



This is the 4th affidavit Erik A. Tornquist in this case and was made on July 18, 2013

No. S-132348
Vancouver Registry

IN THE SUPREME COURT OF BRITISH COLUMBIA

BETWEEN

PACIFIC BOOKER MINERALS INC.

PETITIONER

AND

**MINISTER OF THE ENVIRONMENT and MINISTER OF ENERGY, MINES,
AND NATURAL GAS**

RESPONDENTS

AFFIDAVIT

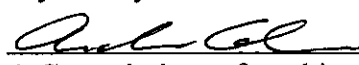
I, Erik Anders Tornquist, of 1380 Lorilawn Court, Burnaby, British Columbia, V5B 3N5, Consultant, SWEAR THAT:


1. I am the Chief Operating Officer and a Director of Pacific Booker Minerals Inc. ("Pacific Booker"), the Petitioner in this proceeding, and as such, I have personal knowledge of the facts hereinafter deposed to except where stated to be on information and belief, in which case I verily believe them to be true.
2. I make this affidavit in support of Pacific Booker's Amended Petition for Judicial Review.
3. On July 18, 2013, I received an envelope in the mail containing what appears to be an August 13, 2012 draft of the Recommendations of the Executive Director of the Environmental Assessment Office in respect of Pacific Booker's application for an

environmental assessment Certificate for the Morrison Copper/Gold Mine. Attached hereto as **Exhibit "A"** is a true copy of the envelope and the enclosed draft Recommendations.

4. I do not know who sent the envelope to me. Before today, I had never seen the draft Recommendations and was not aware that this document existed.

5. I note that the draft Recommendations do *not* recommend that Pacific Booker's application for an environmental assessment certificate be denied.

SWORN BEFORE ME at Vancouver, in)
the Province of British Columbia, this 18th)
day of July 2013.)
)
A Commissioner for taking Affidavits in)
British Columbia)


Erik A. Tomquist

ANDREA A. GLEN)
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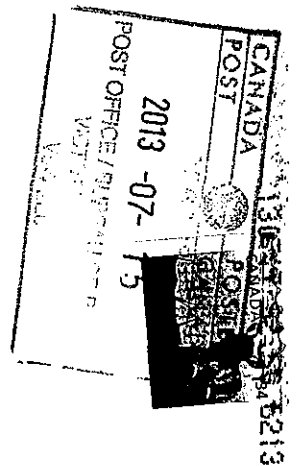
This is Exhibit A referred to in the affidavit of Erik A. Tornquist sworn before me at Vancouver, BC this 18th day of July 20 13

[Signature]

A Commissioner for taking Affidavits within British Columbia

01

Erik Tornquist
Pacific Bookers Minerals Inc.
1702 - 1166 Alberni St.
Vancouver BC
V6E 3Z3



130716 03:19 6212

In the matter of the
ENVIRONMENTAL ASSESSMENT ACT
S.B.C. 2002, c. 43
(Act)

and

in the matter of an
Application
for an
Environmental Assessment Certificate
(Application)

by

Pacific Booker Minerals Inc.
(Proponent)

for the

Morrison Copper/Gold Mine Project
(proposed Project)

August 13, 2012

Recommendations of the Executive Director

In accordance with the provisions of section 17(2)(b) of the *Environmental Assessment Act*, the Executive Director of Environmental Assessment Office makes the recommendations contained in this submission, for the reasons indicated, in connection with the application by Pacific Booker Minerals Inc. for an Environmental Assessment Certificate for the proposed Morrison Copper/Gold Mine Project.

A. ISSUE

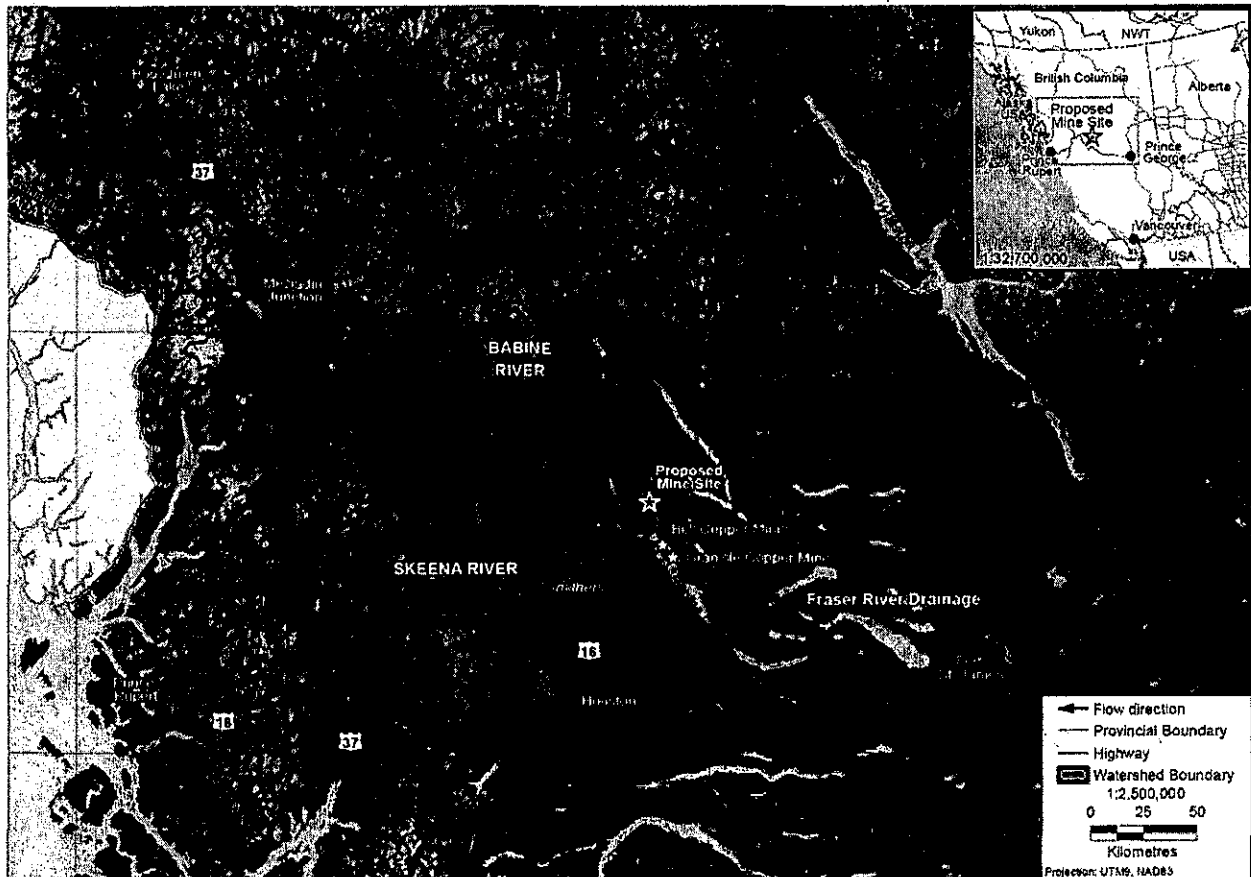
Decision by Ministers on the Application for an Environmental Assessment (EA) Certificate by Pacific Booker Minerals Inc. for the proposed Morrison Copper/Gold Mine Project (proposed Project).

B. BACKGROUND

1. Proponent and Project Description

The Proponent for the proposed Project is Pacific Booker Minerals Inc. (PBM), a publicly-traded, British Columbia-based mineral resource company with its head office in Vancouver.

The Proponent is proposing to develop a copper-gold-molybdenum mine in north-central British Columbia. The proposed Project is located on the shoreline of Morrison Lake, a 15 km long lake, on Crown Land. The closest communities to the mine site are Granisle, Houston and Smithers.



The proposed Project is based on a conventional truck-shovel open pit mine and copper flotation process plant that has been designed to produce an average of 160,000 tonnes of concentrate per year containing copper and gold. A separate molybdenum concentrate

would be produced. Over the expected 21-year mine life, the proposed Project would produce over 1.37 billion pounds of copper, 658,000 ounces of gold and about 10 million pounds of molybdenum.

The scope of the proposed Project consists of the following on-site and off-site components and activities:

- approximately 30,000 tonnes per day open pit mine and process plant;
- mill tailings storage facilities including containment dams;
- waste rock storage;
- site runoff, diversion and sediment control;
- ore and marginal ore storage;
- borrow pits, overburden and topsoil storage;
- sewage and waste water management facilities;
- water treatment facilities;
- groundwater and/or surface water use for monitoring and/or extraction;
- explosives transport, manufacturing plant and storage;
- an existing 138 kV transmission line from Babine Substation, crossing Babine Lake, to the Project site and a new 25-km extension of the transmission line from the Bell Mine site to the proposed Project site;
- a power substation at the proposed Project site;
- mine haul roads within the mineral property;
- new and/or existing dedicated barge and barge facilities;
- associated mine facilities such as assay buildings, ore load out facilities, labs, maintenance shops, warehouse, equipment lay down areas, office complex parking, change house, security building; and,
- routes for hauling the ore to the milling facility and for personnel access and delivery of supplies and materials to the site, including new or existing roads.

