



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada

# **HOPE LAKE REMEDIATION PROJECT**



**NUNAVUT WATER BOARD  
WATER LICENCE APPLICATION**

**OCTOBER 2012**



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NUNAVUT WATER BOARD

NUNAVUT IMALIRIYIN KATIMAYINGI

OFFICE DES EAUX DU NUNAVUT

### GENERAL WATER LICENCE APPLICATION (APPLICATION FOR NEW WATER LICENCE)

The applicant is referred to the NWB's Guide 4: *Guide to Completing and Submitting a Water Licence Application for a New Licence* for more information about this application form.

LICENCE NO: (for NWB use only)	
<b>1. APPLICANT (PROPOSED LICENSEE) CONTACT INFORMATION</b> (name, address)  <b>Natalie Plato</b> <b>Director, Lands and Contaminated Sites</b> <b>Aboriginal Affairs and Northern Development Canada</b> <b>PO Box 2200</b> <b>Iqaluit NU X0A 0H0</b>  Phone: <b>867-975-4730</b> Fax: <b>867-975-4736</b> e-mail: <a href="mailto:natalie.plato@aandc-aadnc.gc.ca">natalie.plato@aandc-aadnc.gc.ca</a>	<b>2. APPLICANT REPRESENTATIVE CONTACT INFORMATION</b> if different from Block 1 (name, address)  <b>N/A</b>  Phone: _____ Fax: _____ e-mail: _____ (Attach authorization letter.)
<b>3. NAME OF PROJECT</b> (including the name of the project location)  <b>Hope Lake Remediation Project</b>	
<b>4. LOCATION OF UNDERTAKING</b>  <b>Project Extents</b>  NW: <b>Latitude: (67°26'33" N) Longitude: (116°27'20" W)</b> NE: <b>Latitude: (67°26'06" N) Longitude: (116°23'34" W)</b> SE: <b>Latitude: (67°25'17" N) Longitude: (116°22'53" W)</b> SW: <b>Latitude: (67°26'20" N) Longitude: (116°29'10" W)</b>  <b>Camp Location(s)</b>  <b>The proposed location of the camp facilities is along the trail north of the airstrip (GPS Coordinates 67°26'06.45"N, 116°25'40.30"W). See Appendix 5 for additional Maps &amp; Drawings.</b>	
<b>5. MAP</b> - Attach a topographical map, indicating the main components of the undertaking.  NTS Map Sheet No.: <b>086N08</b> Map Name: <b>Tuktuvak Lake</b> Map Scale: <b>1/50,000</b>  <b>Maps of the Hope Lake Project Area are in Appendix 5.</b>	

**6. NATURE OF INTEREST IN THE LAND** - Check any of the following that are applicable to the proposed undertaking (at least one box under the 'Surface' header must be checked).

**Sub-surface**

☐ Mineral Lease from Nunavut Tunngavik Incorporated (NTI)  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ Mineral Lease from Indian and Northern Affairs Canada (INAC)  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

**Surface**

☒ Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC)  
Date (expected date) of issuance: February 1, 2013 Date of expiry: April 30, 2014

☒ Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)  
Date (expected date) of issuance: February 1, 2013 Date of expiry: 1 year after issuance

☐ IOL Authorization from Kivalliq Inuit Association (KivIA)  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ IOL Authorization from Qikiqtani Inuit Association (QIA)  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ Commissioner's Land Use Authorization  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ Other: \_\_\_\_\_  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

Name of entity(s) holding authorizations:

**Aboriginal Affairs and Northern Development Canada – Contaminated Sites**

**7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION**

Indicate the land use planning area in which the project is located.

<input type="checkbox"/> North Baffin	<input type="checkbox"/> Keewatin
<input type="checkbox"/> South Baffin	<input type="checkbox"/> Sanikiluaq
<input type="checkbox"/> Akunnig	<input checked="" type="checkbox"/> West Kitikmeot

Is a land use plan conformity determination required?

☐ Yes ☒ No

If Yes, indicate date issued and attach copy N/A.

If No, provide written confirmation from NPC confirming that a land use plan conformity review is not required.

**Confirmation from the NPC confirming that a land use plan conformity review is not required is pending.**

**8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION**

Is an Article 12 Part 4 screening determination required?

☐ Yes

☐ No

If Yes, indicate date issued and attach copy \_\_\_\_\_

If No, provide written confirmation from NIRB confirming that a screening determination is not required.

