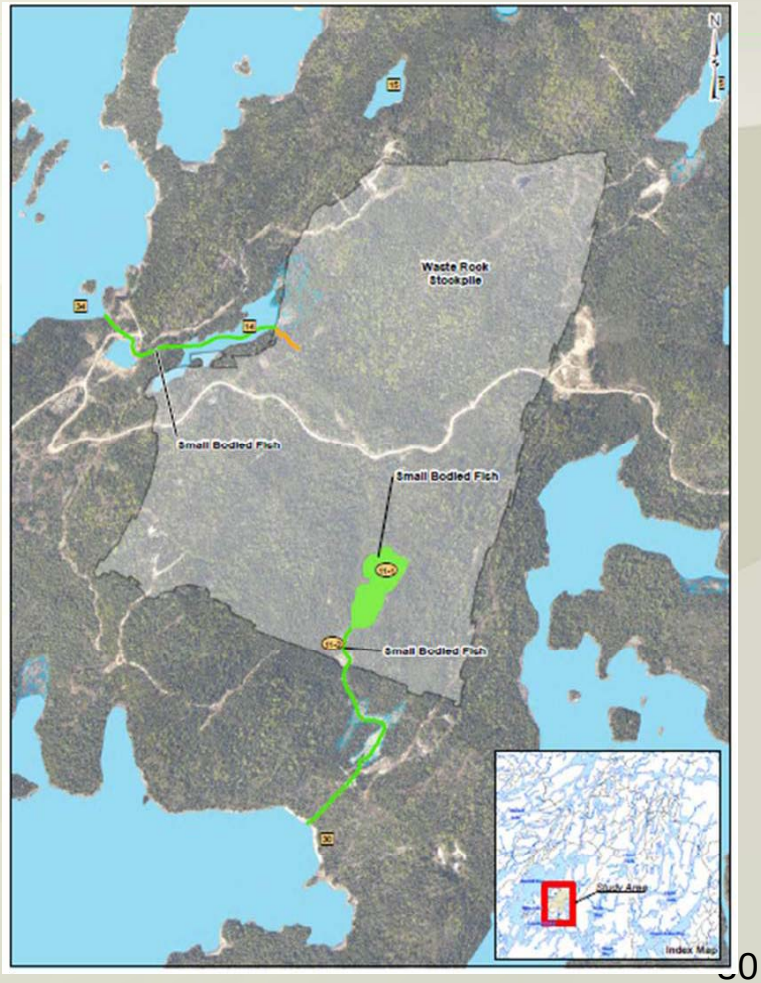


MMER Waterbodies

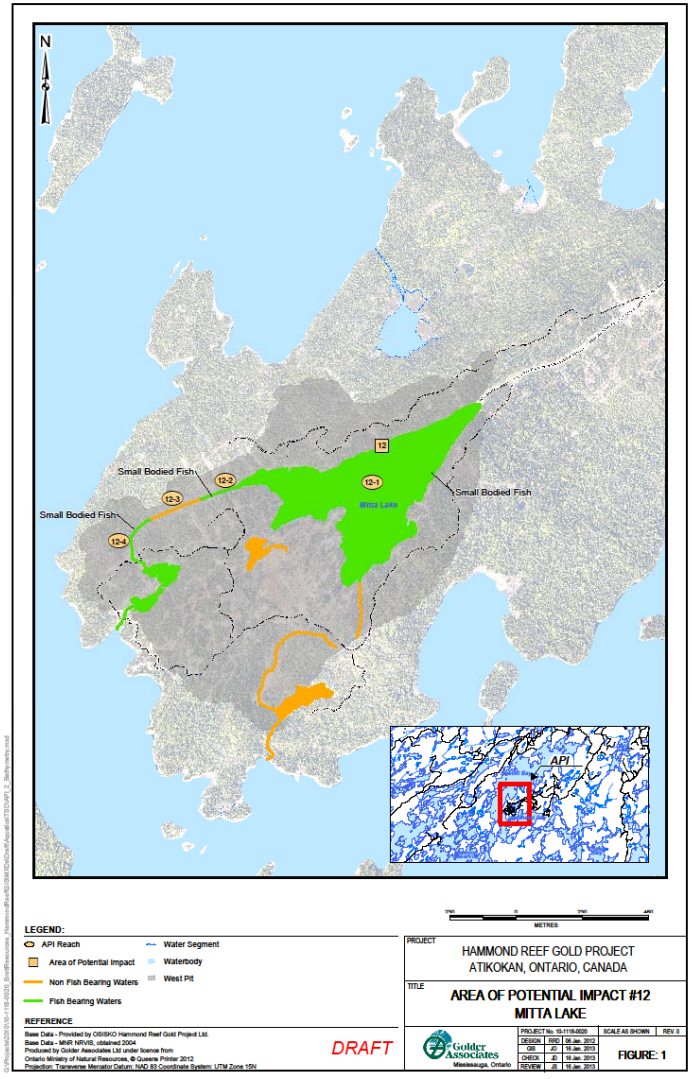
Tailings Management Facility



Waste Rock Stockpile



Waterbodies affected by the Open Pit



Fish Compensation Hierarchy

- Creation of similar habitat at or near the Project site within the same ecological unit; that is, replace natural habitat with the same type of habitat at or near the site.
- Create similar habitat in a different ecological unit that supports the same stock or species.
- Increase the productive capacity of existing habitat at or near the development site and within the same ecological unit.
- Increase the productive capacity of a different ecological unit that supports the same stock or species.
- Increase the productivity capacity of existing habitat for a different species of fish either on or off site.

Fish Habitat Compensation

- A series of meetings took place to development approved Habitat Accounting Methodology which will be implemented in the no net loss planning for the Project. No net loss planning includes both habitat compensation and offsets

Onsite compensation plan to address valued fishery:

a1

- Stock 3 fishless ponds and create 2 headwater ponds
- Create shallow water littoral spawning, nursery and forage habitat for baitfish, smallmouth bass and northern pike at 4 - 5 locations in Upper Marmion Lake
- Create stream habitat/remove fish barriers at 14 stream crossings (along the access and mine road)
- Undertake some microhabitat enhancements of shallow nearshore habitat in in Upper Marmion Lake around the Hammond Peninsula such as creating rocky shoals, introducing large woody debris to provide habitat structure.

Complete compensation measures during the construction phase of project and monitor during operations phase

Slide 33

a1 Check!!!! Update from Brian Hindley
adrapack, 5/15/2013

Mitigation Measures

- Develop and implement Fish Compensation Plan
- Develop and implement Fish Relocation Plan

- Intake structures will be designed to minimize loss of aquatic organisms.
- Conduct test blast and adjust blasting operations to meet DFO guidelines for vibrations in fish habitat
- Implement standard in-design mitigation erosion control measures
- Maintain sufficient flows in streams during construction of stream crossings and avoid sensitive periods for fish.
- **Restrict fishing by Osisko employees while at camp**

Aquatic Effects Monitoring

- Monitor lake levels
  - Adjust water taking if levels fall below minimum to maintain fish habitat downstream in the Seine River.
- Monitor discharge water quality
  - Implement additional treatment if water quality exceeds predicted concentrations of metals, sulphate and cyanide.
- Monitor seepage from TMF to Lizard Lake
  - Implement control measures if water quality exceeds worst case predictions.
- Monitor water quality post-closure
  - Implement additional treatment if water quality exceeds predicted concentrations for metals.
- Additional Environmental Monitoring to confirm
  - Compensation Success
  - Construction Compliance
  - Environmental Effects Monitoring (EEM)

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Terrestrial Ecology



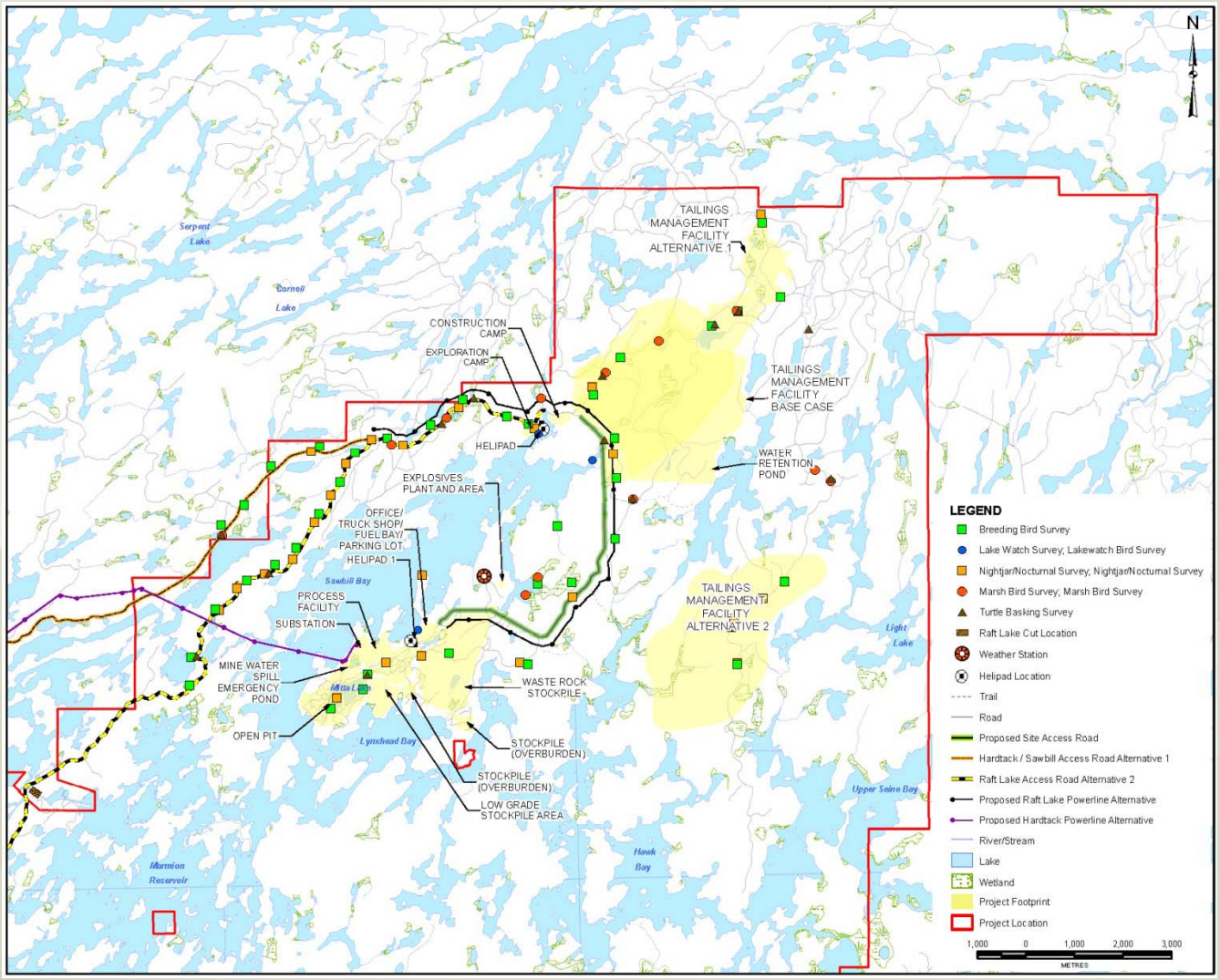
Golder Associates

Terrestrial Ecology Overview

Valued Ecosystem Components

- Habitat VECs
  - Wetlands
  - Forest Cover
- Group VECs
  - Furbearers
  - Upland Breeding Birds
  - Species At Risk
- Species VECs
  - Moose
  - Wild rice

Terrestrial Ecology Baseline Field Survey Locations



Residual Impacts and their Significance for the Terrestrial Ecology TSD

VEC	Effect	Geographic Extent	Magnitude	Duration	Overall Significance of the Effects
Wetlands	Loss and alteration of vegetation	low	moderate	moderate	**LOW**
	Alteration of Flows and Drainage Patterns	moderate	low	moderate	**LOW**
Forest cover	Loss and alteration of vegetation	low	moderate	low	**LOW**
Moose	Loss of habitat	low	negligible	low	**NEGLIGIBLE**
Furbearers	Loss of habitat	low	moderate	moderate	**LOW**
	Alteration of flows and drainage patterns	moderate	low	moderate	**LOW**
Species at risk	Loss of habitat	low	moderate	moderate	**LOW**
	Alteration of flows and drainage patterns	moderate	low	moderate	**LOW**
	Risk of Injury/Mortality	low	low	high	**LOW**
Upland breeding birds	Loss of habitat	low	moderate	moderate	**LOW**

Mitigation Measures

- Stockpile soil
- Capture runoff from stockpiles & TMF
- Domestic sewage effluent will be treated
- Excess water will be treated and returned to Marmion Reservoir
- Minimize wildlife/vehicle collisions.
  - Post speed limits & warning signs.
  - Awareness training for workers (especially for snapping turtles).
- Stop blasting temporarily if large mammals are observed within the zone.
- Vegetation clearing will consider breeding birds
- **Develop a policy to restrict hunting, harvesting and trapping by Osisko employees while living at the accommodation camp**
- Install markers on Transmission line and limit the use of guy wires.
- Selectively clear the pathway of the transmission line (not graded)
- Vegetated riparian buffers will remain around watercourses at access road crossings to the extent possible.
- Native species for re-vegetation at closure.
- Develop an invasive plant management strategy
- Develop an industrial and domestic waste management plan
- Animals that become a nuisance will be trapped and moved to remote locations for release.

Hunting

- Within the LSA, the Project is expected to remove 2,063 ha of land that would otherwise have been available for hunting.
- This represents 0.3% of the total area of Wildlife Management Unit and 2.0% of the total area of Bear Management Areas.
- The loss of this resource may result in increasing hunting pressure on similar areas in the LSA.

Protect Tourism and Recreation

- Ongoing sponsorships of events such as the Atikokan Bass Classic.
- Restrict hunting/fishing for workers while at camp.
- **Contribute to advertisement (web-site) to promote tourism?**

Tourism Comments

Comment:
If the mine proceeds, what party is responsible for the effluent testing on the sewage treatment discharges, and effluent testing from the general mine operations, specifically the cyanide leaching processing/ treatment? (to be sure they are always within allowed concentrations).

Response:
Osisko is responsible to meet commitments made in the EA and government guidelines that will be included in the many permits required to operate a mine including the Industrial Sewage Works Environmental Compliance Approval.

Tourism Comments

Comment:
How long is testing and monitoring of the tailings ponds, pits, and other water discharge areas required after the mine shuts down?

Response:
Testing and monitoring is required until it can be demonstrated that water quality is no longer a concern and direct discharge to the environment is possible.

Tourism Comments

Comment:

Is money being set aside to help solve future unforeseen problems like the one Atikokan is currently dealing with from the Steep Rock/ Caland mine practices and the Rawn Reservoir issues? (specifically problems that pop up after the Hammond Reef mine shuts down and is in reclamation or closure?) I know right now it seems to be a 20-100 million dollar mess on what to do with Rawn Reservoir resulting from past iron ore mining.

Tourism Comments

Response:

Osisko's approach is to be as pro-active as possible and plan for stable, long-term restoration of the area, in order to support a healthy ecosystem, include the values of the local community, and be an example for mining in the future. Changes to the Ontario Mining Act, made after the Steep Rock Iron mine closed, ensure that mining companies can no longer abandon mines and leave the clean-up to the public. The Mining Act now requires that a company develop a plan for the rehabilitation of a mine site, and set aside financial assurance that will guarantee the work is completed. Simply put, before Osisko receives a permit to develop a mine, we will have to provide the government of Ontario with the money for mine closure.

Tourism Comments

Comment:
After the mine closure, can't the pit lakes and the tailings ponds be managed for future fish lakes to provide additional post mine – fishing opportunities such as many open pit mines around the world have been reclaimed? Or are the pits and tailing ponds going to be left sitting in the dormant stage of whatever condition they are in when the mine closes?

Response:
Yes, the open pits are being considered as potential future fish habitat. The tailings management area will not be fish habitat, it will be closer to a terrestrial ecosystem when it is revegetated at closure.

Wrap-up

- Thank you for your time
- Do you have outstanding concerns?

OSISKO

November 8, 2013

[redacted]
Crystal Beach Resort
P.O. Box 878
Atikokan, ON P0T 1C0

Dear [redacted]

Thank you for your comments regarding the Draft Environmental Impact Statement/Environmental Assessment (EIS/EA) Report submitted by Osisko for the Hammond Reef Gold Project. We are pleased to provide the following clarifications in response to your concerns (original questions marked in bold).

With respect to your specific concerns, we offer the following clarifications.

a. **I had a question about Sawbill Bay. Recently I read a lot of 'things' that may go on in Sawbill Bay such as dredging, channelizing to other lakes, loss of fish habitat, etc. Could you please tell me what the intent of Osisko is to do to Sawbill Bay? I am only inquiring as myself, along with many of the guests at our resort fish walleye and bass in Sawbill Bay throughout the summer months and I was just concerned on the quality of it as a fishery?**

The Project does not include plans to dredge or channel to other lakes. The Project will result in the loss of fish habitat. Fish habitat losses include 0.8 ha of seasonal habitat in Sawbill Bay, 4 ha of inlet streams, 0.5 ha of baitfish ponds in the lower reaches, 1.8 ha of headwater streams, 30 ha of lakes and 3.7 ha of baitfish and northern pike ponds in the headwaters. There are also 14 stream crossings or crossing upgrades on the proposed access road that will result in the loss of habitat within the footprint of the culvert/bridge structure. All of these habitat losses will be offset by compensation projects outlined in the No Net Loss Plan (NNLP) being prepared for the Project, and as a result, there will be no residual effects from these losses.