The proposed Project's total estimated capital cost is \$245 million during each of the two years of construction and \$89.5 million during each of the 210 years of operation.

The Proponent estimated that the two year construction period would generate an estimated 1,117 jobs each year, but due to the nature of construction, many of those jobs would be part time temporary or contract, which would not necessarily relate to 1,117 person years (or full time equivalent) of direct employment. The Proponent estimates a total of 225 jobs with the Proponent, 422 jobs with direct suppliers, 188 jobs of indirect employment and 282 jobs of induced employment.

The 210 year operations period is estimated to generate approximately 601 jobs per year. Again, those are not necessarily 601 full time positions, although jobs created in the operations phase are more likely to be full-time and longer than construction positions. The Proponent estimates a total of 251 jobs with the Proponent, 94 jobs with direct suppliers, 155 jobs of indirect employment and 101 jobs of induced employment.

The proposed Project would contribute an estimated \$104 million to Provincial Gross Domestic Product over the two year construction period and \$50 million during the 21~~0~~ years of operations.

During construction, the proposed Project is estimated to generate approximately \$22 million in government tax revenue, with approximately \$10 million payable to the federal government and \$12 million to the province. During the ~~construction operations~~ phase, the proposed Project is expected to contribute \$2.9 million in federal tax revenue and \$2.5 million in provincial tax revenue.

2. British Columbia Environmental Assessment Process

In September 2003, the Proponent submitted a Project Description to Environmental Assessment Office (EAO). EAO determined that the proposed Project was reviewable under the Act pursuant to Part 3 of the Reviewable Project Regulations (B.C. Reg. 370/02), because the proposed Project is a new mine facility that during operations would have a production capacity of greater than 75,000 tonnes per year of mineral ore.

EAO coordinated and chaired a multi-agency group (Working Group) that provided advice on the potential effects, mitigation measures and conditions required in the EA. The Working Group membership, as well as organization names, has changed significantly over the nine years of review, but the following agencies and First Nations have been engaged:

- **Provincial:** Ministry of Energy and Mines, Ministry of Environment, Ministry of Forests, Lands and Natural Resource Operations; and Ministry of Transportation and Infrastructure
- **Federal Agencies:** Canadian Environmental Assessment Agency, Health Canada, Fisheries and Oceans, Natural Resources Canada, Major Projects Management Office, Environment Canada; and Transport Canada
- **First Nations:** Lake Babine Nation, Yekooche First Nation, Gitanyow Nation, Gitxsan Nation
- **Local Government :** Village of Granisle

On September 28, 2009, the Proponent submitted their Application for evaluation to EAO. EAO did not accept the Application for review because it did not contain the information required by the Terms of Reference.

The Proponent provided a revised Application on May 28, 2010, which was evaluated by EAO with input from the Working Group. The Application was accepted for review on June 28, 2010. A 70-day public comment period on the Application was held and open houses occurred in Granisle, Smithers and Burns Lake.

On October 28, 2010, EAO issued a time limit suspension on the Application Review at the Proponent's request in order to provide time for the Proponent to fully respond to issues raised by the technical reviewers.

On December 16, 2010, EAO representatives met with representatives of the Proponent and the Canadian Environmental Assessment Agency (CEA Agency) and indicated that EAO had serious concerns about the long-term environmental liability of the proposed Project. EAO highlighted concerns with the proposed land-based waste rock storage, the plan for a mine drainage water collection and treatment system in perpetuity, and the potential impacts on water quality in the receiving environment.

On February 18, 2011, the Proponent advised EAO that they intended to revise the mine plan in order to reduce potential environmental risks associated with the original project design. On March 9, 2011, EAO wrote to the Proponent with a list of information requirements for the new waste and closure plans as well as information related to fish habitat compensation plans.

The Proponent submitted the required supplemental information in June 2011. Following a review of the information, EAO accepted the documents and the time limit suspension was lifted on July 27, 2011. An online-only public comment period was jointly initiated by EAO and CEA Agency on the new information submitted by the Proponent.

On September 29, 2011, at day 176 of the 180 day review period, EAO again suspended the review of the proposed Project because EAO was unable to develop conclusions on the potential for significant adverse effects to water quality and fish, sockeye salmon in particular.

Following the September 29, 2011 suspension, EAO commissioned ~~undertook~~ an external, third-party review of the Proponent's water quality, hydrogeology and fisheries effects assessments. These third-party reports, which were delivered to EAO in December 2011, confirmed that there was insufficient information to demonstrate that the proposed Project would not have significant adverse effects on water quality in the long term. The reports provided a number of recommendations for additional work.

EAO informed the Proponent that they must respond to the external review recommendations. EAO also shared the reports with the Working Group and First Nations and sought their input on any additional requirements that should be included in the Proponent's scope of work.

The Proponent provided EAO with an additional submission on January 31, 2012, entitled *3rd Party Review Response Report*. EAO again had this information reviewed by the external third-party hydro-geologist and retained a third party lake behaviour specialist to also examine the *3rd Party Review Response Report*. EAO indicated to the Proponent that, despite information contained in the *3rd Party Review Response Report*, there were still significant outstanding concerns, particularly as they related to water quality in Morrison Lake and potential impacts to sockeye salmon spawning areas.

On April 30, 2012, the Proponent submitted its final addendum, called *3rd Party Review Response Report – Addendum 1*. This report provided information on several significant new design options. Models which accompanied these proposed design changes have enabled EAO to develop conclusions on the proposed Project.

EAO has referred the Application to Ministers on August ~~XX3~~, 2012. Ministers have until September ~~4xx7~~, 2012 to make a decision, unless an extension is ordered in accordance with section 24(4) of the Act.

3. Federal Environmental Assessment Process

CEA Agency determined that a federal review was required for the proposed Project; that the review would be a comprehensive study, and the responsible authorities would include: Fisheries and Oceans Canada (DFO), ~~Transport Canada~~, and Natural Resources Canada.

Federal authorities actively participated in the EA of this proposed Project. Federal comments received during the cooperative review are reflected in this Assessment Report and have significantly informed the analysis and conclusions.

4. Other Approvals

EAO accepted the Proponent's application for concurrent review of the EA Certificate Application with an application for:

- Mining lease (Ministry of Energy and Mines)
- Crown Land License of Occupation for the proposed Transmission Line (Ministry of Forests, Land and Natural Resource Operations – MFLNRO)
- Occupant License to Cut (MFLNRO)
- Special Use Permit (MFLNRO)
- Road Use Permit (MFLNRO)
- Forest License to Cut (MFLNRO)

Under the *Concurrent Approval Regulation*, agencies must decide whether to grant the permits and approvals within 60 days of Ministers decision to grant an EA Certificate. In addition to these approvals, there are numerous other approvals which would be required, following the issuance of the EA Certificate and prior to the Proponent constructing the proposed Project. The principal provincial authorizations required to construct and operate the proposed Project are under the *Mines Act* and the *Environmental Management Act*.

C. DISCUSSION

1. Potential Significant Adverse Effects, Mitigation Measures and Proponent Commitments

The nature and scale of the proposed Project means that there are important considerations for the region and the province in terms of potential environmental economic, social, health and heritage effects. The following categories of Valued Components were considered during the EA for the proposed Project:

- Surface water quality and quantity
- Groundwater quality and quantity
- Aquatic resources
- Ecosystems and wetlands

- Wildlife resources
- Fish and fish habitat
- Employment and economy
- Land and resource uses
- Human and ecological health factors
- Heritage and archaeological resources

EAO considered all the issues and concerns raised by Lake Babine Nation, Yekooche Nation, Gitksan Nation, Gitanyow Nation, the Village of Granisle and the public as well as all provincial and federal agencies. During the review of the Application, a number of environmental and social issues were identified as having the potential for adverse residual effects. A description of the key effects and the corresponding mitigation measures and proposed conditions which would undertaken by the Proponent are found below.

Potential Effects to Water Quantity and Quality

Water dominated the discussions during the EA. The proposed open pit and mine infrastructure is located directly adjacent to Morrison Lake, a 15 km long lake which forms part of the headwaters of Skeena River and contains fish habitat and associated aquatic resources.

The largest potential for effects on Morrison Lake was determined to come from the main mine infrastructure components, including:

- The Tailings Storage Facility (TSF)
- The open pit; and,
- The water treatment plant and Morrison Lake effluent diffuser.