**The Nunavut Impact Review Board (NIRB) Part 1 and Part 2 Forms are being submitted concurrently with this application. Copies of the forms can be found in Appendices 1 & 2.**

**9. DESCRIPTION OF UNDERTAKING – List and attach plans and drawings or project proposal.**

**The main portion of the remediation project started with the mobilization of the camp and equipment to Kugluktuk via barge in September 2012. The camp and equipment will be transported to Hope Lake via CAT-Train in March/April 2013. Remedial activities will be completed during the summer of 2013, the activities planned include:**

- Access to site via fixed wing aircraft;**
- Establishment of a camp to support site operations;**
- Existing site infrastructure will be demolished and demolition wastes will be segregated;**
- All hazardous and non-hazardous materials will be packaged, transported south, and disposed of at a licensed disposal facility;**
- Contaminated soils will be excavated, packaged, and transported south for disposal at an off-site licensed disposal facility;**
- Barrels with like contents will be consolidated, sampled, packaged for transportation and shipped off site for disposal at a licensed disposal facility;**
- Scattered surface debris and partially buried debris will be collected, packaged and transported off-site for disposal at a licensed facility;**
- The trails and airstrip will be re-constructed and repaired as required; and**
- A borrow source (previously disturbed) will be developed and the material will be used during the remediation work.**

**When the remedial activities are completed the camp will be closed and all materials and equipment will be staged for demobilization. Demobilization from Hope Lake to Kugluktuk will take place in March/April 2014 via CAT-Train. This will be followed by the final demobilization from Kugluktuk via barge in the summer/fall of 2014.**

**10. OPTIONS – Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.**

**The Remedial Action Plan (RAP) provided in Appendix 4 considers alternative remedial methods for handling the environmental issues at the site.**

**11. CLASSIFICATION OF PRIMARY UNDERTAKING** - Indicate the primary classification of undertaking by checking one of the following boxes.

- |   |   |
|---|---|
| <input type="checkbox"/> Industrial   | <input type="checkbox"/> Agricultural                               |
| <input type="checkbox"/> Mining and Milling (includes exploration/drilling/exploration camps) |   |
| <input type="checkbox"/> Conservation   |   |
| <input type="checkbox"/> Municipal (includes camps/lodges)                                    | <input type="checkbox"/> Recreational                               |
| <input type="checkbox"/> Power  | <input checked="" type="checkbox"/> Miscellaneous (describe below): |
| <b><u>Remediation Project</u></b>   |   |

See Schedule II of *Northwest Territories Waters Regulations* for Description of Undertakings.

Information in accordance with applicable Supplemental Information Guidelines (SIG) must be submitted with a New Water Licence Application. Indicate which SIG(s) are applicable to your application.

- ☐ Hydrostatic Testing
- ☐ Tannery
- ☐ Tourist / Remote Camp
- ☐ Landfarm & On-Site Storage of Hydrocarbon Contaminated Soil
- ☐ Onshore Oil and Gas Exploration Drilling
- ☐ Mineral Exploration / Remote Camp
- ☐ Advanced Exploration
- ☐ Mine Development
- ☐ Municipal
- ☐ General Water Works
- ☐ Power

**12. WATER USE** - Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> To obtain water for camp/ municipal purposes |   |
| <input type="checkbox"/> To obtain water for industrial purposes                 | <input type="checkbox"/> To divert a watercourse                    |
| <input type="checkbox"/> To cross a watercourse                                  | <input type="checkbox"/> To modify the bed or bank of a watercourse |
| <input type="checkbox"/> To alter the flow of, or store water                    | <input type="checkbox"/> Flood control                              |
| <input type="checkbox"/> Other: _____  |   |



**13. QUANTITY AND QUALITY OF WATER INVOLVED** - For each type of water use indicated in Block 12, provide the source of water, the quality of the water source and available capacity, the estimated quantity to be used in cubic meters per day, method of extraction, as well as the quantities and qualities of water to be returned to source.

Name of water source(s) (show location(s) on map):  
**Drinking water will be brought to site in bottles on the resupply flights. All other water will be sourced from the small lake north of the camp area (GPS Coordinates 67°26'14.60" N, 116°25'30.65"W) or from Hope Lake (GPS Coordinates 67°26'28.15" N, 116°27'49.85"W). Figure #4 in Appendix 5 shows the locations of the water sources.**

Describe the quality of the water source(s) and the available capacity:  
**Unknown.**

Provide the overall estimated quantity of water to be used: 10.0 m<sup>3</sup>/day  
**Total water consumption is estimated to be a maximum of 10.0 cubic metres per day:**

- 150 litres per person x 32 people (max) = 4,800 litres
- 5,200 litres for miscellaneous activities (i.e. barrel and equipment washing)

Provide the estimated quantity(s) of water to be used from each source:  
**Small Lake north of the camp = 10.0 cubic metres per day**  
**Hope Lake – this source will only be used if the Small Lake cannot provide the water required.**

Indicate the estimated quantities to be used for each purpose (camp, drilling, etc.)  
**Camp Operation = 4,800 Litres/Day**  
**Miscellaneous Activities (i.e. equipment and drum washing) = 5,200 Litres/Day**

Describe the method of extraction(s):  
**Water will be pumped from the lake directly into the camp tank. The water intake hose will be covered with a screen (maximum screen size of 2.54 millimetres and maximum screen approach velocity of 0.038 metres/second) to ensure that no fish become trapped.**

Estimated quantity(s) of water returned to source(s) 0.0 m<sup>3</sup>/day

Describe the quality of water(s) returned to source(s): Not applicable

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**14. WASTE** – Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.