The following is a summary of the fish habitat compensation projects identified as part of No Net Loss Plan:

- Fish salvage and rescue operations: during the construction phase.
- Stream restoration works at 15 culvert crossings
- Stocking of Four fishless headwater lakes/ponds.
- Constructing berms to create three new headwater ponds.
- Creating northern pike spawning habitat adjacent to the mouth of Sawbill Creek

b. **Also, what is going to be done with all the atrazine contaminated effluent discharges from the breakdown process?**

The Project is not anticipated to produce atrazine contaminated effluent. An Effluent Treatment Plant will be included as a contingency measure. A treatment facility for suspended solids, nutrient loading or metals would be operated if necessary. Treatment for suspended solids may be required as a contingency measure if the water within the reclaim pond and PPCP do not naturally allow for solids to settle. Nutrient loading will be mitigated through the implementation of management controls such as explosives management, or use of select types of soaps or solvents. Treatment for metals is not anticipated to be required.

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c. **I recall a report a week or two in the Atikokan progress that there obviously will be an impact to the tourism in the area, but what is being addressed to help benefit our part of the industry to offset the impacts the mine will have if proceeded with? It was just a statement made and no response was given to help reclaim some of the losses the tourism industry in the local area will suffer. This, of course, is our biggest concern as to the future of tourism in our area and the impacts resulting from the procession of the mine operations. Has there been any consideration of how to help out the local tourist operators if conditions show significant losses in the tourism sector?? What type of agreement can be entered into to protect the interests of our business as it relates to effects on our guests? Has there been any consideration to the tourist outfitters directly regarding this – possibly something like extra funding or paid for advertising of some sort to help re-fill vacant reservations if that occurs with the progression of opening the mine? Other than the Atikokan Bass Classic, what other mitigations reinforce the positive outdoor tourism and recreation reputation has Osisko researched or contributed too? Have the management of Osisko put forth any thought to aid tourist outfitters such as ourselves, if the procession of the mine shows to have negative effects on our bottom line?**

Based on feedback OHRG received on the Draft EIS/EA Report, on May 21 we hosted a workshop for you and other local tourist operators to discuss your concerns regarding the Project. As a result of the workshop, OHRG has made a new commitment to support the tourism industry in Atikokan by providing capacity for advertising and marketing of Atikokan's local tourism industry.

d. **What, if anything, is being considered to maintain the quality of the Marmion fishery with the addition of the 1200 – man camp? Obviously, being right on the water, many of the workers will be going out on days /time off and fishing for relaxation. Assuming the camp will be only half full, 600 workers, I am sure at least a quarter to a third of them will be out when time permits enjoying the incredible fishing the Floodwaters have to offer, putting a large strain on fish population densities. That equates to an estimated 100 boats or possibly more that will be out catching and likely keeping fish out of the system. Regardless if my estimates are off or not, it is obvious there will be a significant increase of fishing pressure with a 1200 person camp positioned right in prime waters of the Floods. This will definitely result in a decrease of the quality of the fishery that our guests currently enjoy, many of them whom of which have been fishing the Floodwaters for over 20 years. Our concerns are that over a few years time, as the fishery gets impacted, our guests may choose other alternative resorts to go to, as the Floodwaters is the primary drive-to walleye fishery in our entire area. Has this even been discussed with the local biologists or other tourist camps in the area yet?**

OHRG plans to develop and implement a policy that restricts employees' hunting and fishing while at the onsite accommodation camp. OHRG will not restrict hunting and fishing of workers in their personal time, but only while they reside at the workers accommodation camp at the Hammond Reef site.

e. **If the mine proceeds, what party is responsible for the effluent testing on the sewage treatment discharges, and effluent testing from the general mine operations, specifically the cyanide leaching processing/ treatment? (to be sure they are always within allowed concentrations).**

Osisko is responsible to meet commitments made in the EA and government guidelines that will be included in the many permits required to operate a mine including the Industrial Sewage Works Environmental Compliance Approval.

OSISKO

f. Who does the testing of these different effluents, and how regularly is it done?

The water quality monitoring program initiated during the baseline studies was conducted by Golder Associates. The program will be continued through the construction, operations and closure phases, with increased involvement by Osisko. The program will focus on Lizard Lake, Sawbill Bay and Lynxhead Bay, and the watercourses draining from the Project Site. The frequency of sampling will likely be determined by regulatory requirements, and is expected to initially occur on a monthly basis. The program will be conducted on an adaptive management basis and may be modified as monitoring results are analysed, which may result in increased or decreased frequency of sampling, elimination of some locations/parameters and/or addition of other locations.

g. How long is testing and monitoring of the tailings ponds, pits, and other water discharge areas required after the mine shuts down?

Testing and monitoring of the tailings ponds and water discharge areas is required until it can be demonstrated that water quality is no longer a concern and direct discharge to the environment is possible.

h. Is money being set aside to help solve future unforeseen problems like the one Atikokan is currently dealing with from the Steep Rock/ Caland mine practices and the Rawn Reservoir issues? (specifically problems that pop up after the Hammond Reef mine shuts down and is in reclamation or closure?) I know right now it seems to be a 20-100 million dollar mess on what to do with Rawn Reservoir resulting from past iron ore mining.

Osisko's approach is to be as pro-active as possible and plan for stable, long-term restoration of the area, in order to support a healthy ecosystem, include the values of the local community, and be an example for mining in the future. Changes to the *Ontario Mining Act*, made after the Steep Rock Iron mine closed, ensure that mining companies can no longer abandon mines and leave the clean-up to the public. The *Mining Act* now requires that a company develop a plan for the rehabilitation of a mine site, and set aside financial assurance that will guarantee the work is completed. Simply put, before Osisko receives a permit to develop a mine, we will have to provide the government of Ontario with the money for mine closure.

i. After the mine closure, can't the pit lakes and the tailings ponds be managed for future fish lakes to provide additional post mine – fishing opportunities such as many open pit mines around the world have been reclaimed? Or are the pits and tailing ponds going to be left sitting in the dormant stage of whatever condition they are in when the mine closes?

Yes, the open pits are being considered as potential future fish habitat. However, it is estimated that it will take approximately 218 years for the pits to fill with water. The tailings management area will not be fish habitat, it will be closer to a terrestrial ecosystem when it is revegetated at closure.

j. Some of our guests currently enjoy fishing Lizard Lake, as it is a prime, remote lake, with a decent access point. Will this lake maintain the quality of the fishery it currently has before, during and after the mine operations?

The water level in Lizard Lake is predicted to decrease by approximately 2.7 cm from existing lake levels (the maximum change in water level in Lizard Lake is predicted to occur during operations). As a result, the changes

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in water levels are not expected to have a measurable effect on the available aquatic habitat and fish species. The water quality effects assessment has noted that during operations, water quality in Upper Marmion Reservoir and Lizard Lake are not predicted to differ from baseline (existing) conditions.

k. Transmission lines will have no structures and footings in the water and will be set back from the shorelines. Is this true and is there still any consideration of the alternative of running the line up Hardtack Road all the way rather than crossing Sawbill Bay with it? Is the line taken down after closure of the mine?

The Hardtack Road option was considered as an alternative throughout the planning process. The environmental assessment identifies the preferred alternative for the transmission line route as crossing Sawbill Bay, and this is the alternative that Osisko is planning to build. Yes, the transmission line will be taken down after closure of the mine.

l. What is going to be the tree "buffer" along the shoreline during mine construction and operations. I remember it was originally stated that there would be a 100' minimum buffer from the water's edge?

For the open pit optimization, a 35 m offset (a minimum of 30 m offset from the Marmion Reservoir at 416 m elevation corresponding to the high water level of the reservoir) from the Marmion Reservoir was applied.

m. What is the protocol plan if there is evidence of a massive fish die-off or effluent discharges from either the accommodation camp or mine operations above acceptable guidelines?

Osisko does not anticipate any scenario where a massive fish die-off could occur as a result of the Project. Such a scenario would be considered an emergency and would be managed according to the Emergency Preparedness and Response Plan developed as part of the Project. Trigger levels for initiating a plan response will be developed and included in the plan, and will be communicated to workforce supervisors as part of their training.

n. Limited access to some sites on Marmion, what sites specifically would these be? Please indicate on a map where the proposed restricted sites are.

The sites that were identified as potentially experiencing elevated levels of noise are campsites on Crown Land. The initial suggestion to restrict access to these sites has been revisited and it has been determined that access restriction is not the most appropriate mitigation measure. The campsites are not residences and are not subject to specific noise levels. Access to these sites will be restricted only if required for safety reasons. Osisko will endeavour to control noise emissions at the source by implementing noise reduction mitigation measures where deemed necessary through ongoing communications with the public and tourist outfitters. Instead of restricting access to the campsites, a more appropriate measure would be to post signs advising potential campers of the mine operations and the potential elevated noise levels.

A Visual Assessment was undertaken and the results were shared in the report and at the May 21 2013 workshop. Several examples of the visual renderings that were generated are shown below.

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Source: Genivar 2013



Source: Genivar 2013



Source: Genivar 2013



Source: Genivar 2013

We trust these responses are satisfactory, and welcome the opportunity to meet with you and further discuss your questions.

Sincerely,

Alexandra Drapack

Alexandra Drapack, MBA, P. Eng.
Director Sustainable Development

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Water Users

From: Parker, Steven
Sent: August 8, 2011 3:57 PM
To: Moffett, Cathryn
Cc: Silva, Monica; Campbell, Christine
Subject: FW: Seine River Water Management Call

Follow Up Flag: Follow up
Flag Status: Flagged

See Alix's communication below and a subsequent follow-up question.

Steve

From: Alexandra Drapack [mailto:adrapack@osisko.com]
Sent: Friday, March 11, 2011 3:49 PM
To: 'Brian.W.Jackson@ontario.ca'; 'marc.mantha@abitibibowater.com'; Campbell, Christine; 'Bonnema, Jeff (MNR)'; Parker, Steven; 'bruce.welbourne@brookfieldpower.com'; Anne Charland; 'Haw, Sheldon (MNR)'; claude.samson@brookfieldpower.com; chris.bazinet@abitibibowater.com; jim.gartshore@abitibibowater.com
Cc: Jean-Sebastien David
Subject: RE: Seine River Water Management Call

Bruce,

So sorry --- I did mean cubic metres second as we discussed on the teleconference.

Thanks again for participating in the call.

Alix

Alexandra Drapack, MBA, P.Eng.
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Osisko Mining Corp.

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From: Welbourne, Bruce [mailto:bruce.welbourne@brookfieldpower.com]
Sent: March 11, 2011 3:46 PM
To: Alexandra Drapack
Cc: Samson, Claude; Brian.W.Jackson@ontario.ca
Subject: RE: Seine River Water Management Call

Hi Alexandra,

Could you confirm the flow/volume units you've quoted? In the first paragraph, below, you have 'cfm' quoted (cubic feet per minute), while we discussed 'cms' (cubic metres per second) during the meeting.

Have a good weekend,
Bruce

From: Alexandra Drapack [mailto:adrapack@osisko.com]
Sent: March 11, 2011 3:41 PM
To: 'Brian.W.Jackson@ontario.ca'; 'marc.mantha@abitibibowater.com'; 'Campbell, Christine'; 'Bonnema, Jeff (MNR)'; 'Parker, Steven'; Welbourne, Bruce; Anne Charland; 'Haw, Sheldon (MNR)'; Samson, Claude; chris.bazinet@abitibibowater.com; jim.gartshore@abitibibowater.com
Cc: Jean-Sebastien David
Subject: Seine River Water Management Call

Thank you all for attending the teleconference today.

The purpose of the call was to introduce Osisko Mining Corporation to you and to indicate that we have a potential gold mining project in the area (Hammond Reef Gold Ltd.) that will require water for use in ore processing. Initial estimates of the amount of water required are conservatively estimated at 0.25 – 0.95 cfm. PLEASE NOTE THAT THIS ESTIMATE IS LIKELY HIGHER THAN WILL BE REQUIRED. RECENT DISCUSSIONS HAVE INDICATED THAT IT MAY BE REDUCED. We have identified the Upper Marmion Lake as a potential water source for our process water. We have had our consultants, Golder Associates conduct a preliminary evaluation of the potential effects of water withdrawals from the lake. The scope of work included:

- A review of the operating rules for the water control structures and the basis of their selection;
- Sourcing and review of flow and water level data for the water control structures;
- Sourcing and review of flow and/or water level data for nearby unregulated rivers and lakes gauged by Water Survey of Canada (WSC);
- Confirming the similarity in watershed characteristics for the Seine River and nearby WSC gauged sites to inform the use of flow and water level data collected at WSC gauges to generate natural time series for the
- Seine River;
- Estimating 2004-2010 natural flows in the Seine River at Lac des Mille Lacs Dam and Raft Lake Dam from flow data for nearby unregulated water bodies;
- Defining criteria and an appropriate method for evaluating the potential effects of water withdrawals from Upper Marmion Lake;

Golder's report identified that modification of the existing Seine River Water Management Plan will require dialogue and the eventual agreement of the plan proponents (Brookfield Renewable Power, AbitibiBowater and the MNR). We wanted to initiate discussions with you by introducing our project and making contact with you.

We are working on a process water balance and a site wide water balance to further clarify the fresh water needs for the project.

Comments from MNR/AbitibiBowater/Brookfield Power:

- Water management of the system is defined through the Seine River Water Management Plan which defines normal operating conditions and flood and drought conditions.
- MNR is more interested in water withdrawals of greater than 1 cms.
- AbitibiBowater and Brookfield Power are concerned with any water loss in the system. Information on water withdrawals and the resulting reintroduction of treated process water back into the system is of interest. They are

also concerned with the intake elevation of the pump and the operational head needed to operate the pump as it affects the drawdown on the reservoir and the water levels at Raft Lake Dam.

- AbitibiBowater indicated that 1 cms would DEFINITELY be significant and material.

You requested that we share the information from the water balance. We will contact you when we have revised our estimates.

During the teleconference, you indicated that a Public Advisory Committee meeting will be held in the spring (April/May). We would like to be included and we hope to have better definition on our fresh water needs. We understand that you would like any new information in advance of the committee meeting rather than during the meeting so that you can consider it.

Thank you for your time.