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
Seepage of contaminated water from the open pit into Morrison Lake on closure.	<p>Following closure, the Proponent must maintain the elevation of the pit lake at least one meter below the elevation of Morrison Lake.</p> <p>On closure, all PAG⁺ waste rock must be placed into the open pit and be capped with non PAG rock and glacial till. High PAG rock must be placed in the bottom of the open pit. The open pit area must be closed with a combination of pond,</p>	EAO undertook <u>commissioned</u> a third-party technical review of the Proponent's water quality and hydrogeology models. The review examined potential seepage from the open pit to Morrison Lake. The reviews found that, as long as the open pit remained below the

⁺ Potentially acid-generating rock is likely to react to water and oxygen and produce acid which can harm the receiving environment.

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
	<p>collector ditch around the perimeter, and an interior wetland.</p> <p><u>Following closure, the Proponent must maintain the elevation of the pit lake below the elevation of Morrison Lake to ensure no pit seepage discharge to Morrison Lake.</u></p> <p><u>Groundwater monitoring wells must be installed between the open pit and Morrison Lake to monitor potential seepage of contaminated water from the open pit to Morrison Lake.</u></p> <p><u>Morrison Lake water quality must be monitored to ensure changes to water quality in the lake are detected.</u></p> <p><u>All PAG² waste rock and any unmilled low grade ore must be fully flooded at final closure. High PAG rock and unmilled low grade ore must be placed in the bottom of the open pit. All PAG waste rock and low grade ore must be placed into the open pit and be capped with non-PAG rock and glacial till. Groundwater monitoring wells must be installed between the open pit and Morrison Lake to monitor potential seepage of contaminated water from the open pit to Morrison Lake.</u></p> <p><u>Morrison Lake water quality must be monitored annually in the area west of the open pit to ensure the predicted water quality of Morrison Lake is being met.</u></p>	<p>elevation of Morrison Lake, there would be negligible water quality effects from the open pit on Morrison Lake.</p> <p>Having considered these third-party reviews and input from the Working Group, EAO is satisfied that, with the <u>implementation of mitigation measures and monitoring</u>, there would be no significant adverse effects on water quality resulting from seepage from the open pit to Morrison Lake.</p>
<p>Seepage of tailings water from the TSF into ground and surface water, which</p>	<p>a) <u>The Proponent must design and install a geomembrane liner in the TSF area sufficient to ensure that the seepage rate from the TSF does not exceed 10m³/hr.</u></p>	<p>EAO undertook a third-party technical review of the Proponent's water quality and hydrogeology models and employed a third-party technical reviewer who</p>

² Potentially acid generating rock is likely to react to water and oxygen and produce acid which can harm the receiving environment.

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
<p>could eventually report to Morrison Lake and harm water quality.</p>	<p><u>b) Without restricting paragraph (a), if any seepage from the TSF to Morrison Lake or any streams occurs which exceeds any limits for seepage specified by MoE, the Proponent must:</u></p> <ul style="list-style-type: none"> <u>i. prepare a plan of measures to control the seepage in order to meet the limits</u> <u>ii. obtain approval of MoE for the plan, and,</u> <u>iii. implement the plan.</u> <p><u>c) Annual reports on updated groundwater seepage must be prepared by the Proponent and shared with EAO, MOE and MEM</u></p> <p>Proponent must line at least 96 percent of the TSF area with a geomembrane liner with seepage not to exceed 10m³/hr.</p> <p>The Proponent must monitor sulphate concentrations in groundwater and surface water downstream of the TSF on a monthly basis, subject to a water monitoring plan approved by the Ministry of Environment (MOE).</p> <p>If seepage occurs in Morrison Lake or receiving streams which exceeds any site specific water quality objectives approved under the <i>Environmental Management Act</i>, the Proponent must prepare, to the satisfaction of MOE, within 30 days, a plan to implement measures, and then implement the measures, in order to bring the effect within the objectives.</p>	<p>examined how a lined TSF would impact Morrison Lake. The reviews found that the TSF would have a negligible impact on water quality in Morrison Lake.</p> <p>Having considered these third-party reviews and input from the Working Group, EAO is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse effects on water quality resulting from seepage from the TSF to Morrison Lake.</p>

Potential impacts to Morrison Lake from treated effluent discharged through a water treatment plant.

- a) The Proponent must prepare an annual calculation of site water balance.
- b) If surplus water accumulates for more than two years and requires treatment according to the requirements of an EMA permit, the Proponent must:
 - i. construct a water treatment plant; and,
 - ii. collect, treat and discharge any excess contact water to Morrison Lake via a pipeline and diffuser.
- c) Any water discharged to Morrison Lake must meet - outside a mixing zone established by MoE - either British Columbia Water Quality Guidelines, Site Specific Water Quality Objectives, or an alternative requirement defined by the requirements of an EMA Permit.

The Proponent must operate a water treatment plant that produces an "end of pipe" water quality of treated effluent with concentrations of parameters which meet the concentrations used for the effects assessment presented in the Proponent's Application, specifically Addendum 1 to the *3rd Party Review Response Report*. These parameters include:

- Nitrate (90 mg/L);
- Sulphate (2000 mg/L);
- Aluminum (0.10 mg/L);
- Cadmium (0.0001 mg/L);
- Copper (0.007 mg/L);
- Iron (0.01 mg/L);
- Magnesium (50 mg/L if it is not present as magnesium sulphate) in the treated effluent;
- Selenium (0.0019 mg/L); and,
- Zinc (0.02 mg/L).

The Proponent must monitor Morrison

EAO undertook commissioned a third-party technical review of the Proponent's water quality models and employed a third-party technical reviewer who examined how an effluent diffuser would impact Morrison Lake. The reviews found that water quality would meet British Columbia Water Quality Guidelines outside a 40x100 meter mixing zone and that the effluent diffuser would not affect the long-term behaviour of Morrison Lake.

Having considered these third-party reviews and input from the Working Group, EAO is satisfied that, with the implementation of mitigation measures, there would be no significant adverse effects on water quality or the behaviour of Morrison Lake resulting from effluent discharged into Morrison Lake.

	<p>Lake water quality annually and if water quality does not meet any approved site specific water quality objectives approved under the <i>Environmental Management Act</i>, the Proponent must prepare, to the satisfaction of MOE, within 30 days, a plan to implement measures, and then implement the measures, in order to bring the effect within the objectives.</p>	
<p>Reduction in flow to Morrison River and level of Morrison Lake due to pit inflows</p>	<p><u>The Proponent must complete a plan, for the approval of the Department of Fisheries and Oceans and the Ministry of Forests, Lands and Natural Resource Operations, to measure year round water flows in Morrison River.</u></p> <p><u>Based on this plan, the Proponent must develop, for the approval of the Department of Fisheries and Oceans and the Ministry of Forests, Lands and Natural Resource Operations, an Instream Flow Requirement following the Instream Flow Incremental Methodology. The Instream Flow Requirement must be adhered to during operations. The Proponent must complete a plan, to the approval of the DFO and FLNRO, to measure year round water flows in Morrison River.</u></p> <p><u>The Proponent must develop, for the approval of the DFO and FLNRO, an Instream Flow Requirement following the Instream Flow Incremental Methodology. The Instream Flow Requirement must be adhered to during operations.</u></p> <p><u>An annual site water balance must be calculated and submitted to Ministry of Energy and Mines. If surplus water accumulates for more than two years, the Proponent must construct a water treatment plant and collect, treat and discharge any excess contact³ and non-contact water to Morrison Lake via a pipeline and diffuser.</u></p>	<p>EAO, having considered input from the Working Group, is satisfied that inflows to the open pit from Morrison Lake can be managed and that, with the implementation of mitigation measures, there will be no significant adverse effects to water quantity in Morrison Lake or Morrison River.</p>

³ Water which has come into contact with acid generating rock.

Potential Effects to Fish, Fish Habitat and Aquatic Resources

Morrison Lake and its tributary streams support communities of at least 16 species of resident and anadromous fish, including three species of Pacific salmon which migrate to Morrison Lake via the Skeena and Babine rivers. Babine Lake sockeye were significantly enhanced in the late 1960s, which saw spawning channels and flow controls established on several rivers. As a result, almost 90 percent of all sockeye salmon in Skeena River come from areas around Babine Lake.

The analysis shows that, while Morrison Lake may make a relatively small contribution to the overall numbers of sockeye salmon (in the range of 2.5-3.5 percent depending on the years counted) produced from Babine Lake, this number underestimates Morrison Lake's value-contribution as one of the largest natural stocks of non-hatchery (unenhanced) sockeye salmon on the Babine Lake system. Natural stocks are valued for their genetic diversity.

Sockeye salmon comprise about 72 percent of the open water fish in Morrison Lake.