<input checked="" type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Waste oil
<input checked="" type="checkbox"/> Solid Waste	<input checked="" type="checkbox"/> Greywater
<input checked="" type="checkbox"/> Hazardous	<input type="checkbox"/> Sludges
<input checked="" type="checkbox"/> Bulky Items/Scrap Metal	<input checked="" type="checkbox"/> Contaminated soil and/or water
<input type="checkbox"/> Animal Waste	
<input type="checkbox"/> Other (describe): _____	

**15. QUANTITY AND QUALITY OF WASTE INVOLVED** – For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
Sewage	Black Water	30 litres/day x 32 people (max) = 960 litres/day	Sewage Lagoon	Sewage Lagoon
Waste Oil	Oil	0.001	Collected in drums	Shipped south for recycling and/or disposal
Solid Waste	Camp waste (Paper, packaging, food, etc.)	1.0 cubic metre per day	Incineration (combustibles only)	Shipped south for recycling and/or disposal
Greywater	Grey Water	80 litres/day x 32 people (max) = 2,560 litres/day	Sewage Lagoon	Sewage Lagoon
Hazardous Waste	Asbestos, Cylinders, Items Painted with Lead Based Paint, Organic Liquids	Total = 646 m <sup>3</sup> , 1,535 Drums, 14,642 litres	Material will be packaged as per the requirements of the Transportation of Dangerous Goods Regulations	Shipped south for treatment and/or disposal at Licenced Hazardous Waste Facilities
Bulky Items/Scrap Metal (Non-Hazardous Waste)	Wood, Miscellaneous Debris, Aqueous Liquids	Total = Wood = 588 m <sup>3</sup> , Debris = 503 m <sup>3</sup> , Liquids = 8,269 litres	Packaged for transportation	Shipped south for recycling and/or disposal
Contaminated Soil – Metals & PHCs	Soil lightly contaminated with metals and PHCs	Total = Metal = 101 m <sup>3</sup> , PHCs = 106 m <sup>3</sup>	Packaged for transportation	Shipped south for treatment and/or disposal at Licenced Facilities

- 16. OTHER AUTHORIZATIONS** – In addition to the sub-surface and surface land use authorizations provided in Block 6, indicate any other authorizations required in relation to the proposed undertaking. For each provide the following:

Authorization:

**None**

Administering Agency:

**Not applicable**

Project Activity:

**Not applicable**

Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

- 17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES** - Describe direct, indirect, and cumulative impacts related to water and waste.

**An Environmental Screening Assessment Report was completed in March 2011. A copy of the report "Environmental Screening Assessment of the Proposed Remediation of the Hope Lake Sites Under the Nunavut Impact Review Process: Hope Lake, Nunavut" is provided in Appendix 6.**

- 18. WATER RIGHTS OF EXISTING AND OTHER USERS OF WATER**

Provide the names, addresses and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.

**None**

Advise the Board if compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.

**N/A**

- 19. INUIT WATER RIGHTS**

Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL), and advise the Board if negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more Designated Inuit Organization (DIO).