Regards,
Alix

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Manager Sustainable Development
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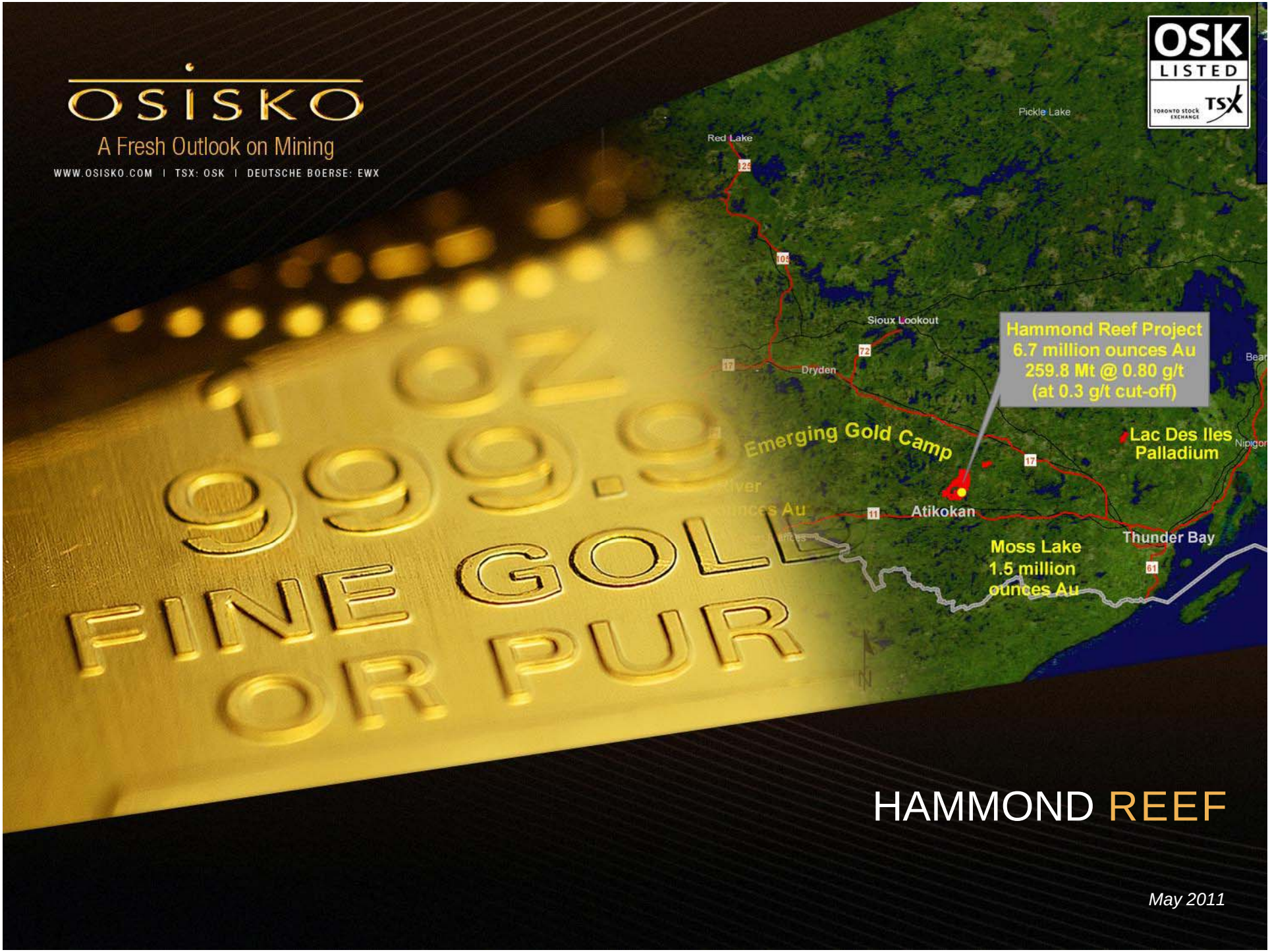
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HAMMOND REEF

May 2011

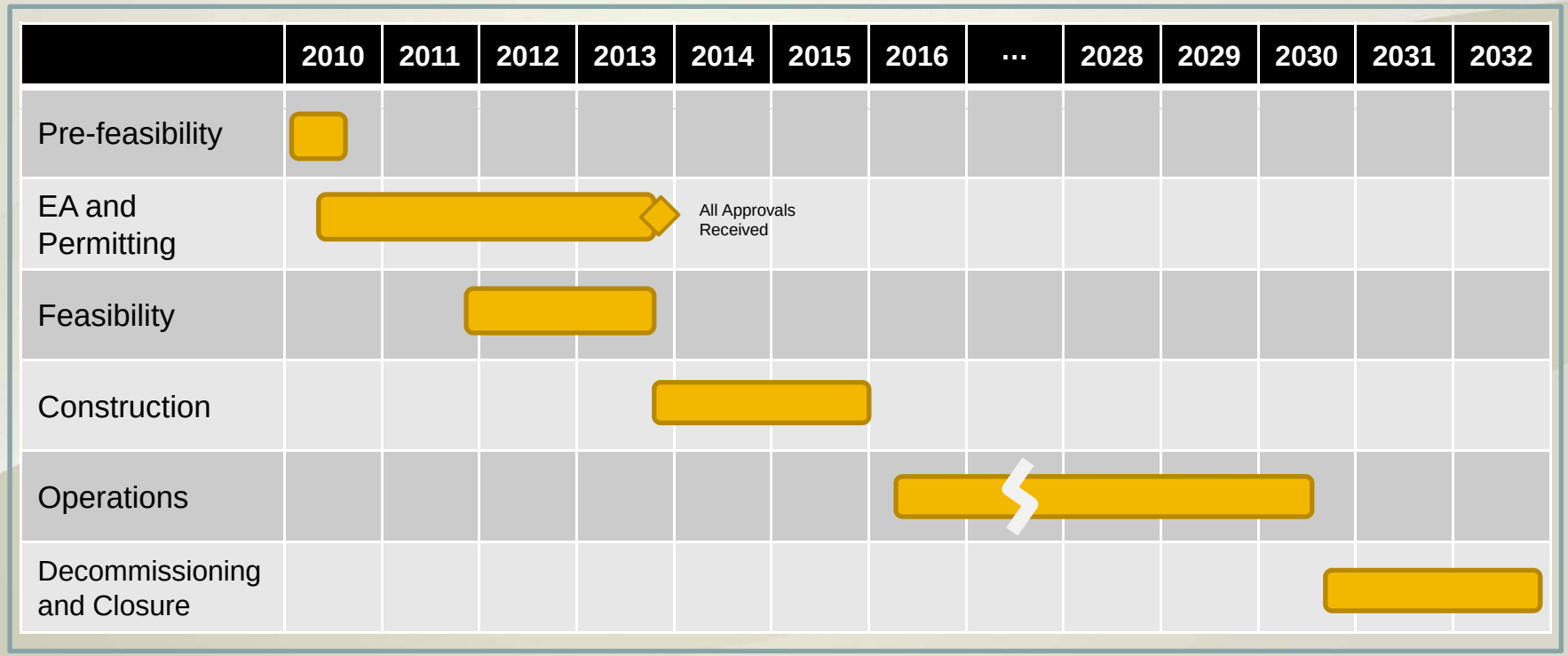
Overview

- Location of Project.
- Brief overview of Project.
- Water Management.

Project Overview

- Located approximately 30 km north of the Town of Atikokan.
- Inferred resource is 6.7M oz of gold, based on an inferred resource of 259.4M tonnes of ore at an average grade of 0.8 gm/tonne at a cut-off of 0.3 gm/tonne.
- Mine life is projected to be 14 years at a projected throughput of 50,000 tonnes/day based on the inferred resource.
- Construction is scheduled to begin in 2013, with completion in late 2015.
- The mine is scheduled to begin production in early 2016.
- Closure is expected to require 2 years for completion of site decommissioning.

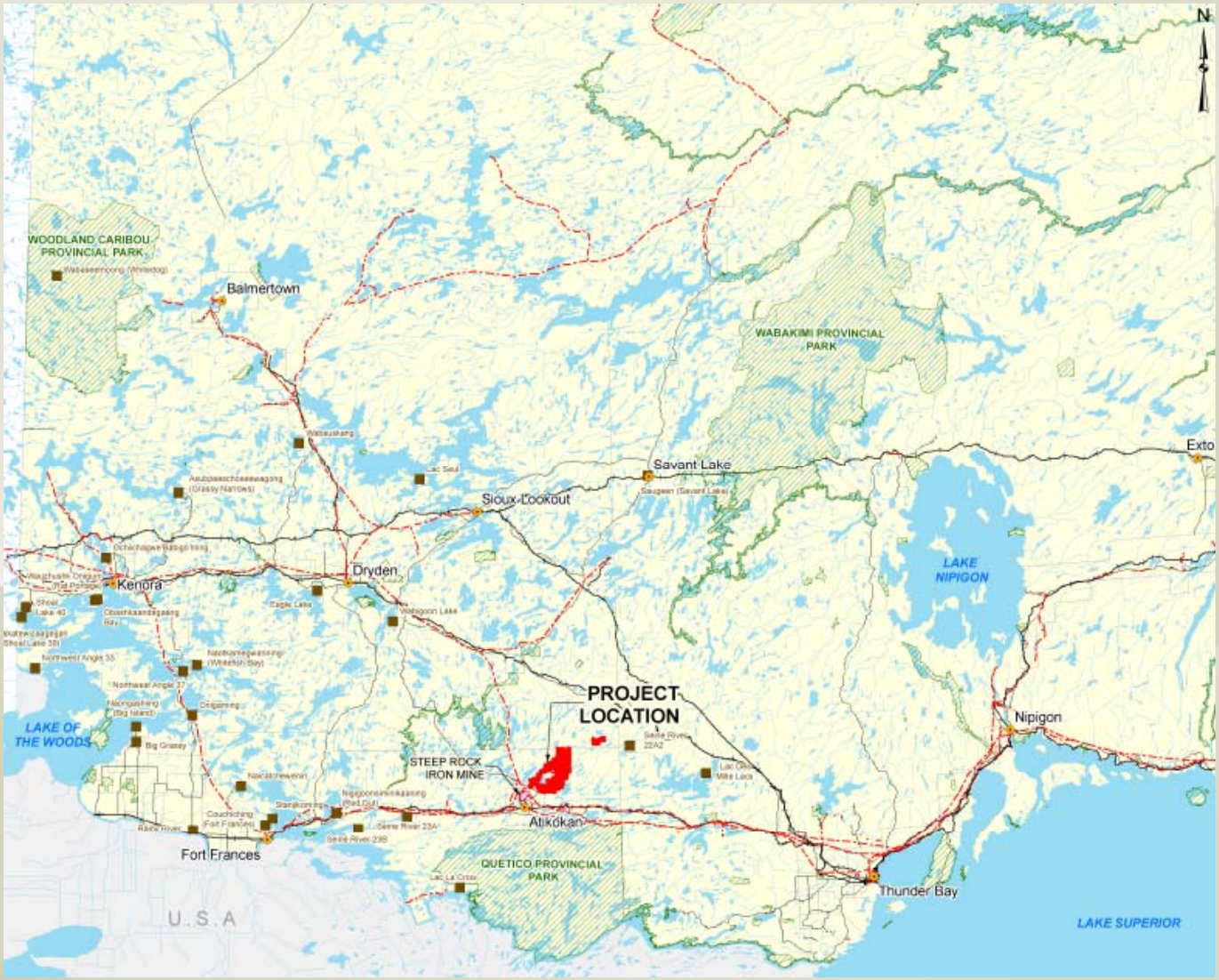
Project Schedule



Project Location



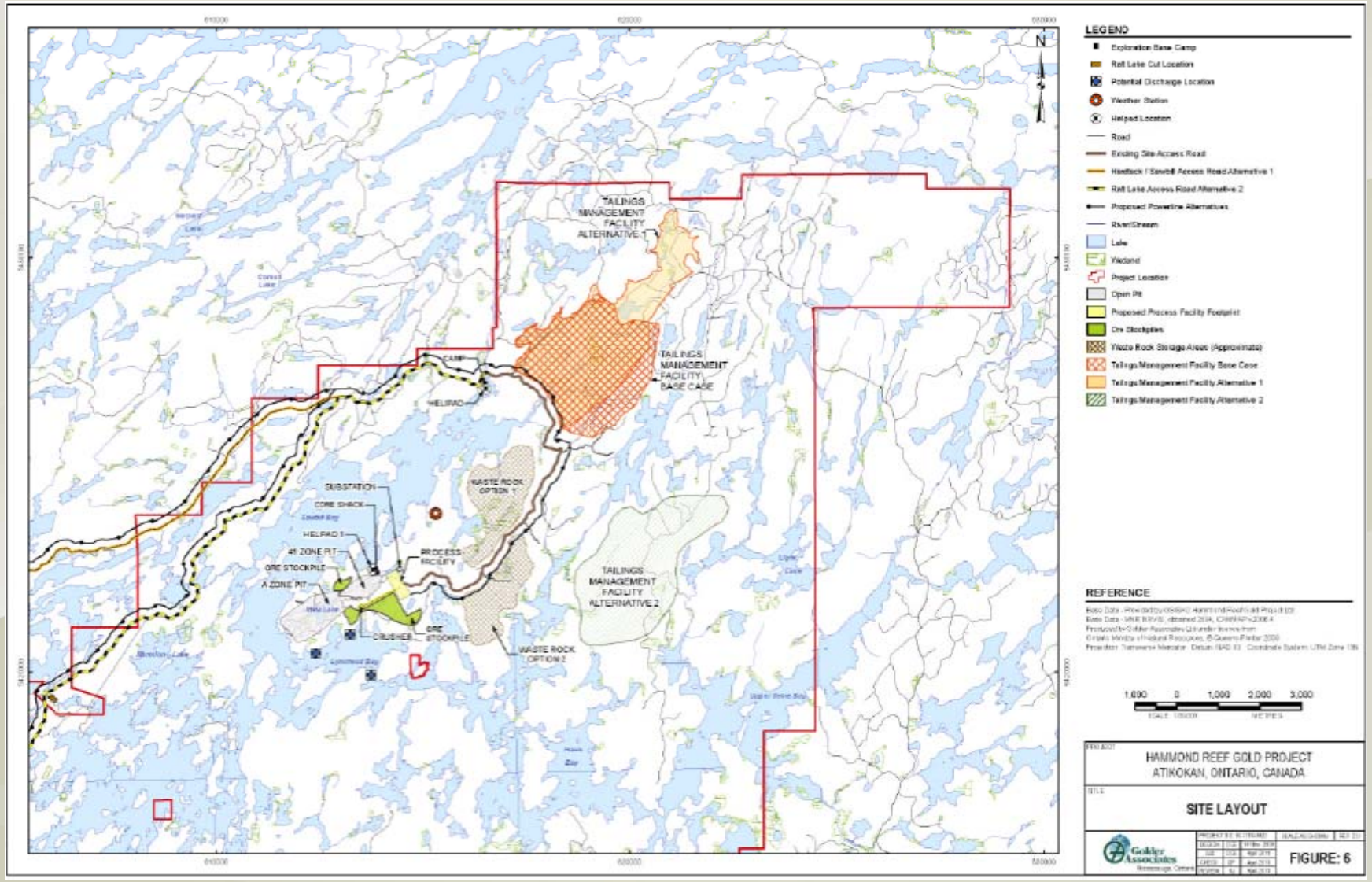
Regional Setting



Project Overview

- Mining will be through open pit methods, developing two pits: the A-Zone and the 41-Zone pits. The development of the pits will require the draining of a small lake (Mitta Lake) perched on the peninsula.
- Waste rock that is not used for on-site construction will be placed in a waste rock pile close to the pits (2 options being considered).
- Additional infrastructure includes a processing plant, an explosives plant, warehouses, workshops, offices and maintenance facilities.
- Tailings deposition in one of 3 on-site tailings management facilities.

Site Plan


LEGEND
Exploration Base Camp
Roll Lake Cut Location
Potential Discharge Location
Weather Station
Helipad Location
Road
Existing Site Access Road
Hardtack / Sewell Access Road Alternative 1
Roll Lake Access Road Alternative 2
Proposed Powerline Alternatives
River/Stream
Lake
Wetland
Project Location
Open Pit
Proposed Process Facility Footprint
Ore Stockpiles
Waste Rock Storage Areas (Approximate)
Tailings Management Facility Base Case
Tailings Management Facility Alternative 1
Tailings Management Facility Alternative 2
TAILINGS MANAGEMENT FACILITY ALTERNATIVE 1
TAILINGS MANAGEMENT FACILITY BASE CASE
TAILINGS MANAGEMENT FACILITY ALTERNATIVE 2
CAMP
HELIPAD
SUBSTATION
CORE SHACK
HELIPAD 1
41 ZONE PIT
ORE STOCKPILE
A ZONE PIT
PROCESS FACILITY
CRUSHER
ORE STOCKPILE
WASTE ROCK OPTION 1
WASTE ROCK OPTION 2
N
REFERENCE
1,000 0 1,000 2,000 3,000
HAMMOND REEF GOLD PROJECT
ATIKOKAN, ONTARIO, CANADA
SITE LAYOUT
Golder Associates
FIGURE: 6

Water Management

- Ore processing will require approximately 82,000 m^3/day of process water. This is the volume of water discharge in the tailings slurry at 37% solids content.
- The water balance has not been completed for the Project.
- Water will be reclaimed from the tailings management area. As much water as possible will be reused in the circuit.
- There is a need for fresh water for gland water, reagent make-up, and potable water . This water will be sourced from Marmion Lake (depending on ability to meet needs of other water users).
- The amount of this water is anticipated to be less than 3,200 m^3/day.
- Osisko's goal will be to minimize the amount of freshwater required.

From: Alexandra Drapack
Sent: March 21, 2013 7:49 AM
To: Cathryn Moffett
Subject: Rainy Lake Conservancy

I called [redacted] yesterday. He called back and left a voicemail confirming that he received the link to the report and that he has looked at it and it "looks very thorough". He will not be in Canada until late May so is not available to go to the Open House. He said his main focus is the water quality in the Seine River watershed.