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
Direct habitat loss due to reductions in flow in several creeks.	The Proponent must work with DFO, MOE and Lake Babine Nation to finalize and agree upon a Fish Habitat Compensation Plan which would compensate for any proposed Project activities that result in Harmful Alteration, Disruption or Destruction of fish and fish habitat as defined under the federal <i>Fisheries Act</i> .	EAO, having considered input from the Working Group, is satisfied that <u>with</u> a Fish Habitat Compensation Plan can be developed to the satisfaction of the DFO and that, with the implementation of mitigation measures, there will be no significant adverse effects to fish habitat on Morrison Lake.
Seepage of tailings water into groundwater, which could affect shoreline spawning sockeye salmon.	<p>a) <u>The Proponent must design and install a geomembrane liner in the TSF area sufficient to ensure that the seepage rate from the TSF does not exceed 10m³/hr.</u></p> <p>b) <u>Without restricting paragraph (a), if any seepage from the TSF to Morrison Lake or any streams occurs which exceeds any limits for seepage specified by MoE, the Proponent must:</u></p>	EAO undertook <u>commissioned</u> a third-party technical review of the Proponent's water quality and hydrogeology models and employed a third-party technical reviewer who examined how a lined TSF would impact Morrison Lake. The reviews found that the TSF would have a negligible impact on water

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
	<p><u>i. prepare a plan of measures to control the seepage in order to meet the limits</u></p> <p><u>ii. obtain approval of MoE for the plan, and,</u></p> <p><u>iii. implement the plan</u></p> <p><u>c) Annual reports on updated groundwater seepage must be prepared by the Proponent and shared with EAO, MOE and MEM</u></p> <p>Proponent must line at least 96 percent of the TSF area with a geomembrane liner with seepage not to exceed 10m³/hr.</p> <p>The Proponent must monitor sulphate concentrations in groundwater and surface water downstream of the TSF on a monthly basis, subject to a water monitoring plan approved by MOE.</p> <p>If seepage occurs in Morrison Lake or receiving streams which exceeds any site specific water quality objectives approved under the <i>Environmental Management Act</i>, the Proponent must prepare, to the satisfaction of MOE, within 30 days, a plan to implement measures, and then implement the measures, in order to bring the effect within the objectives.</p>	<p>quality in Morrison Lake.</p> <p>Having considered these third-party reviews and input from the Working Group, EAO is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse effects on shoreline sockeye salmon spawning areas resulting from seepage from the TSF.</p>
<p>Reductions in lake level could impact high values spawning areas in Morrison River</p>	<p><u>The Proponent must complete a plan, to the approval of DFO and FLNRO, to measure year round water flows in Morrison River.</u></p> <p><u>Based on this plan, the Proponent must develop, for the approval of DFO and the FLNRO, an Instream Flow Requirement following the Instream Flow Incremental Methodology. The Instream Flow Requirement must be adhered to during operations.</u></p> <p><u>The Proponent must complete spawning</u></p>	<p>EAO, having considered input from the Working Group, is satisfied that inflows to the open pit from Morrison Lake, along with other water used during proposed operations, can be managed and that, with the implementation of mitigation measures and monitoring, there will be no significant adverse effects to water quantity in</p>

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
	<p><u>habitat survey and mapping along the full length of Morrison River to support of the development of the Instream Flow Requirement. The Proponent must prepare a plan for the spawning survey for EAO's approval. The activities in the approved plan must be completed prior to the Proponent applying for <i>Mines Act/Environmental Management Act</i> permits. The Proponent must complete a plan, to the approval of DFO and FLNRO, to measure year round water flows in Morrison River.</u></p> <p><u>Based on this plan, the Proponent must develop, for the approval of DFO and the FLNRO, an Instream Flow Requirement following the Instream Flow Incremental Methodology. The Instream Flow Requirement must be adhered to during operations.</u></p> <p><u>The Proponent must complete spawning habitat survey and mapping along the full length of Morrison River to support of the development of the Instream Flow Requirement.</u></p>	<p>Morrison Lake or Morrison River.</p>
<p>Treated effluent discharged through a water treatment plant could pool on the bottom of Morrison Lake, create "hotspots" of concentrated effluent or change long term lake</p>	<p><u>a) The Proponent must prepare an annual calculation of site water balance.</u></p> <p><u>b) If surplus water accumulates for more than two years and requires treatment according to the requirements of an EMA permit, the Proponent must:</u></p> <ul style="list-style-type: none"> <u>i. construct a water treatment plant;</u> <u>and,</u> <u>ii. collect, treat and discharge any excess contact water to Morrison Lake via a pipeline and diffuser.</u> <p><u>c) Any water discharged to Morrison</u></p>	<p>EAO undertook <u>commissioned a third-party technical review of the Proponent's water quality models and employed a third-party technical reviewer who examined how an effluent diffuser would impact Morrison Lake. The reviews found that water quality would meet British Columbia Water Quality Guidelines outside a 40x100 meter mixing zone, that the effluent diffuser would likely</u></p>

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
<p>behavior.</p>	<p><u>Lake must meet - outside a mixing zone established by MoE - either British Columbia Water Quality Guidelines, Site Specific Water Quality Objectives, or an alternative requirement defined by the requirements of an EMA Permit.</u></p> <p>The Proponent must operate a water treatment plant that produces an "end of pipe" water quality of treated effluent with concentrations of parameters which meet the concentrations used for the effects assessment presented in The Proponent's Application.</p> <p>The Proponent must monitor Morrison Lake water quality annually and if water quality does not meet any approved site specific water quality objectives approved under the <i>Environmental Management Act</i>, the Proponent must prepare, to the satisfaction of MOE, within 30 days, a plan to implement measures, and then implement the measures, in order to bring the effect within the objectives.</p>	<p>work as designed and would not result in the "pooling" of effluent in the bottom of Morrison Lake and that the effluent diffuser would not affect the long-term behaviour of Morrison Lake.</p> <p>Having considered these third-party reviews and input from the Working Group, EAO is satisfied that, with the implementation of mitigation measures, there would be no significant adverse effects on water quality or the behaviour of Morrison Lake resulting from effluent discharged into Morrison Lake.</p>
<p>Concerns over gaps in understanding fish use and populations in Morrison Lake</p>	<p><u>The Proponent must complete, prior to applying for <i>Mines Act/Environmental Management Act</i> permits, a baseline fish tissue sampling program in a reference lake (Tochka Lake or another lake approved by MoE). The program must be developed and implemented to the satisfaction of MoE and MFLNRO.</u></p> <p><u>The Proponent must complete spawning surveys along the east shore of Morrison Lake from the confluence of Morrison Lake and Olympic Creek to the outflow of Morrison River from Morrison Lake, including dive surveys, to identify areas of shoreline and deep water spawning habitat.</u></p>	<p>EAO, having considered the input of the Working Group, with a particular emphasis on comments from First Nation groups, is satisfied that the additional research and monitoring would enhance understanding of the fish populations in Morrison Lake and River.</p>

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
	<p><u>The Proponent must prepare and implement a plan, in consultation with the Lake Babine Nation and the Skeena Fisheries Commission, to measure annual fish escapement into Morrison River in order to advance the knowledge of fish populations, behaviour and distribution in Morrison Lake. The plan must be developed for the approval of the Department of Fisheries and Oceans and EAO</u></p> <p><u>The Proponent must develop a plan, in consultation with Lake Babine Nation and Skeena Fisheries Commission and MoE, for the purposes of monitoring metal concentrations in resident Morrison Lake fish tissue. The Proponent must provide the plan to EAO for its approval. Once approved, sampling under the program must commence prior to the Proponent applying for a <i>Mines Act</i> or <i>Environmental Management Act</i> permit and must continue until mine closure. The plan must be implemented, and may be revised under EMA permit requirement beyond the first year of implementation</u></p> <p><u>The Proponent must develop, for EAO's approval, a plan to collect additional biological, physical and chemical information on Morrison Lake to further validate effects assessment provided during the EA. All information in the approved plan must be collected prior to the Proponent applying for <i>Mines Act</i> or <i>Environmental Management Act</i> permits. The plan must include, at the minimum, the following: Additional baseline information on water quality, water chemistry, temperature and lake behaviour, including information on currents, flow regimes and lake turnover.</u></p>	

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
	<p>The Proponent must complete spawning surveys along the east shore of Morrison Lake from the confluence of Morrison Lake and Olympic Creek to the outflow of Morrison River from Morrison Lake, including dive surveys, to identify areas of shoreline and deep water spawning habitat.</p> <p>The Proponent must complete spawning habitat survey and mapping along the full length of Morrison River to support of the development of the Instream Flow Requirement.</p> <p>The Proponent must prepare and implement a plan, in consultation with Lake Babine Nation and Skeena Fisheries Commission, to measure annual fish escapement into Morrison River in order to advance the knowledge of fish populations, behaviour and distribution in Morrison Lake.</p>	

Potential Effects to Wildlife, Wildlife Habitat, Ecosystems and Wetlands

The Application identifies and examines potential effects to ecosystems and wetlands, with a particular emphasis on those ecosystems considered rare or sensitive or that are used by grizzly bear, moose, mule deer, wolf, fisher, wolverine, American marten, red squirrel and waterfowl. Moose in particular are strongly associated with wetlands and are known to use the wetlands at the proposed TSF location. Potential effects identified in the Application included loss and degradation of ecosystems and wetland habitat due to vegetation clearing from the mine infrastructure and transmission line.

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
<p>Loss of wetland habitat and dry grass ecosystems for deer and moose.</p>	<p>Proponent must develop a Vegetation and Ecosystems Management Plan which will provide information to direct the Proponent's actions with respect to maintaining and promoting healthy vegetation and terrestrial and wetland ecosystems in areas associated with mine development. The Plan must be to the approval of MOE and FLNRO.</p>	<p>EAO, having considered input from the Working Group, is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse effects on ecosystems.</p>
<p>Concerns about uptake of metals into the tissue of animals such as moose, deer and bear.</p>	<p><u>The Proponent must develop, in consultation with the Lake Babine Nation and MoE, and for the purposes of monitoring the potential for uptake of metals in tissue, a plan to sample bear, deer, and moose tissues within the Local Study Area as described in the Proponent's original Application for an Environmental Assessment Certificate. The Proponent must provide the plan to EAO for its approval. The plan must be implemented.</u> The Proponent must develop, in consultation with Lake Babine Nation and for the purposes of monitoring the potential for uptake of metals in tissue, a plan to sample bear, deer, and moose tissues within the Local Study Area as described in the Proponent's original Application for an EA Certificate. The Proponent must provide the plan to EAO for its approval. The plan must be implemented.</p>	<p>EAO, having considered input from the Working Group, is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse effects on wildlife.</p>

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
Potential bird electrocutions from the power line.	The Proponent must use a design to minimize bird electrocutions by deterring nest building or perching on power poles through design considerations as well as adopting a design consistent with BC Hydro requirements.	EAO, having considered input from the Working Group, is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse effects on wildlife.
Potential impacts to wildlife such as grizzly bear, moose, deer, Western toad and other SARA listed species.	<p>Proponent must develop a Wildlife and Wildlife Habitat Management Plan which will provide procedures for minimizing and managing impacts to wildlife from routine mine activities, provide a framework for the development and implementation of wildlife monitoring programs, and processes for improving mitigation and management measures through adaptive management. The Plan must be to the approved by at of MOE and FLNRO. It will <u>must</u> include the following elements:</p> <ul style="list-style-type: none"> • Measures to preserve and protect wetland/riparian habitats; • Measures to reduce impacts to moose, deer, grizzly bear and other furbearers; • Measures to reduce bear/human conflicts; • Measures to expedite the return to productive habitat of riparian habitats; • Measures, such as trials during operations, to expedite the tailings beach reclamation; • Measures to mitigate impacts to western toad breeding sites; • Development of an Active Migratory Bird Nest Survey to reduce the likelihood of destroying bird nests; • Undertake additional research and surveys to assess habitat and use by the Olive-sided Flycatcher; and, 	EAO, having considered input from the Working Group, is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse effects on wildlife.

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
	<ul style="list-style-type: none"> Undertake additional research and assessment to mitigate the impacts of potential for amphibian crossings areas on the main access road. 	

Potential Social and Economic Effects

The Proponent's Application included a *Socio-Economic Baseline Study Report* which focused on the Village of Granisle and the nearby Lake Babine Nation communities. The Village of Granisle was constructed for the (now closed) Bell and Granisle Copper Mines. While the current population is only about 300, it still has the primary infrastructure to accommodate 2,000 people.

The Application says that about 1,117 jobs will be created during the two year construction period, which would generate about \$22 million per year in direct tax revenue, of which nearly \$12 million would go the province. During operations, the Application estimates about 601 jobs and \$5.4 million a year in direct federal and provincial taxes.

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
<p>Increased demand on infrastructure and services in the Village of Granisle.</p>	<p>The Proponent signed a Memo of Understanding (MOU) with the Village to address their concerns and to create a framework to resolve identified issues.</p> <p>Proponent must develop a Social Effects Management Plan to address impacts to local communities such as Granisle, Tachet, Smithers Landing and Lake Babine Nation Communities. The Plan <u>must be approved by EAO and will provide a framework for implementing strategies to manage potential social, economic, and cultural changes anticipated in response to the Project, as experienced by local residents and communities.</u></p> <p>The Proponent must hold at least one job/business fair in both Granisle and a second community (e.g. Burns Lake or</p>	<p>EAO, having considered input from the Working Group, is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse social or economic effects.</p>

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
	<p>Smithers), within one year of the commencement of the Project's construction to inform local residents and businesses of upcoming opportunities for employment and contracts as well as the requirements for obtaining these positions, including skills and certifications.</p> <p>The Proponent must complete, in collaboration with the Village of Granisle and Lake Babine Nation, within one year prior to the commencement of construction, a skill inventory and needs analysis.</p> <p>The Proponent must establish a Community Sustainability Advisory Committee (CSAC) comprising representatives from the Village of Granisle and Lake Babine Nation. The purpose of CSAC is to identify, resolve, and monitor any issues raised by the community with respect to the Project. CSAC must be established within one year of the commencement of the Project's construction.</p> <p>The Proponent must hire a Community Liaison to act as the Proponent's primary point of contact for public and local organizations on community issues. This position must also oversee CSAC and facilitate implementing elected programs and initiatives.</p>	
<p>Impacts to Tukki Hunting Lodge satellite camp on Morrison Lake.</p>	<p>The Proponent has negotiated a mutually satisfactory agreement with the owners of Tukki Lodge which addresses their concerns.</p>	<p>EAO, having considered input from Tukki Lodge, is satisfied that, with the implementation of mitigation measures, there would be no significant adverse social or economic effects.</p>

Key Potential Effects	Mitigation Measure / Commitment	EAO Analysis and Conclusions
<p>Impacts to Oookpik Wilderness Lodge on Babine Lake.</p>	<p>The Proponent discussed a compensation package with the owners of Oookpik Lodge, but the parties could not come to a mutually acceptable agreement.</p> <p>In the absence of a negotiated agreement, the Proponent has committed to measures to address the effects of the proposed Project on the operations and business of Oookpik Lodge, including reducing speed and volume of mine traffic on haul roads, improved road maintenance and managing blasting noise.</p>	<p>EAO, having considered input from Oookpik Wilderness Lodge, is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse social or economic effects.</p>
<p>Impacts to Lake Babine Nation trappers with trap lines in the area of the proposed Project.</p>	<p>The Proponent must compensate Lake Babine Nation, as requested in the July 16, 2010 letter from Lake Babine Nation, for the impact of the Project on Trap-line T049. The Proponent must provide one year notification to the trap-line holder of the commencement of construction.</p>	<p>EAO, having considered input from Lake Babine Nation, is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse social or economic effects.</p>
<p>Impacts to Canfor's forestry tenure due to loss of access to mature timber.</p>	<p>Proponent must develop a Social Effects Management Plan. A component of that plan is to coordinate timber removal from the proposed Project site with Canfor and develop mitigation measures specific to address Canfor's interests, including additional information collection on timber volume; and potentially compensating for Canfor's marginal cost to harvest timber elsewhere; and, ensuring consistency with land use planning timber harvest objectives.</p>	<p>EAO is satisfied that, with the implementation of mitigation measures and monitoring, there would be no significant adverse social or economic effects.</p>

Conclusions on Potential for Significant Adverse Effects

Overall, the assessment and mitigation measures proposed in the final addendums to the original Application for the above-noted issues were considered reasonable and acceptable to EAO, the Working Group and Yekooche Nation, Lake Babine Nation and Gitxsan and Gitanyow Nations.

EAO considered that the major design proposals, including of the geomembrane liner for the TSF; submerging waste rock in the open pit on closure; construction of a water treatment plant in the early stages of construction and operations; the requirement for an Instream Flow Requirement for Morrison River; additional research and inventory on the physical behaviour and fish habitat of Morrison Lake; and, an ongoing monitoring plan for Morrison Lake (fully implemented subject to *Environmental Management Act* permit conditions) - would result in no significant residual adverse effects to environmental or health resources.

EAO's assessment of economic effects, including the existing forest industry and tourism operations concluded that there would be no adverse economic effects resulting from the proposed Project.

EAO assessed the project design, location and mitigation measures proposed to identify and protect any archaeological or heritage resources, and concludes that there would be no residual adverse effects.

EAO assessed the Proponent's Social Effects Management Plan and the MOU signed with the Village of Granisle and concluded there would be no significant adverse social effects.

The potential effects to Gitxsan, Gitanyow, Yekooche and Lake Babine Nation aboriginal rights and title is further discussed in the next section "Strength of Asserted Rights".