Alix

HAMMOND REEF GOLD PROJECT

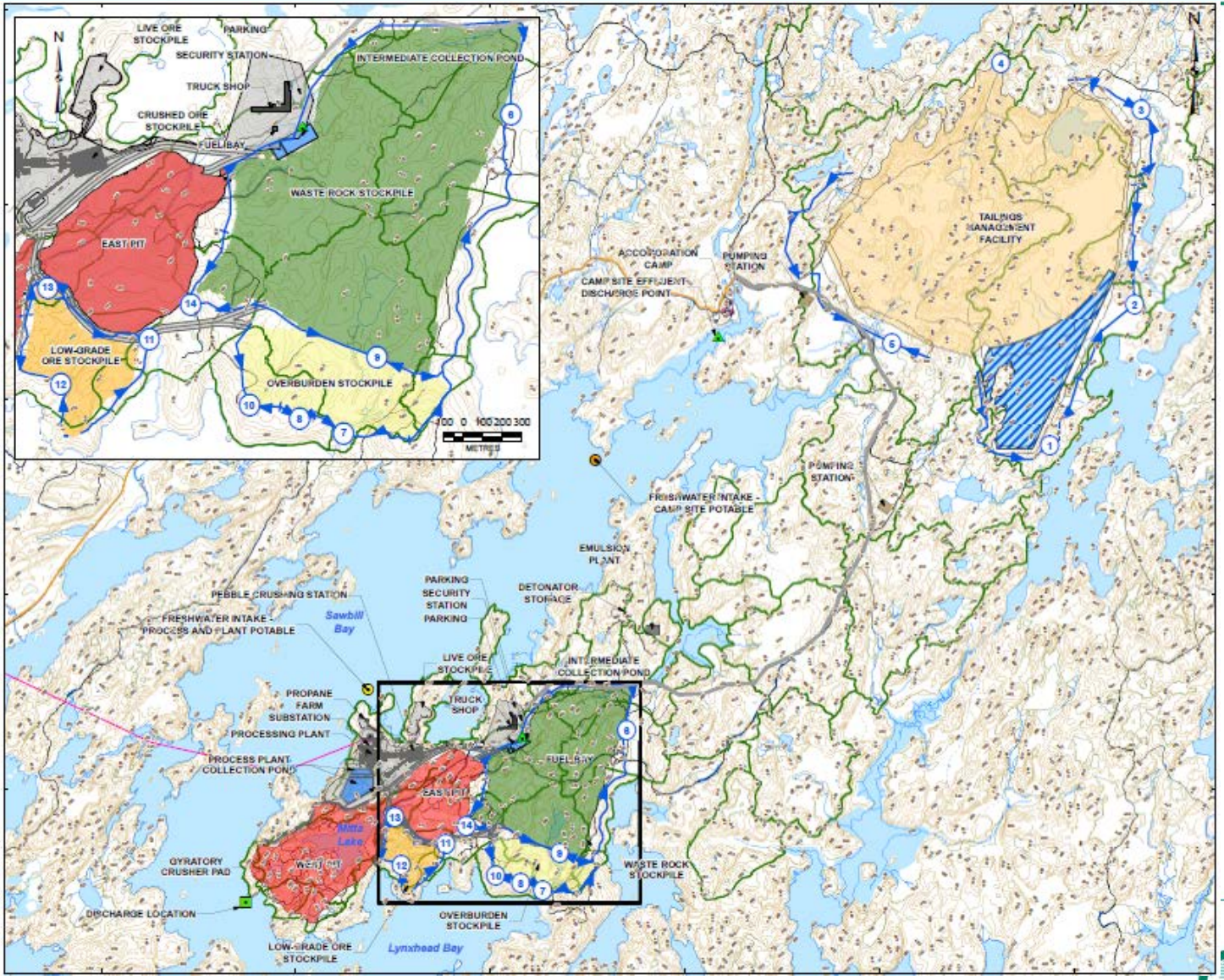
MEETING WITH H20 POWER and BROOKFIELD TUESDAY, NOVEMBER 24, 2015

Golder Associates

HAMMOND REEF GOLD PROJECT

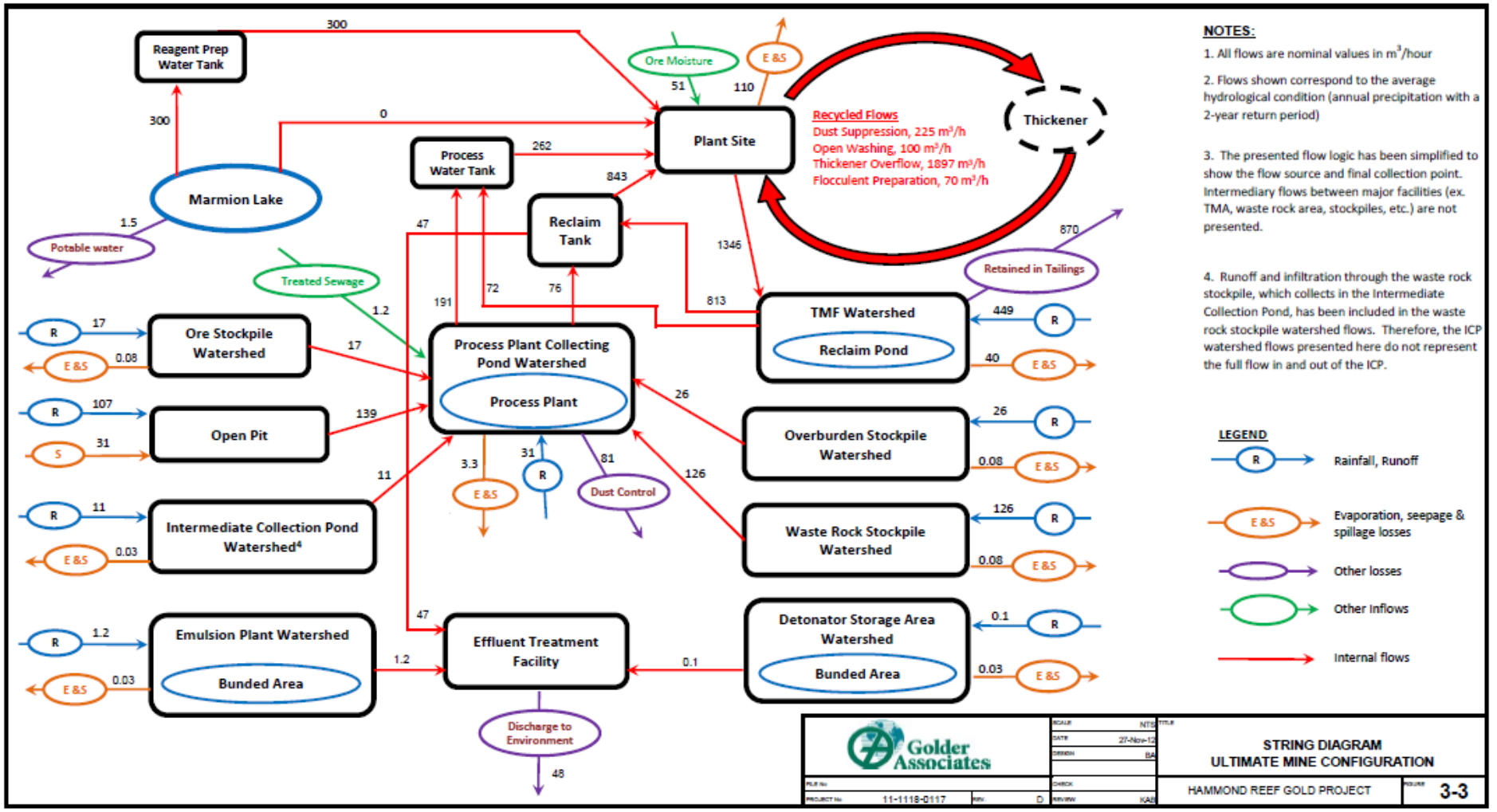
- Hammond Reef Project
  - Open-pit mining project
    - 11-year operating life;
    - 60,000 tonnes/d ore production
    - Water required for ore processing and domestic use
  - Project benefits
    - Direct and indirect employment;
      - Direct employment up to 1,200 jobs;
    - Economic activity and tax revenues for local community
  - Currently in EA process
    - Final EA submitted in Dec. 2013
    - Under review by government

SITE PLAN AND PRELIMINARY SURFACE WATER DRAINAGE PLAN



Golder Associates

MINE WATER BALANCE



PROJECT WATER REQUIREMENTS

Water Demands	Average Daily Rate (m^3/d)	Supply Sources
Potable water at accommodation camp	300	- Water taking from Marmion Reservoir
Potable water at process plant	35	- Water taking from Marmion Reservoir
Raw water for reagent mixing	7,200	- Water taking from Marmion Reservoir
Process make-up water	27,698	- Reclaimed water from TMF - Runoff intercepted within Project footprint - Treated sewage from process plant site - Water taking from Marmion Reservoir (in dry years only)
Water for dust control	1,947	- Runoff intercepted within Project footprint
TOTAL	**37,180**	

MINE WATER BALANCE MODELLING AS PER ESIA/EIS REPORT

Hydrological Conditions	Water Taking (m^3/d)	Environ-mental Discharge (m^3/d)	Net Water Taking (m^3/d)
Average	7,535	1,125	6,410

- Annual mean inflow to Marmion Reservoir estimated to be 2,773,440 m^3/d
- Average net water taking less than 0.3% of annual mean inflows

SEINE RIVER WATER MANAGEMENT PLAN

- A water management plan between the province and the owners/operators of the water power facilities
- Sets out water management objectives and operational rules for water control structures that are legally binding to the signees
- The 2004 to 2014 Plan has been extended to October 2016
- A scoping review for amendment of the Plan is scheduled for the fall 2015
- CMC hopes to have the opportunity to:
  - Participate in meetings of the Seine River Water Level Technical Committee
  - Share monitoring data, and
  - Work with other stakeholders to determine appropriate actions when required

NORMAL WATER LEVEL AND OUTFLOW PERIODS AT RAFT LAKE DAM

- The operating water levels and outflows in Seine River Water Management guide management of the water control structure under normal water level and outflow conditions
- There may conditions beyond the control of the operator that may result in the specified water levels and outflows not being achieved
- Plan defines lower compliance level as occurring when outflows are at the minimum values specified and water levels are below the minimum specified elevation for that day. Both conditions must exist at the same time
- A review of the available water level and outflow data for Raft Lake Dam between 2004 and 2012 indicated that below normal conditions occurred twice during that period: from Sep 6 to Nov 1, 2006 (29 days) and from Apr 26 to Aug 7, 2010 (104 days).

WATER MANAGEMENT STRATEGY

- Maintain minimum water storage volumes as reserves in onsite water storage facilities to supply the mine during low water level and outflow conditions at Raft Lake Dam
- Under normal and high water level and flow conditions at Raft Lake Dam
  - Take water from Marmion Reservoir to satisfy demands for potable water and water for reagent mixing.
  - Draw water from the PPCP and TMF Reclaim Pond to satisfy demands for process make-up water and dust control water when storage volumes are above minimum values.
  - Discharge water to the environment when water accumulating in these ponds exceeds the maximum operating capacities.
  - In months when inflows to the ponds cannot satisfy project water demands and maintain the minimum water storage volumes, the deficit will be met by water taking from Marmion Reservoir.
- Project is located in a net positive water environment (average precipitation exceeds average evaporation) and there will be a carryover of water accumulating in the ponds during wet periods to dry periods

WATER MANAGEMENT STRATEGY

- Under low water level and flow conditions at Raft Lake Dam
  - Water taking from Marmion Reservoir to satisfy demands for potable water and water for reagent mixing. It is preferred to draw water from the reservoir to meet these demands for water quality reasons.
  - Draw from the minimum water storage volumes in the PPCP and TMF Reclaim Pond to satisfy demands for process make-up water and dust control water.
  - Draw from the minimum water storage volumes in the PPCP and TMF Reclaim Pond for discharge to Marmion Reservoir to offset water taking to satisfy demands for potable water and water for reagent mixing.

DRAW RATE FROM RESERVES DURING LOW WATER LEVEL AND OUTFLOW PERIODS AT RAFT LAKE DAM

Water Demand	Average Daily Rate (m^3/d)
Offset water taking from Marmion Reservoir for potable water and water for reagent mixing	7,535
Satisfy deficit in process make-up requirements for design runoff event	5,275
Satisfy demand for dust control water	1,947
TOTAL	**14,757**

ONSITE WATER STORAGE FACILITIES

Facility	Pond Capacity with Freeboard (m^3)	Maximum Operating Capacity (m^3)
Process Plant Collecting Pond	400,000	350,000
TMF Reclaim Pond	6,200,000	5,370,000

- There will be 3 other holding ponds with limited water storage capacity that will be emptied following runoff events.

MINIMUM WATER STORAGE VOLUMES IN PPCP AND TMF RECLAIM POND

Facility	Minimum water storage volume (m^3)	Days of Water Supply
Process Plant Collecting Pond	206,594	14
TMF Reclaim Pond	1,328,107	90
TOTAL	**1,534,701**	**104**

ESTIMATED REDUCTION IN ENERGY PRODUCTION

Generating Station	Installed Capacity (MW)	Turbine Capacity (m^3/s)	Operating Head (m)	Energy Production (MWh)	Energy Production Equivalent of Water Taking (MWh)
Valerie Falls	10	6 – 60	20.4	52,000	117
Calm Lake	9	10 – 48	24	--	138
Sturgeon Falls	7	10 – 48	20	--	115

- Annual average net water taking of 6,410 m^3/d (0.074 m^3/s) over a total operating head of 64.4 m represents a potential loss in energy production of 370 MWh.

Post-V2 EIS-EA Consultation

Community Update Meetings
Summary Notes

A power point presentation was provided at each meeting and is included after the notes.

Town of Atikokan
July 21, 2015
Questions and Comments

- What would the price of gold have to be in order for the project to move forward?
  - We do not have an exact price, but it would have to be higher than it is now.
- Is the camp design set in stone?
  - The design is not set in stone, but the location is final.
- Will you work with the Town to help workers live in Town?
  - Yes, we are committed to encouraging workers to consider living in Town
- How does the currency exchange rate affect the economics of the project?
  - The lower Canadian dollar is favourable for mine construction and operations
- Who asked you to move the historic engine?
  - We weren't asked to move it, we were asked by a private company if they could remove it from the site and restore it
- Do you still have to get other permits after you receive EA approval?
  - Yes, there are many other permits required in addition to the EA
- Could the election affect the EA decision?
  - Yes, it is possible that elected politicians can influence development decisions
- What are your strategies for workforce hiring?
  - We have not fully developed strategies at this point
- I have experience with the Federal EA Process and believe that it takes too long. I am happy to help move the process along as much as I can.
  - Thank you for your support

Métis Nation of Ontario
July 21, 2015
Questions and Comments

- What is the grade of the ore?
  - The average grade is 0.62 grams per tonne
- Why is New Gold able to move their project forward more quickly than Hammond?
  - Part of our challenge has been the corporate takeover. We have also struggled with the regulatory process as one of the first mining EAs in the region.
- How much water will you be using?
  - Estimates of monthly water-taking for the project range from 0.084 m^3/s (301.5 m^3/hr) to 0.249 m^3/s (898.0 m^3/hr).
- In this economic climate - who would realistically back the project and pay for it to be built?

  - Canadian Malartic Corporation is funded by our partners Agnico Eagle and Yamana Gold
- What does the price of gold need to be to allow the project to move forward?
  - We do not have an exact price, but it would have to be higher than it is now.
- Will there be "before and after" fish tissue studies?
  - Not exactly, but we will be required to do fish toxicity testing that can be compared against baseline and regulatory guidelines
- I prefer the new location for the workers camp
  - Thank you for your comment
- Will the camp include the operations workforce?
  - Yes, it will be built to accommodate the operations workforce
- Will supplies be sourced locally?
  - We will try to source locally where possible. We have also funded a business development strategy for the MNO as part of the agreement signed in June 2015
- Make sure that MNO business development agreement includes a local component
  - Yes, we will keep local Metis involved in the project
- To bring personnel to the site, will they use the local airport?
  - Yes, it is possible that the local airport will be considered

Fort Frances Chiefs Secretariat
July 22, 2015
Questions and Comments

- Did First Nations work on the drilling during the Hammond exploration project?
  - Yes, First Nations made up a portion of the exploration workforce
- What happened to the feasibility study?
  - It hasn't been published at this time although most of the work is complete
- Will the water quality of the pit lakes at Hammond be similar to that of Steep Rock?
  - No, the water quality will not be similar because the characteristics of the rock are very different
- How many jobs will there be for First Nations?
  - We expect that at least 5% of the workforce will be Aboriginal
- Training is very important to the communities
  - We hope to further discuss training opportunities with the RSA Committees
- Do you have a closure plan in place? On other projects we have brought in an independent consultant to review the closure plan at the same time as the environmental assessment process.
  - We do not have a fully certified closure plan in place for the project, a conceptual closure plan has been published and will form the basis of the formal plan
- We sometimes have difficulty getting bank loans, it would be useful if CMC could provide us with letters of credit
  - We would be willing to consider this on an individual basis
- We are interested in sending staff members to visit the mine in Quebec

  - We are willing to organize a site visit
- Are you getting buy-in from the Elders?
  - We have good support from the Elders, however we cannot speak on behalf of all Elders.

Lac des Mille Lacs First Nation
July 23, 2015
Questions and Comments

- Is it still 10 months of permitting after you get an EA approval?
  - The 10 months is referring to the amount of time it will take before we get EA Approval. After EA Approval there will still be many other permits required prior to construction and operations
- Have you been invited to participate in the Seine River Watershed Management Committee? The SRWMC has been stagnant and we want to get it going again.
  - We attended one meeting several years ago but were asked to wait until we were in operation to join the committee. We would like to be more involved.