2. First Nations' Asserted Rights and Title

The proposed Project is within the asserted traditional territory claimed by Lake Babine Nation and Yekooche First Nation.

In addition to these two First Nations, EAO consulted with Gitxsan and Gitanyow Nations, who indicated that, while the proposed Project was not within their asserted traditional territory, their rights to access salmon on Skeena River could be affected by the proposed Project. EAO consulted the Gitxsan and Gitanyow Nations on this basis.

Lake Babine Nation

EAO-led Consultation

Lake Babine Nation was kept fully informed of progress of the EA and was provided with all information sent to the Working Group. Representatives of Lake Babine Nation Chief and Council participated in the review from about 2005 onwards. A Lake Babine Nation Councillor with a Natural Resources Portfolio was the primary contact on the Working Group. Prior to 2005, EAO had been engaging with a group called Nedo'ats Hereditary Chiefs, who EAO, at that time, understood to speak for Lake Babine Nation rights and title. After 2005, Chief and Council clarified that they were the appropriate contact to

address Lake Babine Nation rights and title.

In December 2008, the Proponent filed suit against Lake Babine Nation, alleging damages relating to a press release made by the Chief of Lake Babine Nation. In March 2009, Lake Babine Nation filed a defense and counterclaim. These suits influenced much of the communication between EAO, the Proponent and Lake Babine Nation over the next several years. The Proponent rescinded its suit in 2009 and the parties eventually reached an agreement for Lake Babine Nation to re-engage in discussions with the Proponent. In March 2012, Lake Babine Nation and the Proponent signed an MOU.

EAO met with Lake Babine Nation Chief and Council regularly for government-to-government discussions. EAO and the Proponent provided significant capacity funding to Lake Babine Nation during the pre-Application and Application Review stages of the EA. Lake Babine Nation was invited to comment on all assessment related documents including the draft First Nations Consultation Report, the draft Assessment Report, and the draft Table of Conditions. All comments were fully considered by EAO and incorporated into the final versions.

~~EAO and the Proponent provided significant capacity funding to Lake Babine Nation during the pre-Application and Application Review stages of the EA.~~

Proponent-led Consultation

Prior to and after EAO's issuance of the proposed Project's section 10 and 11 Orders (outlining the scope, methods and procedures for the EA), the Proponent engaged with Lake Babine Nation.

During the pre-Application period, the Proponent's consultation activities focused on:

- initiating consultation, including letters, emails, telephone calls and initial meetings confirming nature and scope of the proposed Project and objectives of the consultation process;
- providing Project-related information as required, including maps and figures, work plans, presentations, and studies and meeting materials;
- identifying key interests of Lake Babine Nation for the purposes of the EA;
- arranging and participating in open houses to allow Lake Babine Nation communities to review the proposed Project and EA-related information;
- seeking input on the nature and extent of Lake Babine Nation traditional and current use of the area, and how the proposed Project may affect their Aboriginal interests;
- signing an EA Process Funding Agreement with Lake Babine Nation;
- providing copies of the Application to Lake Babine Nation for screening and review purposes, as required by EAO; and,
- attempts to entering into an MOU about the proposed Project.

During the Application review period, the Proponent's consultation activities included:

- distributing notices regarding the Application submission and providing copies of the Application to Lake Babine Nation for review and comment;
- participating in EAO-led Open Houses in Burns Lake, Fort Babine and Tachet;
- providing funding for additional field work related to the location of mine infrastructure and sockeye salmon spawning areas; and,
- addressing issues raised by Lake Babine Nation Chief and Council and their consultants.
- Signing an MOU with the Lake Babine Nation in March 4, 2012.

The MOU had been confidential until late July 2012. Now that the MOU between the Proponent and the Lake Babine Nation has been made public, EAO incorporated a number of aspects of components of the MOU into the Table of Conditions ~~specific terms of the MOU are confidential, however, a number of aspects of the MOU, specifically those related to long term monitoring of impacts to fish, wildlife and water quality, environmental monitoring, have been incorporated into the Table of Conditions.~~

Key Issues Raised by Lake Babine Nation

Lake Babine Nation were active participants in the EA process, taking part in Working Group meetings, meeting directly with EAO on numerous occasions and with the Proponent occasionally. They also provided written feedback on their perspectives and interests with respect to the proposed Project as well as a number of technical reports, primarily related to fish and water quality on Morrison and Babine Lake.

During the pre-Application and Application Review stages of the EA, Lake Babine Nation advised EAO of a wide range of concerns related to the proposed Project. Those issues are primarily focused in the following areas:

- cumulative impacts to water quality in Babine Lake and Babine River due to the now closed Bell and Granisle Mines;
- impacts to wildlife and wildlife habitat;
- impacts to fish and fish habitat;
- incorporation of traditional knowledge into studies and research;
- appropriate engagement of the five Lake Babine Nation communities into decision-making/consultation;
- impacts to traditional harvesting activities;
- jobs and economic opportunities; and,
- impacts on trapping activities of Lake Babine Nation trap line holders.

During the review of the Application, much of the focus of Lake Babine Nation was on potential impacts to water quality and fish in Morrison Lake and Babine Lake and they continued to express concerns regarding existing impacts from Bell and Granisle Copper Mines, which closed in the 1990s.

Many of the major mine design changes made through the EA process by the Proponent, as well as the third-party review ~~undertaken~~ commissioned by EAO, were intended to address the key issues of impacts to water quality and fish, values which are central to

the aboriginal rights of Lake Babine Nation. It was only when the last major mine design changes were proposed by the Proponent in April 2012 when EAO, with the advice of the third-party technical reviewers, was able to evaluate the effects on the proposed Project on water quality, fisheries and aquatic habitat and develop conclusions about the potential for significant adverse effects, using the six significance factors.⁴ The key mitigation measures for these potential effects are listed on pages 8 to 18 of this report. EAO determined that the magnitude of the effects was not significant, and with the implementation of the proposed mitigation measures and the legally-binding conditions on the Proponent, there would be no significant residual adverse effects from the Project on water quality and fisheries resources, nor would the proposed Project result in significant adverse impacts on Lake Babine Nation aboriginal rights to hunt and fish in their traditional territory.

In their final submission, LBN indicate ...

Strength of Asserted Rights

The Supreme Court of Canada, in its 2004 decision on *Haida Nation v. British Columbia (Minister of Forests)* ("*Haida*"), made it clear that the degree of potential impact of a government decision is a key factor in determining the requisite degree of consultation and accommodation. EAO's preliminary assessment, based on available information, was that the Crown's duty to consult Lake Babine Nation lay at the deep end of the *Haida* spectrum for consultation.

It is EAO's assessment, based on current information available to it, that Morrison Lake, Morrison River, the Babine Archipelago and the lands surrounding this area were part of the broader territory used by Lake Babine Nation for traditional activities associated with the typical Carrier annual round, and that, consequently, there is a strong *prima facie* case in support of the assertion that aboriginal rights are exercisable in the proposed Project area. Moreover, it is EAO's assessment that there is a moderate to strong *prima facie* case in support of Lake Babine Nation's assertion of aboriginal title to the area in which the proposed Project is to be situated. It is important to note that this conclusion is a *prima facie* determination made in order to discharge EAO's *Haida* analysis and is focused on the site of the proposed Project. This analysis is not meant to apply to any other part of Lake Babine traditional territory; this assessment is only being made for the purpose of the proposed Project.

Accommodation

The Proponent participated in a pre-Application and Application review consultation program with Lake Babine Nation as summarized earlier in this report. However, due to the litigation between the Proponent and Lake Babine Nation and the challenges in communication flowing from that litigation, many of the major design changes to the proposed Project intended to address issues raised by Lake Babine Nation were identified and facilitated by EAO based on government-to-government discussions with Lake Babine Nation Chief and Council. While the Proponent was not directly involved with Lake Babine Nation in those discussions, they actively supported the work through

⁴ Magnitude, extent, duration and frequency, probability, reversibility, and context.

design changes and funding for Lake Babine Nation to undertake field work. The Proponent also signed an MOU with Lake Babine Nation during the final stages of the EA.

Issues raised by Lake Babine Nation and Gitanyow/Gitksan Nations were largely the drivers behind many of the major design changes and research conditions which occurred through the EA review. EAO ~~undertook~~ commissioned a number of third-party reviews (by a professional fisheries biologist, a professional geologist/hydro geologist and a professional engineer/lake behaviour specialist) to examine in more details the issues raised by Lake Babine Nation to ensure that appropriate mitigations were put in place. In particular, some of the accommodations to address concerns include:

- The Proponent committed to lining 96 percent of the TSF with a geomembrane liner to vastly reduce seepage and thus potential effects upon sockeye salmon spawning areas. This is reflected in EAO's Table of Conditions.
- EAO engaged a third-party lake behaviour specialist to review issues related to "hotspots" and areas of higher effluent concentration. The review indicated that the Proponent's commitment to a geomembrane liner would effectively eliminate this concern.
- The Proponent has committed to working with Lake Babine Nation and DFO in measuring annual fish escapement into Morrison River and advancing the knowledge of the fish populations, behaviour and distribution in Morrison Lake. This is reflected in EAO's Table of Conditions.
- The Proponent committed to spawning surveys in Morrison River to better quantify the potential effect of the reduction in flow due to the proposed mine. They would also be required to develop an Instream Flow Requirement for Morrison River. This is reflected in EAO's Table of Conditions.
- The Proponent committed to an ongoing monitoring program of bear, deer and moose tissues as well as fish samples. The sampling program would be developed in conjunction with Lake Babine Nation and a component of the monitoring work would be completed by Lake Babine Nation members. This is reflected in EAO's Table of Conditions.
- The Proponent committed to an ongoing water quality monitoring program. The sampling program would be developed in conjunction with Lake Babine Nation and a component of the monitoring work would be completed by Lake Babine Nation members. This is reflected in EAO's Table of Conditions.
- The Proponent committed to compensate Lake Babine Nation trap-line holders for the time their trap-line would be unavailable due to project construction and operations, if the proposed Project were approved. This is reflected in EAO's Table of Conditions.
- The Proponent committed to moving all mine infrastructures (e.g. overburden stockpile, water diversion structures, etc.) from Morrison Point and reserving the area from all mine-related activities due to the spiritual significance of the area to Lake Babine Nation.
- The Proponent committed to inventorying and assessing the "Old People's Trail"

and developing any mitigation as required.

- The Proponent involved Lake Babine Nation in 2010 and 2011 meetings, field work, helicopter fly-overs, review of its proposed Fish Habitat Compensation Plan compensation sites and options on how best to reduce potential harmful effects and enhance and/or increase fish habitat in the area.
- The Proponent signed an MoU with the Lake Babine Nation, a component which included a commitment to negotiate an Impact Benefit Agreement.

In addition to these accommodations, the Certified Project Description (Appendix 3 to the Assessment Report) which includes a Table of Conditions which the Proponent must adhere to also contains other conditions and project design requirements which further mitigate or otherwise accommodate potential adverse effects on Lake Babine Nation asserted aboriginal rights.

It is EAO's assessment that the Crown's duty to consult and accommodate has been honourably discharged through a process of consultation and accommodation that included flexibility, accountability, inclusiveness, and responsiveness to issues raised by Lake Babine Nation. EAO further concludes that, on behalf of the Province, it acted in good faith at all times to consult with Lake Babine Nation and made available opportunities for deep consultation which ensured that all concerns raised by Lake Babine Nation about the proposed Project were considered.

EAO also concludes that avoidance, mitigation, and accommodation measures identified during the EA process will result in no significant potential adverse effects on Lake Babine Nation interests or asserted aboriginal rights in the proposed Project area. EAO is satisfied that the Crown's duty to consult pursuant to a decision under the Act has been fully discharged for the proposed Project.

Yekooche First Nation

EAO-led Consultation

Yekooche First Nation was kept informed of progress of the EA through notification of major milestones. Yekooche First Nation were initially invited to Working Group meetings but indicated by letter in 2003 that they had little to contribute but would like to receive additional reports and conclusions as the EA proceeded. Yekooche First Nation were invited to participate at the major milestones such as screening, and were invited to comment on all assessment related documents including the draft First Nations Consultation Report, the draft Assessment Report, and the draft Certificated Project Description and Table of Conditions. No comments were received on any of these documents.

Proponent-led Consultation

The Proponent was assigned certain consultation obligations with Yekooche First Nation through the proposed Project's section 11 Order. The Proponent engaged Yekooche First Nation in 2003 when the initial EA began. Yekooche First Nation provided

a similar message to the Proponent as it had to EAO, saying they had no additional information to add to the EA, but that they wished to receive updates and reports on the proposed Project. The Proponent continued to supply copies of all Application materials (including baseline information) to Yekooche First Nation, at the direction of EAO and consistent with the section 11 Order. No comments were received throughout the course of the EA.

Key Issues Raised by Yekooche First Nation

During initial discussions in 2003, Yekooche First Nation noted a concern for the cumulative effects of the proposed Project on the Skeena watershed, although they provided no specific information on which impacts to consider. They also noted a concern regarding wildlife corridors in the area of the proposed Project and expressed a desire to see economic benefits from the proposed Project.

Strength of Asserted Rights

EAO's preliminary assessment, based on available information, was that the Crown's duty to consult Yekooche First Nation lay on the lower end of the *Haida* spectrum for consultation, based largely on the fact that there is limited evidence that activities that could ground a claim of aboriginal rights may have been exercised historically in the vicinity of the proposed Project and that only a small portion of the transmission line of the proposed Project is within the area claimed by Yekooche First Nation. EAO has consulted in a manner that is consistent with this assessment.

Accommodation

Considering the limited amount of information or concerns noted by Yekooche First Nation, EAO considers that the Certified Project Description, which includes a Table of Conditions which the Proponent must adhere to, contains conditions and project design requirements which will mitigate or otherwise accommodate potential adverse effects on Yekooche First Nation asserted aboriginal rights.

It is EAO's assessment that the Crown's duty to consult and accommodate has been honourably discharged through a process of providing a range of opportunities for consultation. EAO further concludes that, on behalf of the Province, it acted in good faith at all times to consult with Yekooche First Nation, and made available opportunities for consultation which ensured that concerns raised by Yekooche First Nation about the proposed Project were considered.

EAO also concludes that avoidance, mitigation, and accommodation measures identified during the EA process will result in no significant potential adverse effects on Yekooche First Nation interests or asserted aboriginal rights in the proposed Project area. EAO is satisfied that the Crown's duty to consult pursuant to a decision under the Act has been fully discharged for the proposed Project.

Gitxsan and Gitanyow Nations

EAO-led Consultation

Gitanyow Hereditary Chiefs' Office (GHCO) on behalf of Gitanyow Nation and Gitxsan Chiefs' Office (GCO) on behalf of Gitxsan Nation wrote to the

Minister of Environment during the review of the Application in 2009. They indicated that Morrison Lake was important to the production of sockeye salmon on Skeena River and stated that, due to this reliance on Skeena sockeye, they had aboriginal rights to the Morrison Lake fishery.

In response, EAO issued a section 13 Order and specified that GHCO and GCO would be consulted on the proposed Project. EAO added a representative of the Skeena Fisheries Commission (SFC) to the Working Group, a technical body which represented the interests of the two First Nations. SFC representatives were kept fully informed of progress of the EA and were provided with information that was sent to the Working Group.

SFC participated directly in the Application Review by providing comments to EAO, attending Working Group meetings, and meeting with EAO along with GHCO and GCO. EAO provided capacity funding to GHCO and GCO to participate in the Application Review stages of the EA. GHCO, GCO and SFC were invited to comment on all assessment related documents including the draft First Nations Consultation Report, the draft Assessment Report, and the Certified Project Description and Table of Conditions. All comments were fully considered by EAO and many were incorporated into the final versions.

~~EAO provided capacity funding to GHCO and GCO to participate in the Application Review stages of the EA.~~

Proponent-led Consultation

The Proponent was not assigned any consultation obligations with GHCO, GCO or SFC.

Key Issues Raised by Gitanyow and Gitxsan

SFC were active participants in the EA process, taking part in Working Group meetings, meeting directly with EAO on several occasions and provided written feedback on their perspectives and interests with respect to the proposed Project. ~~Much of their input was very high quality and increased EAO's understanding of the fisheries values in the area of the proposed Project.~~

The focus of SFC comments and concerns was on understanding the importance and contribution of Morrison Lake and Morrison River to the sockeye salmon of the Skeena River system. Many of their comments focused on the need for additional spawning research and understanding the use and numbers of fish in Morrison Lake and the overall behavior of Morrison Lake, including a better characterization of water quality baseline information. They indicated many concerns regarding the Proponent's effects assessment, particularly as it related to fish in Morrison Lake. In particular, they were concerned about the proximity of the open pit to Morrison Lake and the flow of effluent from the open pit to Morrison Lake. They noted deficiencies in the HADD (harmful alteration destruction or disruption of fish habitat) assessment, in particular as it did not include an assessment of all fish habitat around the diffuser and pipeline on the bottom of Morrison Lake. They also questioned the sufficiency the hydrogeology work done by the Proponent.

In their final submission, Gitxsan and Gitanyow indicate...