MINE
CANADIAN
MALARTIC

AGNICO EAGLE YAMANAGOLD

Hammond Reef Gold Project
Community Update

July 2015







Presentation Overview

- Canadian Malartic Corporation
- Hammond Reef Gold Project
  - When will it get built?
  - Potential effects
  - Key benefits
- Environmental Assessment Process
  - Government review
- Field Work at Hammond
- Update to the Project Description
- Next Steps

Canadian Malartic Corporation

- In June 2014, Agnico Eagle and Yamana Gold formed a 50/50 partnership

- The new partnership acquired all issued and outstanding common shares of Osisko

- This acquisition included the Canadian Malartic Mine, the Kirkland Lake Gold Project and the Hammond Reef Gold Project

- All agreements and commitments made by Osisko have been transferred to Canadian Malartic Corporation (CMC)

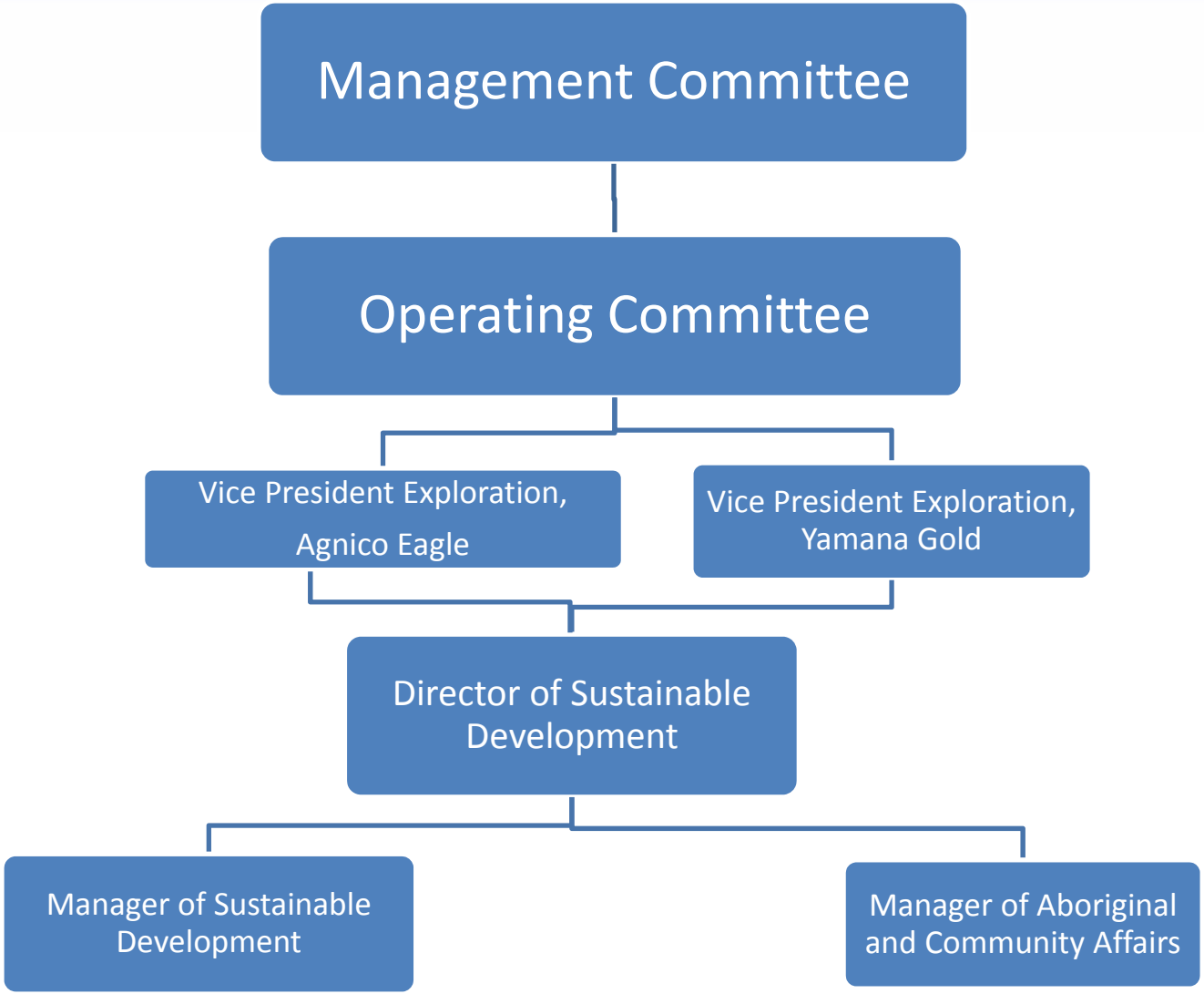
Canadian Malartic Corporation

Our Team

- Canadian Malartic Corporation (CMC) is governed by a Management Committee, which is made up of three senior executives each from Agnico Eagle and Yamana Gold
- An operating committee reports to the Management Committee on a quarterly basis
- The corporation is divided into an operations team and an exploration team, each of which have two Vice Presidents – one from Yamana and one from Agnico.
- These Vice Presidents are directly responsible to the operating committee
- Hammond Reef Gold falls under the exploration team

Our Team

MINE CANADIAN MALARTIC



Hammond Reef Gold Project

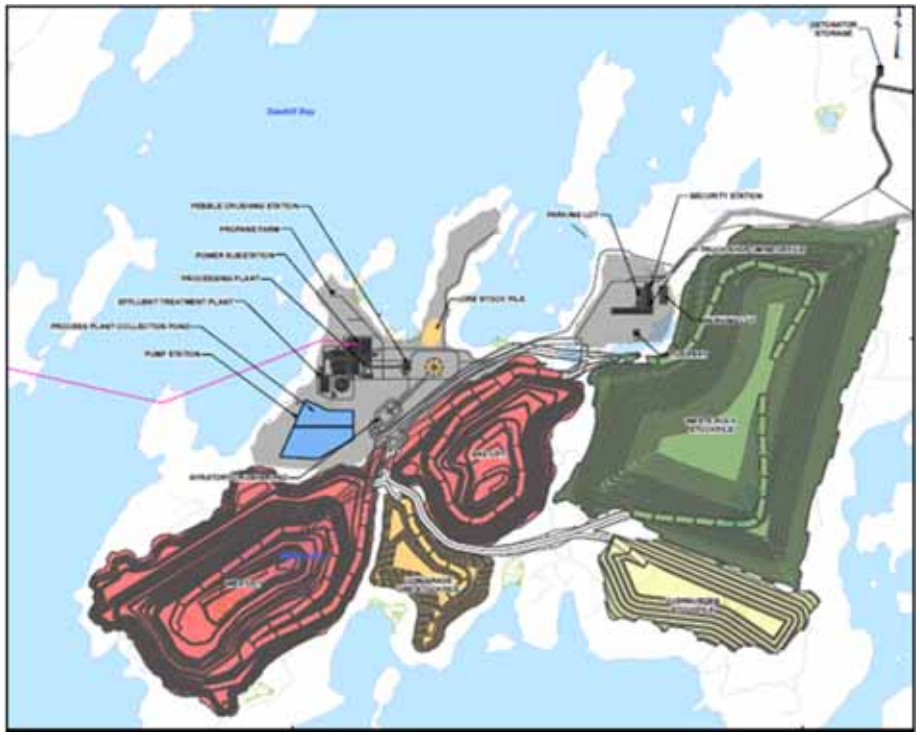
MINE CANADIAN MALARTIC

Exploration project complete in 2012

Two year construction phase

Eleven year operations phase

- Designed for an ore throughput of 60,000 tonnes/day
- Includes crushing, grinding, flotation, cyanide leaching, electrowinning and final refining using furnaces.
- Fresh water will be sourced from Marmion Reservoir
- Water will be recycled as much as possible
- Intermittent effluent discharge from the Site.



Two year closure phase

Hammond Reef Gold Project

MINE CANADIAN MALARTIC

When will it get built?

- Corporate takeover delayed EA process by 1 year
- Getting regulators up to speed again
- Permitting Process will still take up to 10 months
- Resource is proven:
  Total diluted proven and probable mineral reserve of 225.90 Mt at an average grade of 0.66 g/t for 4.785 M ounces of contained gold
- Economics must be favourable:
  - Price of gold
  - Operating costs
  - Currency exchange rates



Hammond Reef Gold Project

MINE CANADIAN MALARTIC

Key Benefits

- Employment
  - 416 jobs per month during construction
  - 550 jobs per year during operations

- Education and training
  - On the job training
  - Scholarships
  - Partnerships with local academic institutions

- Taxes and royalties
  - $36.2 million in provincial income tax during construction
  - $115.5 million in federal taxes during construction
  - $12.7 million annual provincial income tax during operations
  - $18.1 million annual federal taxes during operations

- Social and community investments
- Net benefit of Fish Habitat Compensation Plan

Hammond Reef Gold Project

MINE CANADIAN MALARTIC

Key Potential Effects

- Loss of vegetation and wetlands
  - Approximately 1200 hectares of vegetation
  - Approximately 380 hectares of wetlands

- Loss of fish habitat
  - Draining of Mitta Lake
  - Fish habitat compensation plan
  - Involvement of Aboriginal groups and local experts

- Increased water use of Marmion
  - Participate in Seine River Water Management Committee
  - Predicted change in water levels is approximately 8 cm

- Changes to recreation and tourism area
  - Change to visual landscape
  - Increased noise levels
  - Work with local outfitters
  - Provide new opportunities and support existing industry

Environmental Assessment Process

MINE CANADIAN MALARTIC

December 2011 - EIS Guidelines
July 2012 - Terms of Reference Approval

February 2013 – Draft EIS/EA Report
~700 comments received
Follow up meetings May – October 2013

January 2014 – Final EIS/EA Report
~200 comments received
Follow up meetings May – July 2014

June 2015 - Final EIS/EA Report Addendum with comment responses

July 2015 - Meetings with public and Aboriginal partners

Spring 2016 - Receive EA decision

Environmental Assessment Process

MINE CANADIAN MALARTIC

Next Steps – *dates are subject to change*

Provincial

- MOE Prepares Ministry Review - September 2015
- Publication of Ministry Review (Notice of Completion)
- Public comment period – 5 weeks

- Final Ministry Evaluation of the EA – 13 weeks
- Minister Decision – February 2016
- Cabinet Decision - no timeline (estimated May 2016)

Federal

- CEAA prepares Draft Comprehensive Study Report – 9 weeks
- Government and Aboriginal review period – 4 weeks

- CEAA revises Comprehensive Study Report – 2 weeks
- Government review period – 3 weeks

- Final Comprehensive Study Report to Minister of Environment – 7 weeks
- Public review period – 4 weeks
- Federal Minister's EA Decision – 12 weeks (estimated May 2016)

Field work at Hammond Reef

MINE CANADIAN MALARTIC

Aquatic Study

- Study conducted in August and September 2014
- Additional fish tissue samples were taken
- This work was done in response to comments from Atikokan Sportsman Club
- Team include staff from Golder Associates, CMC and Seine River FN
- Study area included Sawbill Bay, Trap Bay, Lizard Lake, and Sapawe Lake
- Samples are currently at the government lab for analysis





Field work at Hammond Reef

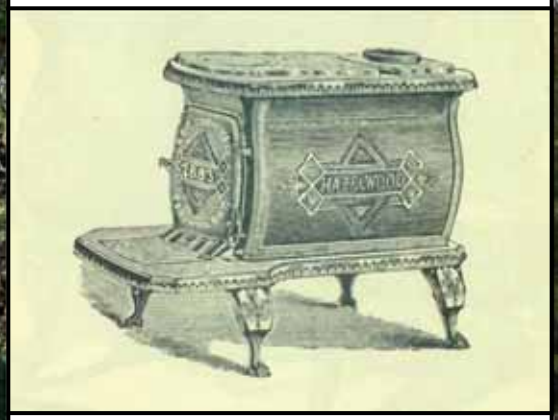
MINE CANADIAN MALARTIC

Cultural Heritage Study

- Field work took place in September 2014
- Team included heritage specialists from Golder and CMC staff
- Documentation of old mine workings was undertaken
- This work was done in response to comments from government

- Historic engine currently being removed from site for restoration
- Meeting and discussion with Atikokan Museum Board
- Final report will be placed at the Atikokan Museum





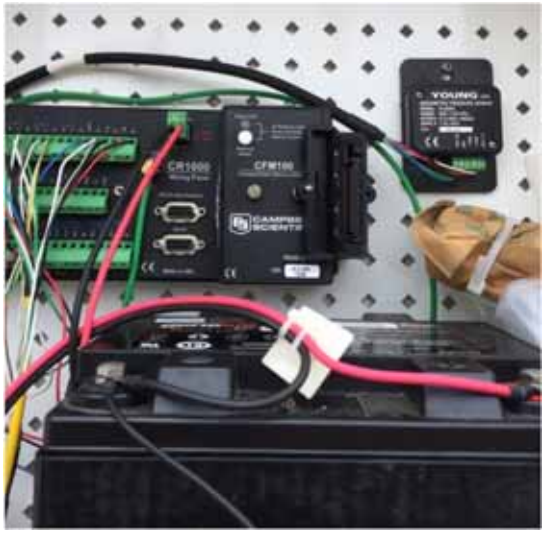


Field work at Hammond Reef

MINE CANADIAN MALARTIC

Weather Station Monitoring

- Ongoing measurements at meteorological station on site
- Includes precipitation, wind, temperature, etc.
- This information helps understand the local environment and make predictions
- Data is collected on a continuous basis and compared to regional records





Update to the Project Description

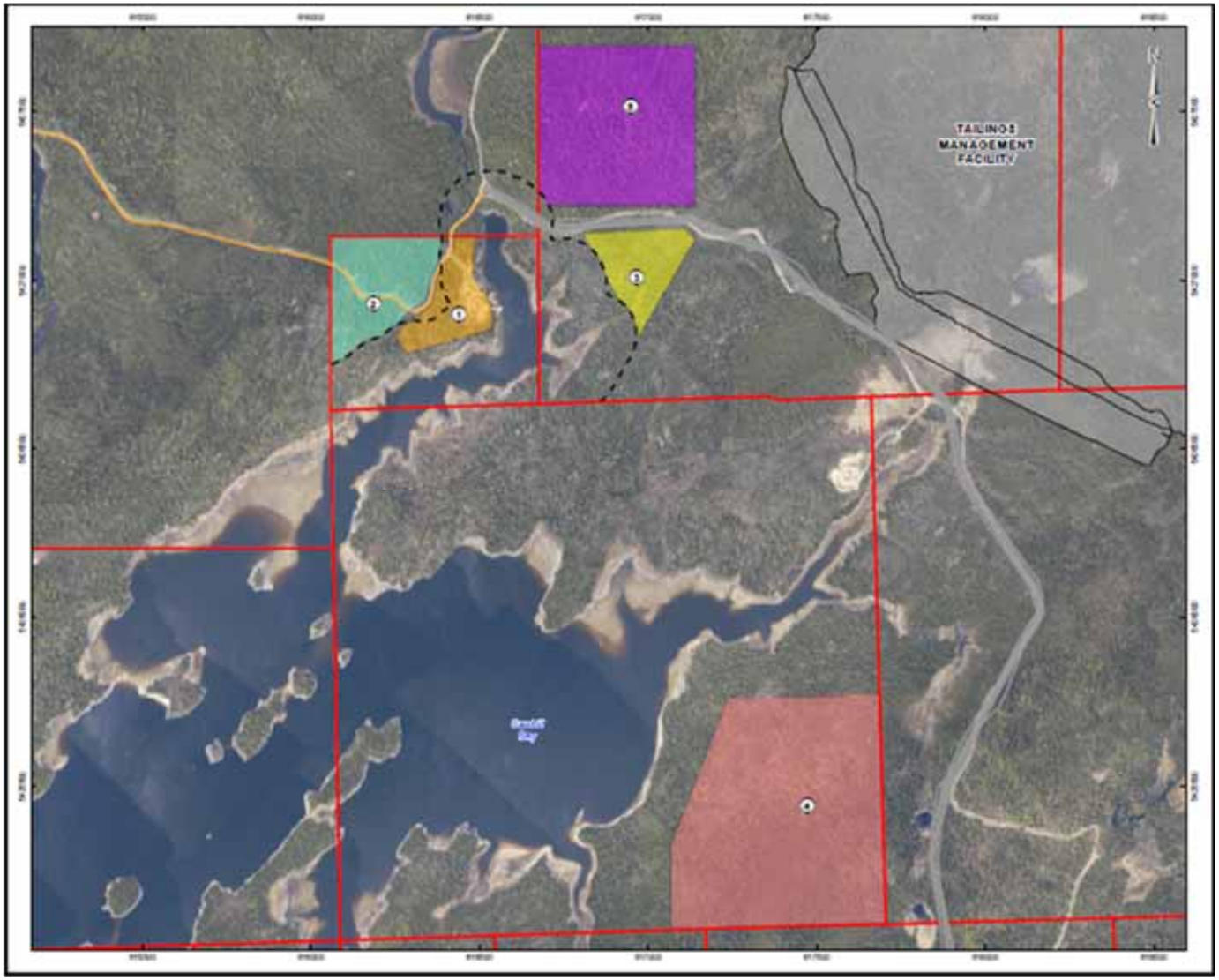
MINE CANADIAN MALARTIC

Workers Accommodation Camp

- Alternatives assessment of 5 different possible locations was undertaken
- Evaluation of each alternative based on:
  - Environment
  - Social
  - Technical
  - Economic
- This work was done in response to comments from government
- Goal was to locate the camp away from the shoreline
- New location was chosen which is within the Project footprint
- Change considered minor due to lack of new impacts

Update to the Project Description

MINE CANADIAN MALARTIC



- Evaluation of 5 potential locations
- Selected Alternative 5
- Within Project footprint
- Respects the buffer zone from shoreline
- Off the public road
- Allows for a combined camp and mine water effluent discharge



Thank you
Merci
Migwetch

MINE CANADIAN MALARTIC

AGNICO EAGLE | YAMANA GOLD

canadianmalartic.com

HAMMOND REEF PROJECT

Hammond Reef Project

Alternatives assessment consultations

February, 2017







Hammond Reef Gold Project

Who are we ? Our Team:

- Canadian Malartic Corporation (CMC) is a partnership governed by a Management Committee, which is made up of three senior executives each from Agnico Eagle (50%) and Yamana Gold (50%).
- An operating committee reports to the Management Committee on a quarterly basis
- The corporation is divided into an operations team and an exploration team, each of which have two Vice Presidents – one from Yamana and one from Agnico.
- Hammond Reef Gold falls under the exploration team.

Hammond Reef Gold Project

Strong local support for planned gold mine in Northwestern Ontario

Located 23 km north of Atikokan
(pop 3,000)

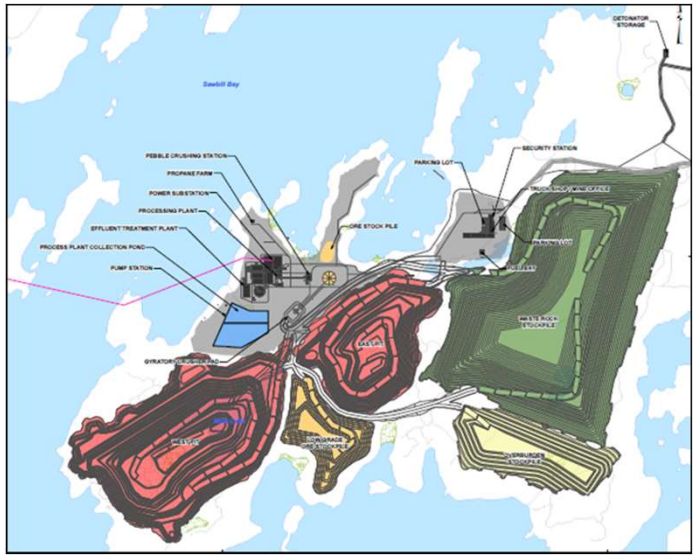
Exploration project complete in 2012
(workforce of +100)

Eleven year operations phase:

- Designed for an ore throughput of 60,000 tonnes/day
- Fresh water will be sourced from Marmion Reservoir

Resource is proven:

- Total diluted proven and probable mineral reserve of 225.90 Mt
- Average grade of 0.66 g/t for 4.785 M ounces of contained gold





Environmental Assessment Process

More than $10,5 million dollars spent on environmental studies to date
Studies have shown the project can be built without a significant effect

December 2011 - EIS Guidelines
July 2012 - Terms of Reference Approval

February 2013 – Draft EIS/EA Report
~700 comments received

January 2014 – Final EIS/EA Report
~200 comments received (IR1)

June 2015 - Final EIS/EA Report Addendum
~50 comments received (IR2)



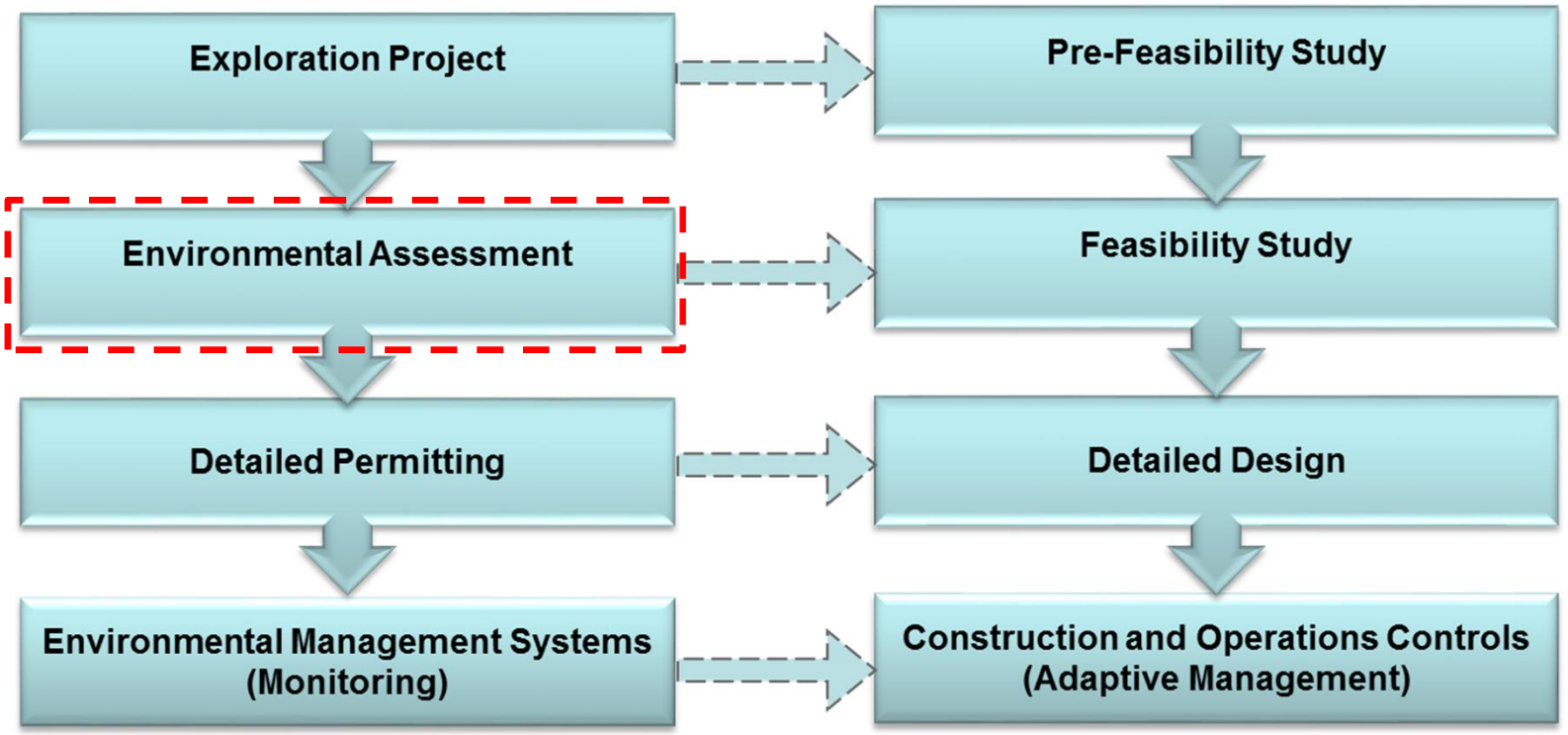
November 2015 – Responses to federal comments provided
~ 47 new or follow-up comments received;

- CMC has been working with GRT to prepare responses and resolve outstanding issues
- New, more-detailed Alternatives Assessment completed at request of MNRF

Present status:

- Majority of issues have been resolved or are pending GRT approval, three main topics remain: groundwater modelling, hydrology (water taking), air quality.

Mining Project Development Process



- Further engineering design, permitting and development of detailed monitoring plans to follow EA approval

Alternatives Assessment Overview

- **Part of the EA** : Assessment of Alternatives required by *Canadian Environmental Assessment Act* and *Ontario Environmental Assessment Act*

1. Alternatives to the Project

- Only alternative to the Project is to 'Do Nothing'
  - Project not expected to impose significant negative effects on the biophysical and socio-economic environment
  - Positive socio-economic effects for CMC, community of Atikokan, Aboriginal partners, neighboring communities, the Province of Ontario and Canada
  - Proceeding with the project selected as preferred alternative

2. Alternative means of carrying out the Project

- Assessment carried out for all project components for which more than a single feasible alternative was identified
  - Evaluation considered Environmental, Technical, Economic and Social criteria

3. Mine Waste Disposal Alternatives

- Assessment followed Environment Canada's *Guidelines for the Assessment of Alternatives for Mine Waste Disposal*

Components of Alternatives Assessment

- **Alternative to the Project**
  - Proceed ✓ (selected)
  - Do Nothing
- **Alternative Means of Carrying out the Project**
  - Ore processing method
  - Access road routing
  - Power supply (transmission line routing)
  - Worker accommodation
  - Sewage treatment facility
  - Water discharge location
- **Mine Waste Disposal Alternatives**
  - Waste rock management facility siting
  - Tailings management facility siting

Project Components with a Single Feasible Alternative

For some project components, only one feasible alternative was identified. These components have become part of the Project design and were not assessed further.

The components with a single feasible alternative are:

- **Mine Development**: Open pit development, including the draining of Mitta Lake;
- **Explosive storage siting**: Contractor supplied and managed on-site;
- **Chemical and fuel storage siting**: On-site storage and handling ;
- **Hazardous waste management**: Temporary secure storage on-site for shipment off site to licensed facilities;
- **Water sourcing**: Marmion Reservoir is adjacent to the Project and is technically and economically feasible as a water source;
- **Water recycling**: Recycled water will be used as much as possible;
- **Low-grade Ore Stockpile**: Located south of the East Pit and east of the West Pit as close to the processing plant as possible;
- **Organic and Solid Waste Management**: Partner with the Town of Atikokan to develop a landfill off-site.

Ore Processing Method

The processing of ore containing gold will require cyanide leaching.

Two alternatives considered to decrease cyanide concentrations:

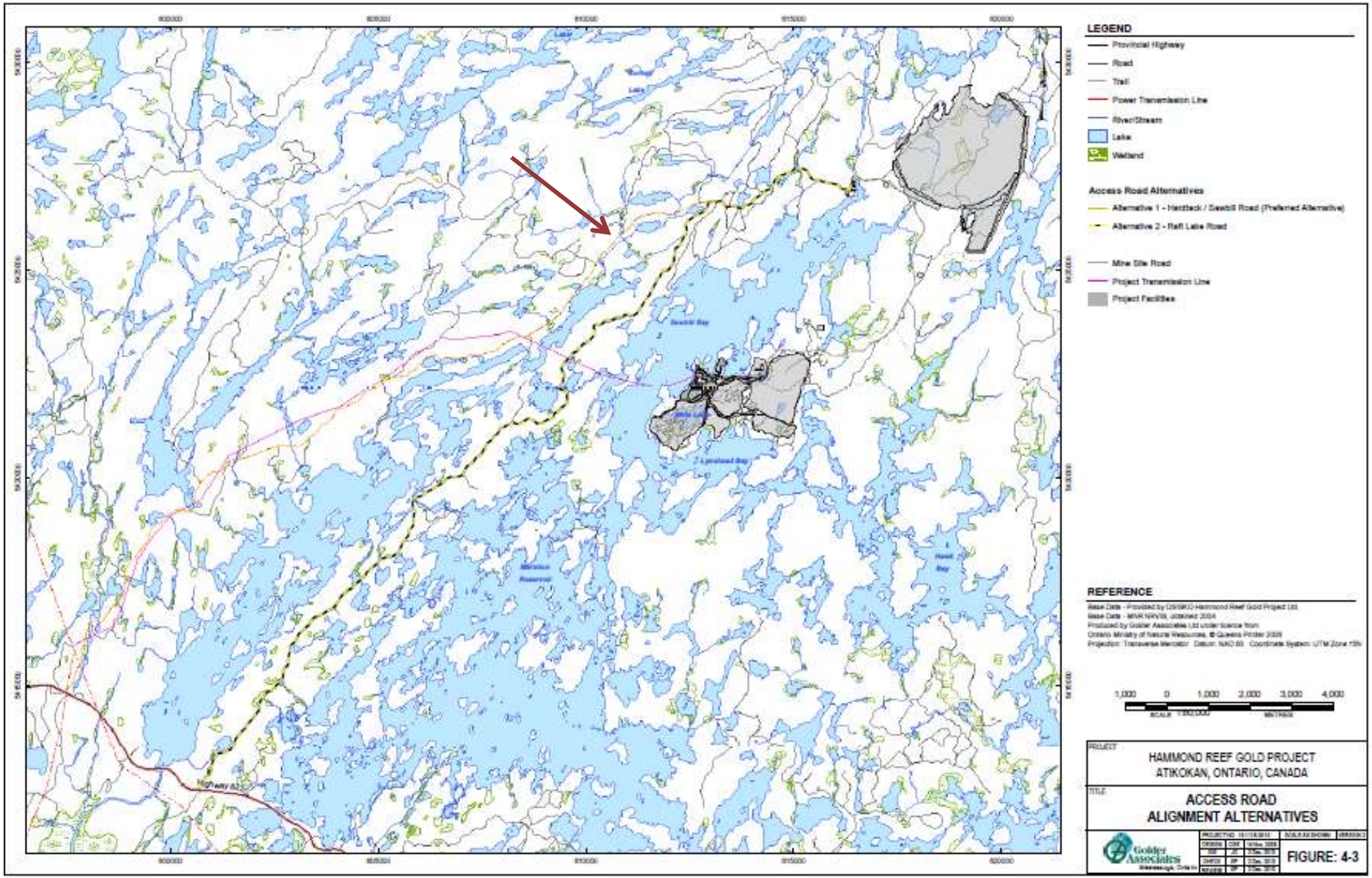
1. Use of cyanide destruction circuit ✓
   - Cyanide concentrations in tailings slurry reduced to 2 ppm.

2. Natural degradation of cyanide
   - Cyanide concentrations in tailings slurry reduced to 14 ppm.

Preferred Alternative: **Use of cyanide destruction circuit**

- Less risk to the biophysical environment
- Smaller reclaim water pond area
- More readily acceptable to stakeholders

Access Road Alignment Alternatives



Access Road Alignment Alternatives

Required to facilitate transport of equipment and supplies to the mine site.

Two alternatives considered for the main access road to the mine site:

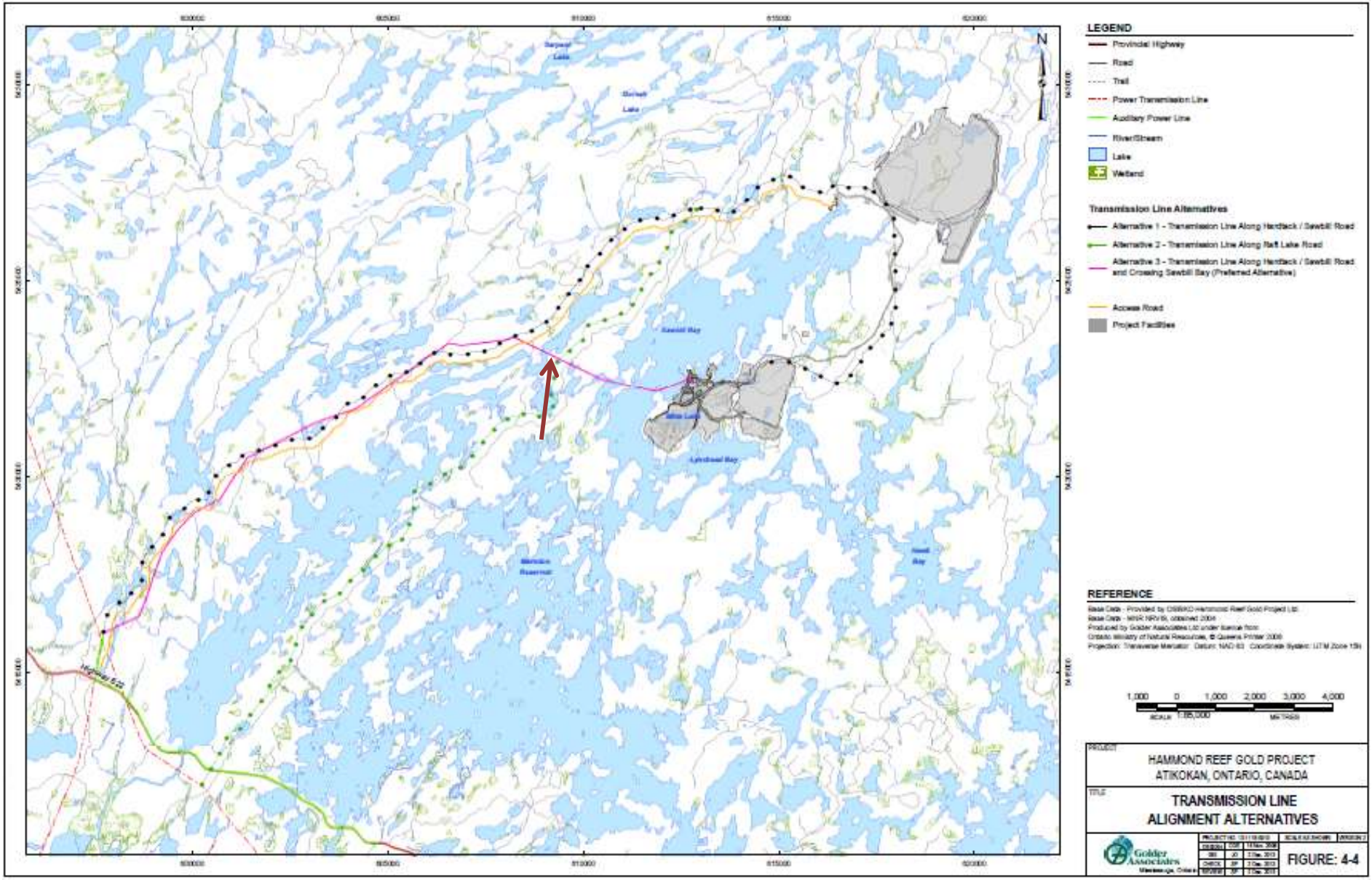
1. Hardtack/Sawbill Road – upgrade existing ✓
2. Raft Lake Road – upgrade existing and construct new road, bridge over Raft Lake cut

Preferred Alternative: **Hardtack/Sawbill Road**

- Does not require construction of new road, avoiding additional habitat loss
- Does not require construction of new water crossings or large span bridge
- Lower cost alternative due to reduced construction

Power Supply (Transmission Line) Alignment Alternatives

HAMMOND REEF PROJECT



Power Supply (Transmission Line) Alignment Alternatives

The mine and processing plant will require approximately 100 MW of power, supplied via a new 230 kV transmission line.