Strength of Asserted Rights

EAO's preliminary ~~assessment~~, assessment based on current information available, and having regard to the applicable legal test, that there is a strong *prima facie* case in support of Gitanyow and Gitxsan aboriginal rights to fish within their traditional territories on

Skeena River. With regard to the *Haida* spectrum, EAO initially determined that the scope of the duty to consult with GHCO and GCO was low on the *Haida* spectrum. That initial determination was based on an understanding that, given the significant distance downstream, it was unlikely that any fishing rights could be affected by the proposed Project.

Since that original assessment, EAO met with GHCO and GCO and reviewed technical submissions from SFC. Since the initial assessment, EAO changed its understanding and now recognizes that the shared Gitanyow/Gitxsan fishery takes in the order of 65,000 sockeye from Skeena River annually and that approximately 3.5 percent of those fish come from the Morrison watershed⁵. As a result of this new information, EAO understands that GHCO and GCO are concerned about impacts to the aboriginal right to fish because a portion of the fish caught on Skeena and Babine Rivers come from Morrison Lake.

Based on this new information EAO changed its initial assessment of the scope of the duty on this proposed Project to consult from low to moderate. In EAO's view, the engagement process with GHCO and GCO, through its designated representatives and directly, has been consistent with this assessment.

Accommodation

As noted, the Proponent was not assigned any obligations to consult with GHCO and GCO and all consultation occurred through EAO. Issues raised by SFC were largely the driver behind many of the design changes which occurred through the EA-review. EAO ~~undertook~~ commissioned a number of third-party reviews (by a professional fisheries biologist, a professional geologist/hydro geologist and a professional engineer/lake behaviour specialist) to examine in more details the issues raised by SFC and to ensure that appropriate mitigations were put in place.

In particular, some of the accommodations to address concerns include:

- The Proponent committed to lining ~~96 percent of~~ the TSF with a geomembrane liner to vastly reduce seepage and thus potential effects upon sockeye salmon spawning areas. This is reflected in EAO's Table of Conditions.
- The Proponent committed to implementing additional secondary water treatment in the proposed water treatment plant to further remove parameters of concern – cadmium in particular, which was the focus of one of SFC's technical submissions.
- EAO engaged a third-party lake behaviour specialist (a SFC recommendation) to review issues related to "hotspots" and areas of higher effluent concentration. The

⁵ SFC asserts that the number could be as high as eight percent depending on the counting method.

review indicated that the Proponent's commitment to a geomembrane liner would effectively eliminate this concern.

- EAO engaged a third-party lake behaviour specialist (a SFC recommendation) to review the Proponent's diffuser design, with a specific question on the efficacy of how it could affect lake mixing. These reviews indicated that the diffuser would likely operate as asserted by the Proponent and the effluent diffuser would not be expected to change lake behaviour.
- The Proponent committed to collecting additional information on the physical behaviour of the lake, including water quality monitoring and temperature, conductivity probes and understanding currents and flow regimes. This is reflected in EAO's Table of Conditions.
- EAO undertook a third-party review of the Proponent's hydrogeology baseline and modelling. The third-party reviewer confirmed that the new Proponent models represented a reasonable Upper Bound and that baseline information was sufficient for predictions.
- The Proponent has committed to working with Lake Babine Nation, DFO and SFC in measuring annual fish escapement into Morrison River and advancing the knowledge of the fish populations, behaviour and distribution in Morrison Lake. This is reflected in EAO's Table of Conditions.
- The Proponent committed to spawning surveys in Morrison River to better quantify the potential effect of the reduction in flow due to the proposed mine. They would also be required to develop an Instream Flow Requirement for Morrison River. This is reflected in EAO's Table of Conditions.

In addition to these accommodations, the Certified Project Description, which includes a Table of Conditions which the Proponent must adhere to, also contains other conditions and project design requirements which further mitigate or otherwise accommodate potential adverse effects on Gitksan and Gitanyow asserted aboriginal rights.

It is EAO's assessment that the Crown's duty to consult and accommodate has been honourably discharged through a process of consultation and accommodation that included flexibility, accountability, inclusiveness, and responsiveness to issues raised by GHCO and GCO. EAO further concludes that, on behalf of the Province, it acted in good faith at all times to consult with GHCO and GCO and made available opportunities for consultation which ensured that all concerns raised by GHCO and GCO about the proposed Project were considered.

EAO also concludes that avoidance, mitigation, and accommodation measures identified during the EA process will result in no significant potential adverse effects on GHCO and GCO interests or asserted aboriginal rights in the proposed Project area. EAO is satisfied that the Crown's duty to consult pursuant to a decision under the Act has been fully discharged for the proposed Project.

3. Position of Federal Agencies

The federal government considers that the issues examined by its agencies have been addressed through project design, mitigation measures and other commitments agreed to by the Proponent. The CEA Agency has produced a draft Comprehensive Study Report that concludes that the proposed Project is not likely to cause which indicates that it has not found the potential for significant adverse environmental effects.

~~DFO and Natural Resources Canada have indicated that they agree with the conclusions of the Assessment Report. CEA Agency and the federal authorities have also indicated that they agree with the conclusions. CEA Agency reports that they will be independently writing a Comprehensive Study Report, to be completed after this referral.~~

4. Position of Local Governments

The Village of Granisle (VOG) was a participant in the Working Group and comments on the Application. In their submissions to EAO, VOG expressed the proposed Project. However, VOG indicated that they anticipate some negative impacts to their community and wanted to build a better relationship with the Proponent and, to that end, signed an MOU with the Proponent to address issues around social effects, property values, pressure on community infrastructure and services and local employment.

Derek, this is just a marker for what I THINK the CEA Agency report, due within a week or so, will say.

5. Public Consultation

The Proponent carried out a program of public consultation during both the pre-Application and Application Review stages in local communities that met the requirements of EAO.

EAO held a 30-day public comment period in the pre-Application stage in November 2008 in Granisle, Houston, and Burns Lake. Attendance at the Granisle open house was highest, with nearly 70 participants.

The key issues raised by the public included: employee housing, transportation and safety impacts, water quality and fisheries, and economic revitalization in the region. EAO received 64 comments from five individuals on the draft Terms of Reference, and considered those comments prior to issuing the final Terms of Reference to the Proponent in May 2009.

The formal review of the Application was initiated on July 12, 2010, and the Application was posted to EAO's electronic Project Information Centre (e-PIC). The Application was made available to the public in local libraries, municipal halls and regional district offices in Granisle, Houston, Burns Lake and Smithers.

A 70-day public comment period on the Application was held from July 22, 2010 to September 30, 2010. Four open houses were held by EAO during the Application Review

period: two in Granisle (total of 110 attendees) and one each in Burns Lake (8 attendees) and Smithers (25 attendees).

EAO received 88 comments from seven individuals and organizations. Issues raised by the public generally included: water quality, ML/ARD, dust and air contaminants, wildlife displacement and health risks, increased traffic, accident and contingency planning, and potential economic and employment benefits to the local communities.

A second, online-only, two-week public comment period was jointly initiated by EAO and CEA Agency in July 2011 on the new project information provided by the Proponent.

E. CONCLUSIONS

EAO is satisfied that:

- The Assessment process has adequately identified and addressed the potential adverse environmental, economic, social, heritage and health effects of the proposed Project, having regard to the conditions, and the mitigation measures set out in Schedule B to the draft EA Certificate;
- Public consultation, and the distribution of information about the proposed Project, has been adequately carried out by the Proponent;
- The Crown has fulfilled its obligations for consultation and accommodation to Lake Babine Nation, Yekooche First Nation and Gitxsan and Gitanyow Nations relating to the issuance of a decision on whether to issue an EA Certificate for the proposed Project.

RECOMMENDATION:

The Executive Director recommends that an Environmental Assessment Certificate be issued to Pacific Booker Minerals Inc. for the Morrison Copper/Gold Mine Project on terms and conditions that require Pacific Booker Minerals Inc. to comply with all design and mitigation conditions set out in the attachments to the proposed Certificate.

OR ????

I recommend Ministers consider, in addition to the Assessment Report prepared by my delegate which indicated no potential for significant adverse effects, and that First Nations had been consulted and accommodated appropriately, the following factors when making a decision to issue/not issue/ask for more information:

- The long term liability of this project particularly as it relates to provincial policy on ML/ARD prevention.
- The financial liability to the Province should:
 - the Proponent's operations and closure plans not be successful, or,
 - the Proponent be unable to resource long term closure plans.
- Use of the dilution capacity of Morrison Lake as the primary mitigation for the long term discharge of mine effluent
- The proximity of the project to a highly valued population of sockeye salmon used by First Nations
- Views of the Gitksan and Gitanyow Nations and the Lake Babine Nations
- The strength of claim of the Lake Babine Nation, in particular their moderate to strong prima facie case for aboriginal title.
- The economic benefit to the Province, including tax revenue and job creation.

Submitted by:

Derek Sturko
Associate Deputy Minister and Executive Director
Environmental Assessment Office