Three transmission line alignment alternatives considered:

1. Transmission line along Hardtack/Sawbill Road
2. Transmission line along Raft Lake Road
3. Transmission line along Hardtack/Sawbill Road and Crossing Sawbill Bay ✓

Preferred Alternative: **Transmission line along Hardtack/Sawbill Road and Crossing Sawbill bay**

- Transmission line follows selected access road alignment which simplifies construction and minimizes vegetation clearing and habitat loss.
- A portion of the alignment will be strung over Sawbill Bay resulting in a shorter overall length and lower cost.

Worker Accommodation

Accommodation for up to 1,200 workers.

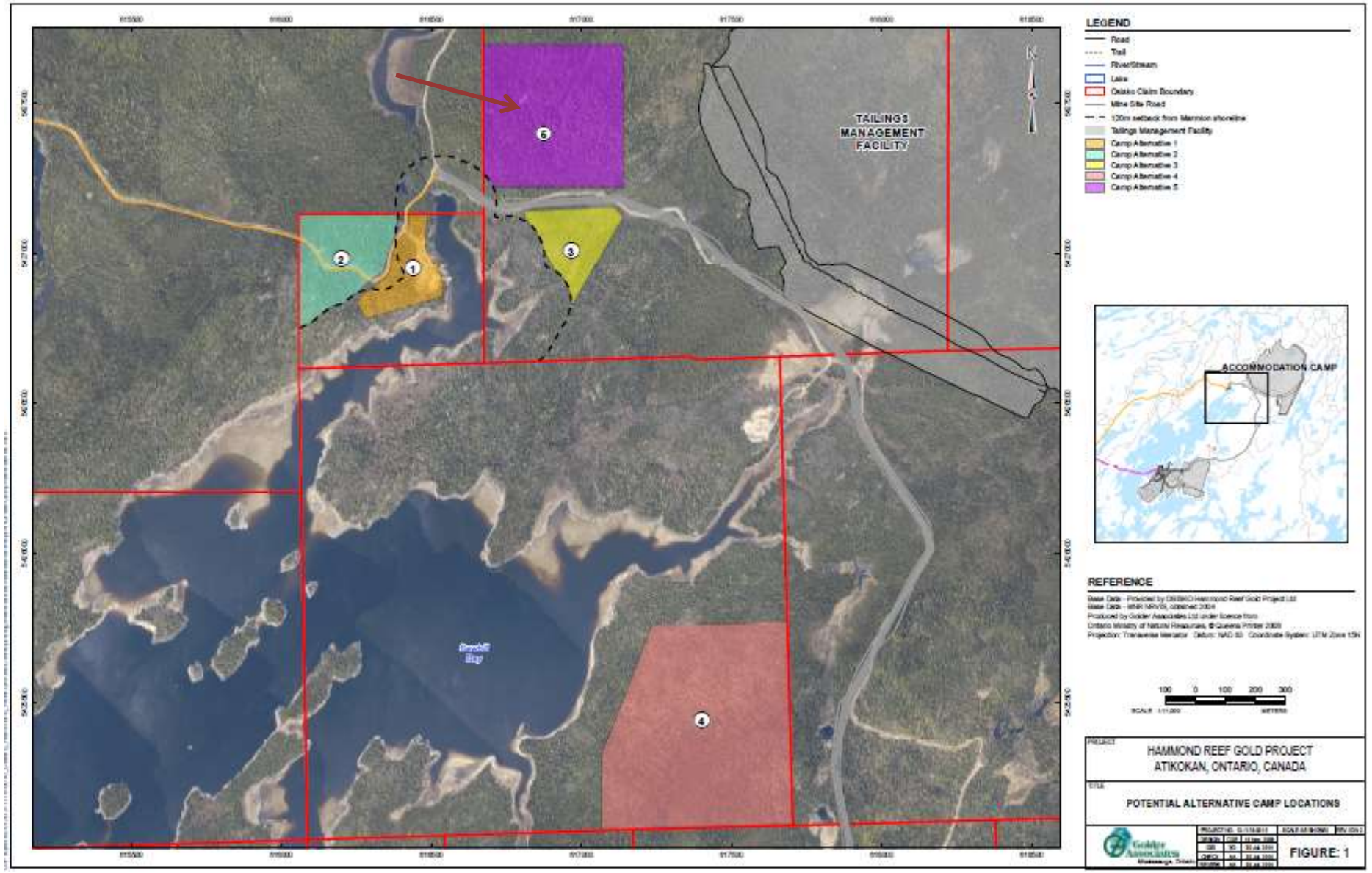
Two alternatives for worker accommodations:

1. On-site accommodation camp ✓
2. Off-site accommodation camp
   - In the Town of Atikokan and surrounding communities

Preferred Alternative: **On-site accommodation camp**

- Enhances ability to attract skilled workers from regions beyond the local area by offering flexible living arrangements;
- Improves worker safety through a reduction of vehicle trips along the mine access road;
- Does not preclude the ability to live in and commute from Atikokan;
- Workers may live in town and commute daily by bus or personal vehicle or workers may want a shift rotation, allowing them to reside elsewhere in Canada.

On-site Accommodation Camp Location



On-site Accommodation Camp Location

Accommodation for up to 1,200 workers.

Five alternatives considered for location of on-site accommodation camp:

1. West shore of Sawbill Bay (existing exploration camp location)
2. West of Sawbill Bay and North of Access Road
3. East of Sawbill Bay and Below TMF Dam
4. East of Sawbill Bay along Mine Site Access Road
5. Northeast of Sawbill Bay and West of TMF ✓

Preferred Alternative: **Northeast of Sawbill Bay and West of TMF:**

- Respects 120 m minimum offset from shore of Marmion Reservoir
- Minimal new access road required from main access road
- Allows for potential combination of camp sewage discharge and mine effluent discharge to a single location, reducing potential effects on aquatic environment
- Furthest location from mine site (low potential for noise related sleep disturbance)

Sewage Treatment Facility

Sewage generated at the camp and processing plant will be treated on-site. Not economically feasible to pump to existing off-site sewage treatment facility.

Two sewage treatment location alternatives considered:

1. One treatment facility located near the main accommodation camp
2. Multiple treatment facilities – 1 large facility near accommodation camp and 3 smaller facilities for process plant, truck shop, and emulsion plant ✓

Preferred Alternative: **Multiple treatment facilities**

- Most cost effective
- Avoids extensive pumping

Sewage Treatment Facility

Sewage generated at the camp and processing plant will be treated on-site. Not economically feasible to pump to existing off-site sewage treatment facility.

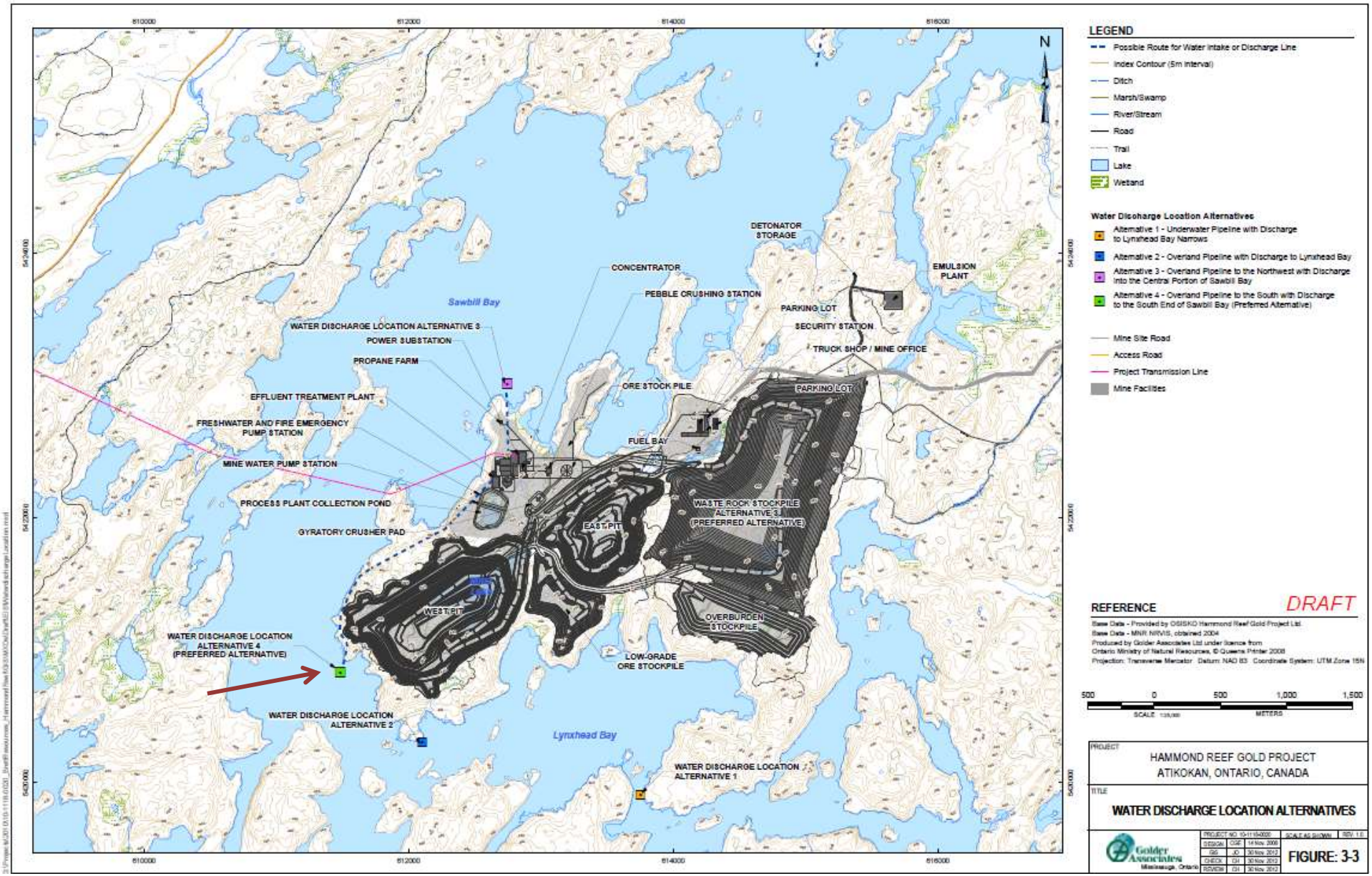
Two sewage treatment technology alternatives considered:

1. Septic tank and tile bed
2. Packaged wastewater treatment plant ✓

Preferred Alternative: **Packaged wastewater treatment plant**

- Cost effective and practical
- Compact and easy to install (requires less land area than tile bed)
- Responds well to sewage flow and loading fluctuations

Water Discharge Location Alternatives



Water Discharge Location Alternatives

Water will be sourced from and discharged back to Upper Marmion Reservoir.

Four water discharge location alternatives considered:

1. Underwater pipeline with discharge to Lynxhead Narrows
2. Overland pipeline with discharge to Lynxhead Bay
3. Overland pipeline to the northwest with discharge into the central portion of Sawbill Bay
4. Overland pipeline to the south with discharge to the south end of Sawbill Bay ✓

Preferred Alternative: **Overland pipeline to the south with discharge to the south end of Sawbill Bay**

- Discharging closer to the main flow path improves mixing
- Reasonable pipeline length and cost
- Avoids sensitive fish habitat potentially present in Lynxhead Bay and Lynxhead Narrows, increasing stakeholder acceptance

Mine Waste Disposal Alternatives

- "Mine Waste" includes tailings and waste rock
- Tailings Management Facility (TMF) and the Waste Rock Management Facility (WRMF) may impact natural water bodies frequented by fish
- Require designation as Tailings Impoundment Areas (TIAs) under Schedule 2 of Metal Mining Effluent Regulations (MMER)
- Mine Waste Disposal Alternatives require assessment in accordance with the requirements of Environment Canada's *Guidelines for the Assessment of Alternatives for Mine Waste Disposal*, (Sept 2011)

Assessment Procedure

Environment Canada (2011) guidelines 7 step procedure:

Step 1: Identify candidate alternatives
Step 2: Pre-screening assessment
Step 3: Alternative characterization
Step 4: Detailed Multiple Accounts Ledger analysis
Step 5: Value-based decision process
Step 6: Sensitivity analysis
Step 7: Document results

Steps 1 and 2 were completed during the ToR process (before EA)
Steps 3 through 7 completed as part of the EIS/EA process

Dry Land Alternative

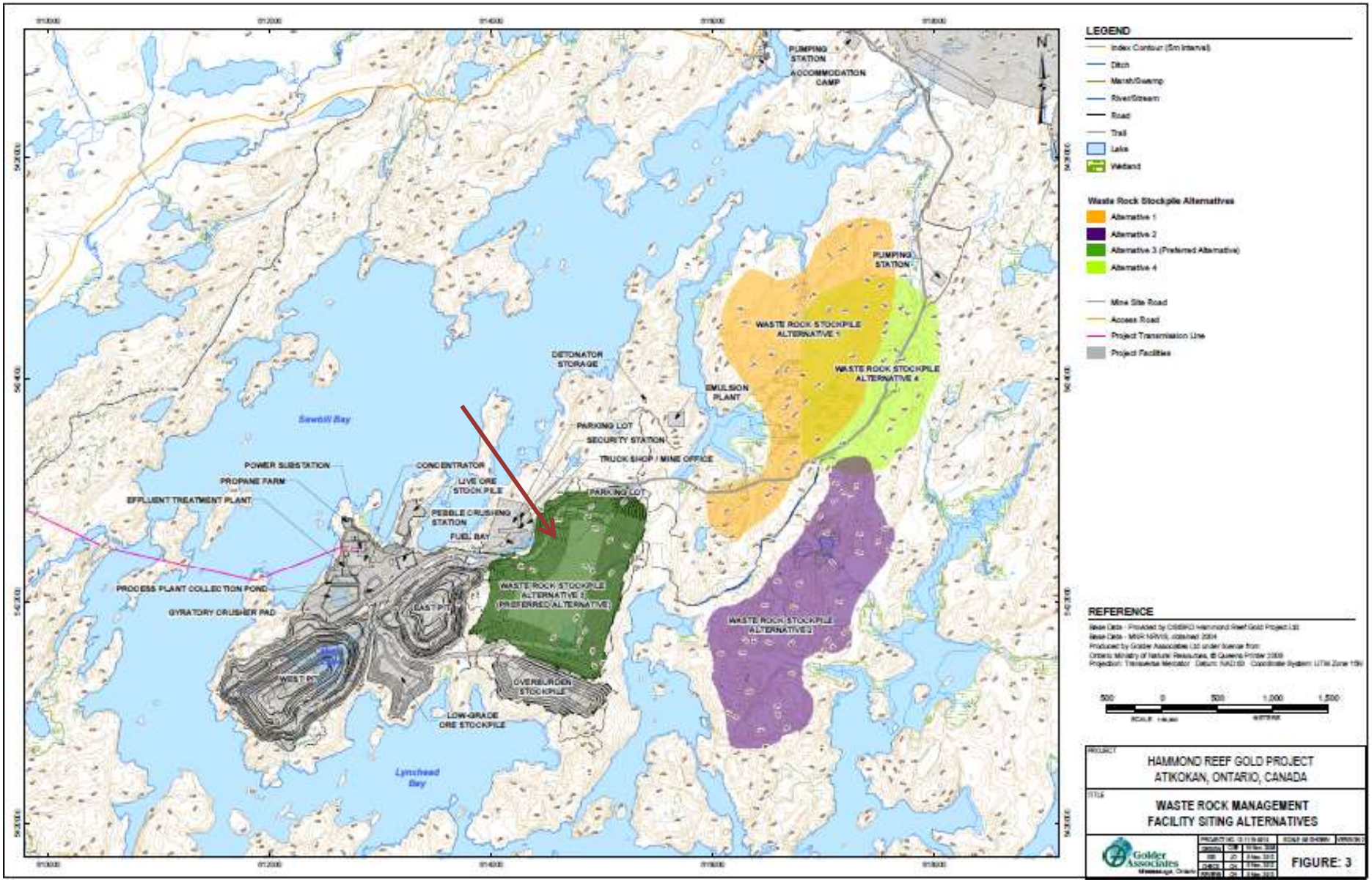
Environment Canada (2011) guidelines suggest:

"At least one of the alternatives should not impact a natural water body that is frequented by fish, unless it can be demonstrated that this possibility does not reasonably exist based on site specific circumstances."

- Abundant and frequent fish-bearing water bodies exist throughout the regional setting
- The physical size requirement of the Tailings Management Facility (TMF) is large
- Not possible to identify a dry land alternative of sufficient size for TMF without incurring significant costs that would undermine the Project's feasibility.
- Dry land alternative for Waste Rock Management Facility (WRMF) identified and evaluated

Waste Rock Management Facility Siting Alternatives

HAMMOND REEF PROJECT



Waste Rock Management Facility (WRMF)

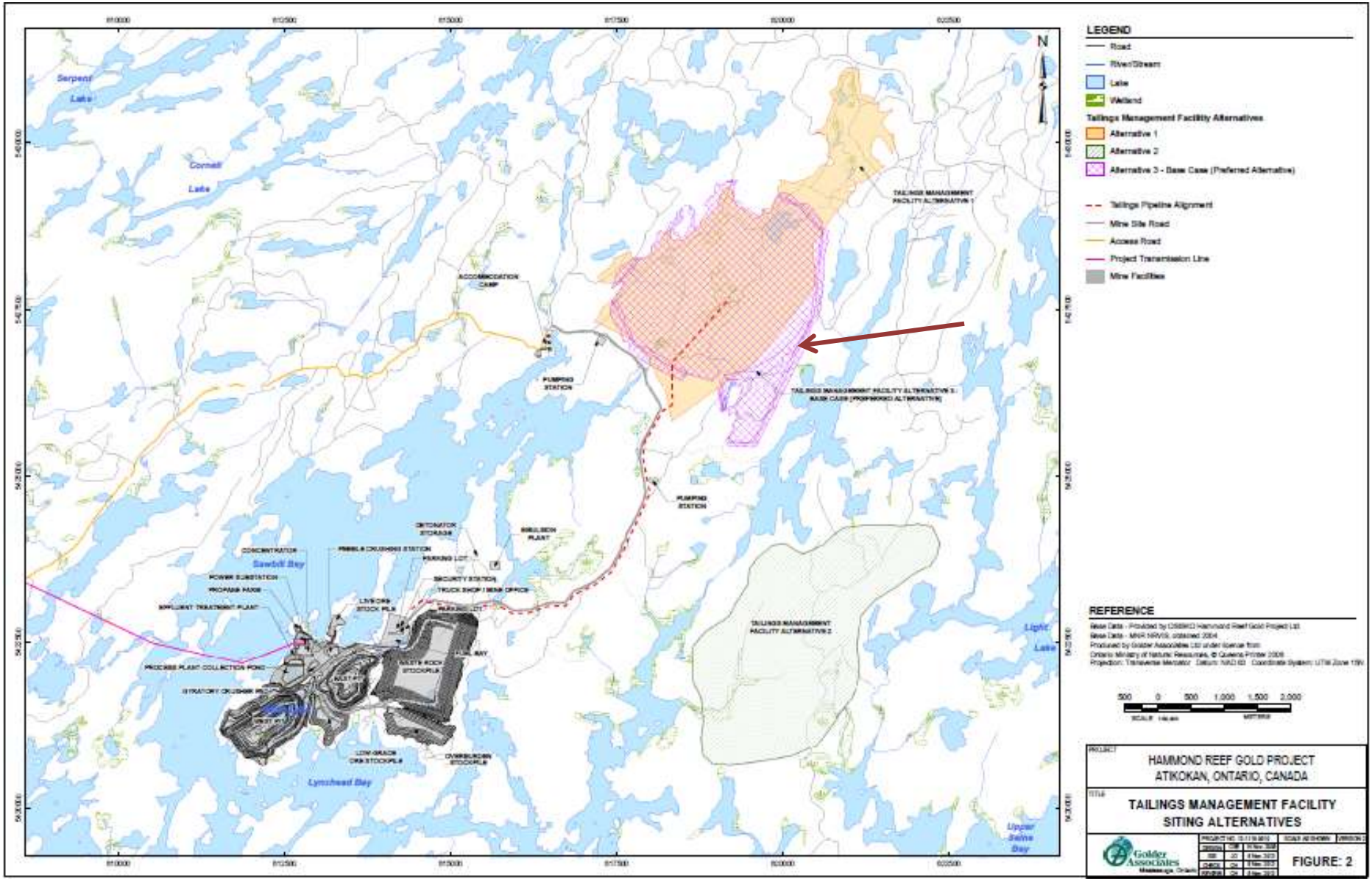
Four alternative locations considered for the Waste Rock Management Facility, including dry land alternative (WRMF Location #4).

Scoring and weighting of alternatives completed through detailed multiple accounts analysis (Step 4) and value based decision process (Step 5);

WRMF Location #3 – East of Open Pits attained the highest rating ✓

- Smallest footprint
  - Least amount of biophysical impact
- Closest proximity to open pits
  - Lowest emmisions from haul traffic
  - Lowest cost

Tailings Management Facility (TMF) Siting Alternatives



Tailings Management Facility (TMF) Siting Alternatives

Three alternative locations considered for the Tailings Management Facility (TMF)

Scoring and weighting of alternatives completed through detailed multiple accounts analysis (Step 4) and value based decision process (Step 5);

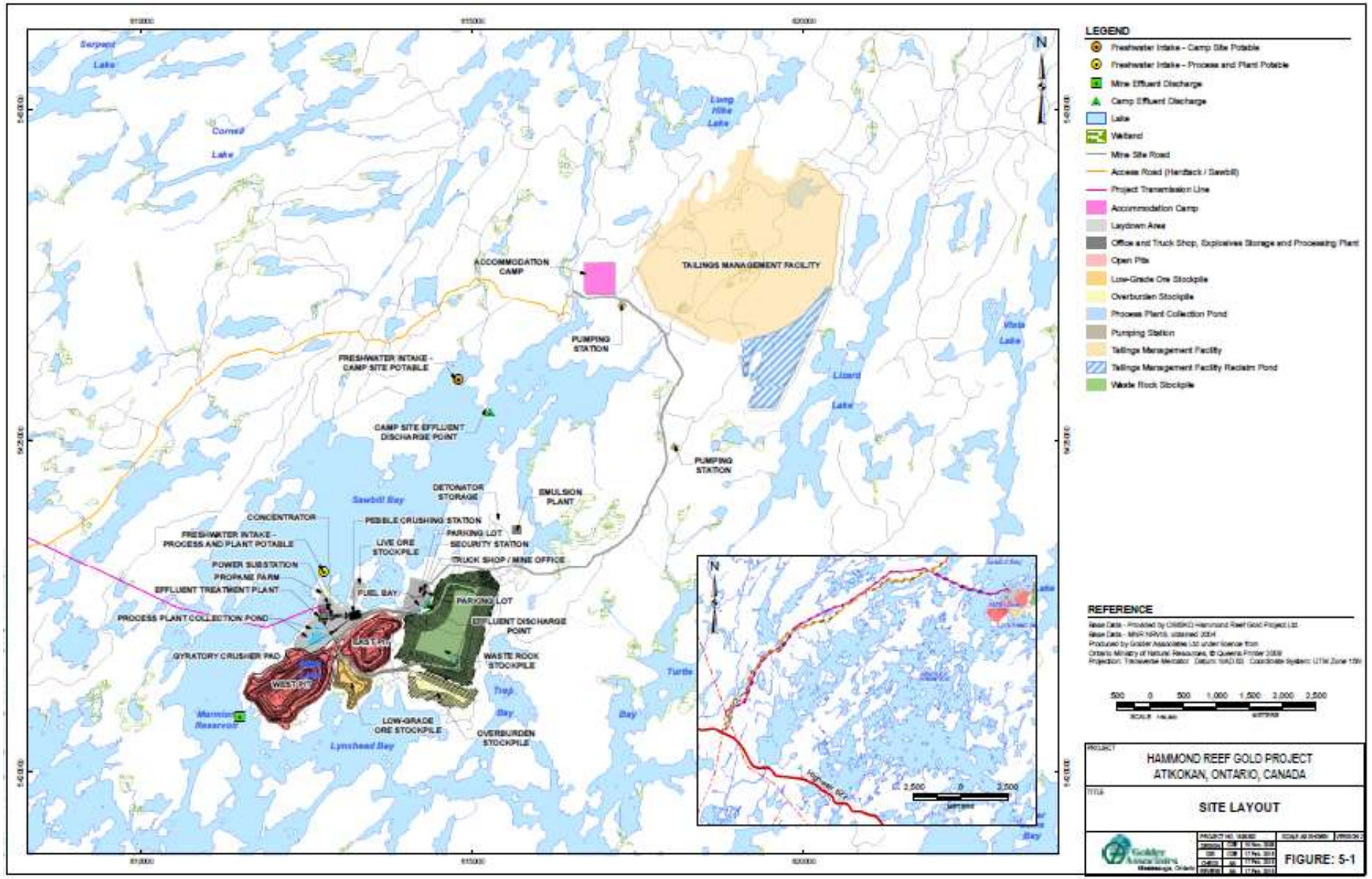
TMF Location #3 – Optimized Base Case attained the highest rating ✓

- Absence of impacts to cultural heritage resources
- Less obtrusive visual impacts (operation and post-closure)
- Lowest life of mine costs

Summary of Preferred Alternative Means and Mine Waste Disposal Locations

Project Component	Preferred Alternative
Ore Processing Method	Processing using cyanide including a cyanide destruction circuit
Access Road	Hardtack/Sawbill Road
Power Transmission Line	Transmission line along Hardtack/Sawbill Road and crossing Sawbill Bay
Worker Accommodation	On-site accommodation camp northeast of Sawbill Bay and West of the TMF
Sewage Treatment Technology & Location	Dedicated Package Sewage Treatment Plants for the camp and the mine site area
Water Discharge Location	Overland pipeline to the south with discharge to the south end of Sawbill Bay
Waste Rock Management Facility	Located immediately east of the open pit and mine processing plant
Tailings Management Facility	“Optimized “Base Case”, located approximately 9 km northeast of the processing plant

Preferred Site Layout



Conclusion

- Canadian Malartic is committed to resolve outstanding issues ,and is prepared to provide an appropriate level of information to the extent required to make a judgement on the project EA;

- Canadian Malartic is aiming to complete the EA process and receive acceptance by all government regulators (federal + provincial) **by end of spring 2017**;

- Next steps in 2017 include an opportunity study for the project to improve its feasability and economic aspects (return on investment).

HAMMOND REEF PROJECT

Hammond Reef gold project update

Town of Atikokan

September 2017







Agenda

- Submission of amended Environmental Assessment /Environmental Impact Study version 3
- Draining of Mitta Lake discussions
- Sulphate discharge and methylmercury



Version 3 EIS/EA Report

HAMMOND REEF PROJECT

Includes:

- A new Addendum with responses to comments received since the Version 2 EIS/EA (2013) and supporting documents
- A updated Alternative Assessment TSD with additional studies on access road and transmission line routing alternatives
- The entire Version 2 EIS/EA with supplemental text in the main body of the EIS/EA (in italic font) to inform the reader of additional information provided in the Addendum

- Comment responses are organized in summary tables with hyperlinks for easy navigation.

➢ <u>It is not a new EIS/EA</u>

- The Version 2 EIS/EA has merely been amended to include supplemental/clarifying information provided in response to comments and information requests
- The preferred alternatives and conclusions remain unchanged

Discussions on Mitta Lake

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Available information

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- The Hammond Reef orebody is located directly beneath Mitta Lake and therefore draining of Mitta Lake is required for the Project.
- Mitta Lake contains 1,277,764 m3 of water
- Mitta Lake is populated by fish (minows-bait fish)
- Profile sampling indicates that the water quality in Mitta Lake is similar to the water quality in Sawbill Bay.

Mitta Lake – CMC commitment :

- **Detailed planning and logistics for this activity has not been undertaken to date; but will be finalized with Indigenous groups input prior to the Construction Phase of the Project.**

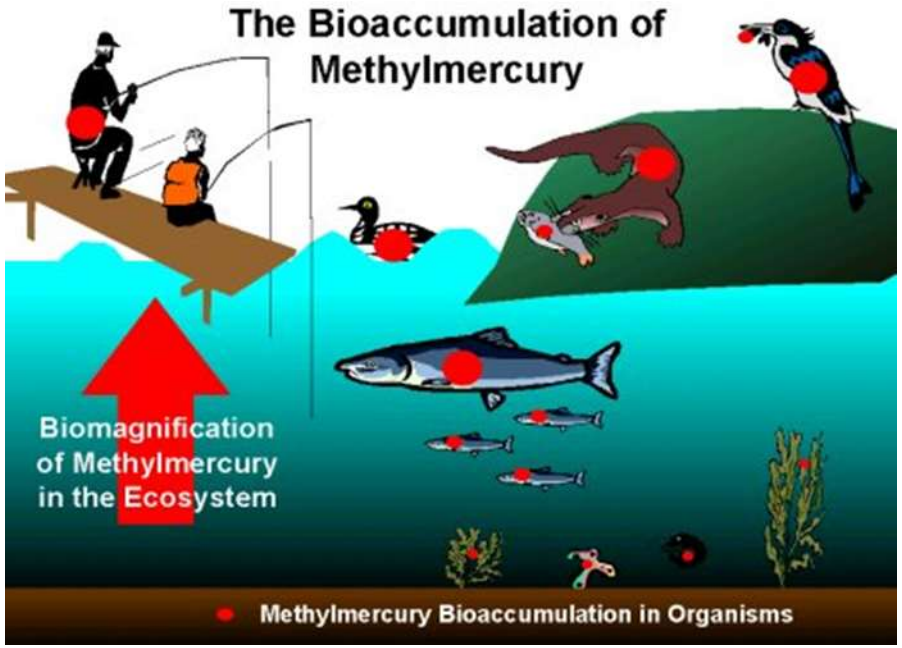
- **Discussions with Indigenous groups utilizing the RSA committee and the Métis consultation committee will ensure appropriate cultural and spiritual protocols are followed.**

Sulphate Discharge and Methylmercury

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- Mercury is an element found in rocks and sediments and is present in the sediments of Marmion Reservoir.
- Vegetation can uptake mercury from sediments
- When an area is flooded to create a reservoir, mercury in vegetation and lake bed sediments can be converted by bacteria in a process called *methylation* to create *methylmercury.*

- Methylmercury is absorbed by fish and is eliminated at a very slow rate.
- Mercury is passed on to organisms that consume the fish and concentrations *bio-accumulate*.
- Presently, some fish in Marmion Reservoir have elevated concentrations of mercury relative to Ontario consumption guidelines
- **The project is not expected to add mercury to the reservoir**



Project influence on Methylmercury?

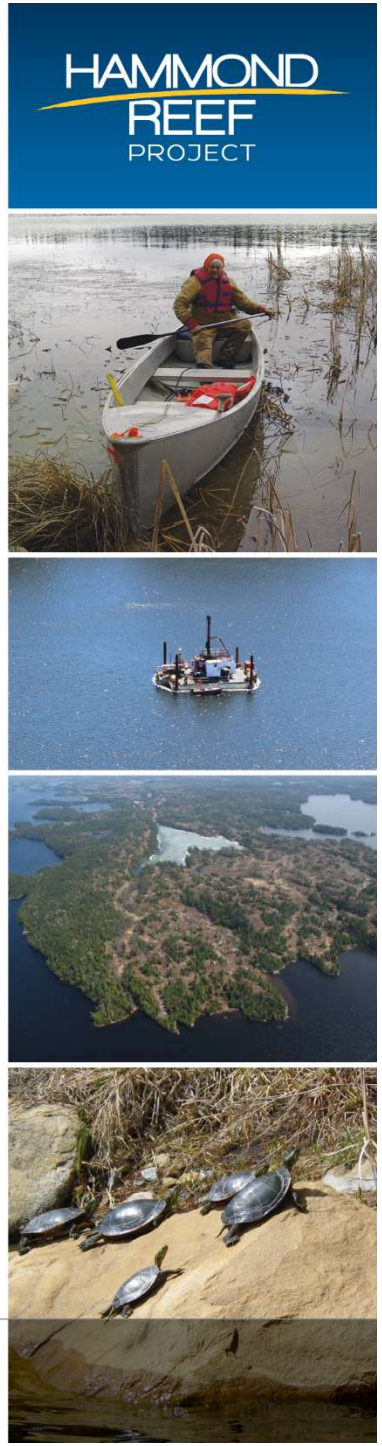
The influence of sulphate and other factors on methylmercury generation is an area of **active research;**

Influencing factors for a waterbody such as Marmion Reservoir:

- Many **natural sources of mercury** (e.g., upstream wetlands);
- A **large surface area** which influences photo-demethylation; and,
- **Fluctuating water levels** due to operation of the Raft Lake dam.

- **It is not possible to isolate the influence of a small change in a single parameter (i.e., sulphate) and accurately predict the effect on mercury concentrations.**

- Given the small predicted increase in sulphate concentrations, the project is not expected to change the conditions that influence methylmercury in Marmion Reservoir;
- CMC is committed to working with the Indeginous and Public partners on this important issue;
- Fish tissue sampling will be completed regularly during the project and the results will be shared.





Questions?

Thank you

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