**None**



<p><b>20.</b></p>	<p><b>CONSULTATION</b> – Provide a summary of any consultation meetings including when the meetings were held, where and with whom. Include a list of concerns expressed and measures to address concerns.</p> <p>During the Phase III Environmental Site Assessment in 2010 a meeting was held with local elders to gather traditional knowledge about the site. In addition, a community consultation was held in January 2011 in Kugluktuk. During this meeting the results of the assessment and the various remediation options being considered for the site were presented and input was solicited as to the community's preferred remedial options. The community meeting was used to complete the following objectives:</p> <ul style="list-style-type: none"> <li>• To share information on the project with the community;</li> <li>• To hear site-specific concerns from local people who are familiar with current conditions at the site or were familiar with on-site activities during facility operation;</li> <li>• To identify the issues and concerns the communities had with the site and the proposed work;</li> <li>• To identify resources (labour and equipment) in the community that would be able to assist in the execution of the project; and</li> <li>• To develop a better remediation plan.</li> </ul> <p>Prior to the start of the 2012 fieldwork in July 2012 another community meeting was held in Kugluktuk. This meeting was used to:</p> <ul style="list-style-type: none"> <li>• Introduce the contractor and subcontractor to the community;</li> <li>• Update the community on the project; and</li> <li>• Inform the community of upcoming employment opportunities and potential subcontracting opportunities.</li> </ul> <p>An additional community meeting will be held upon completion of the project to inform people on the results of the project.</p>
<p><b>21.</b></p>	<p><b>SECURITY INFORMATION</b></p> <p>Provide an estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking. <u>Estimates of reclamation costs must be based on the cost of having the necessary reclamation work done by a third party contractor if the operator defaults.</u> The estimate must also include contingency factors appropriate to the particular work to be undertaken.</p> <p>Where applicable, the financial security assessment should be prepared in a manner consistent with the principals respecting mine site reclamation and implementation found in the <i>Mine Site Reclamation Policy for Nunavut</i>, Indian and Northern Affairs Canada, 2002.</p> <p>N/A</p>
<p><b>22.</b></p>	<p><b>FINANCIAL INFORMATION</b></p> <p>Provide a statement of financial responsibility.</p> <p>If the applicant is a business entity, provide a list of the officers of the company.</p> <p>If the applicant is a business entity attach a copy of the Certificate of Incorporation or evidence of registration of the company name.</p> <p>N/A</p>

**23. STUDIES UNDERTAKEN TO DATE** - List and attach copies of studies, reports, research, etc.

A list of studies, reports, etc. are provided in the table below:

DATE	TITLE	AUTHOR
2009	Integrated Phase I and Phase II Environmental Site Assessment WK027 – Hope Lake	Water and Earth Sciences Associates Limited
2009	Integrated Phase I and Phase II Environmental Site Assessment WK197 – Husky Creek	Water and Earth Sciences Associates Limited
2009	Integrated Phase I and Phase II Environmental Site Assessment WK172 – Willow Creek and Nearby Sites WKB01 Cabins South of WK172, WKB02 Cabin Southwest of WK172	Water and Earth Sciences Associates Limited
2010	Archaeological Impact Assessment (AIA) of the Hope Lake Mining Exploration Camps, Dismal Lakes, Nunavut	Golder Associates Limited
2010	Phase III Environmental Site Assessment, Hazardous and Non-Hazardous Materials Audit, Geotechnical Evaluation, and Archaeological Investigation – Hope Lake, Nunavut	EBA Engineering Consultants Limited
2011	Remedial Action Plan – Hope Lake, Nunavut	EBA Engineering Consultants Limited
2011	Environmental Screening Assessment of the Proposed Remediation of the Hope Lake Sites Under the Nunavut Impact Review Board Process – Hope Lake, Nunavut	EBA Engineering Consultants Limited

Copies of some of these reports have been provided in the Appendices. Copies of the reports not included will be provided upon request.

**24. PROPOSED TIME SCHEDULE** – Indicate the proposed start and completion dates for each applicable phase of development (construction, operation, closure, and post closure).

Construction

Proposed Start Date: N/A Proposed Completion Date: N/A  
(month/year) (month/year)

Operation

Proposed Start Date: June 2013 Proposed Completion Date: October 2013  
(month/year) (month/year)

Closure

Proposed Start Date: N/A Proposed Completion Date: N/A  
(month/year) (month/year)

Post - Closure

Proposed Start Date: N/A Proposed Completion Date: N/A  
(month/year) (month/year)

For each applicable phase of development indicate which season(s) activities occur.

Construction

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Operation

☐ Winter ☐ Spring ☒ Summer ☐ Fall ☐ All season

Closure

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Post - Closure

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

**25. PROPOSED TERM OF LICENCE**

Number of years (maximum of 25 years): 1 years

Requested Date of Issuance: March 2013 Requested Expiry Date: April 2014  
(month/year) (month/year)

(The requested date of issuance must be at least three (3) months from the date of application for a type B water licence and at least one (1) year from the date of application for a type A water licence, to allow for processing of the water licence application. These timeframes are approximate and do not account for the time to complete any pre-licensing land use planning or development impact requirements, time for the applicant to prepare and submit a water licence application in accordance with any project specific guidelines issued by the NWB, or the time for the applicant to respond to requests for additional information. See the NWB's *Guide 5: Processing Water Licence Applications* for more information)

**26. ANNUAL REPORTING** – If not using the NWB's *Standardized Form for Annual Reporting*, provide details regarding the content of annual reports and a proposed outline or template of the annual report.

**Will use the NWB Standardized Form for Annual Reporting.**

**27. CHECKLIST** – The following must be included with the application for the water licensing process to begin.

Written confirmation from the NPC confirming that NPC's requirements regarding land use plan conformity have been addressed.

☐ Yes ☒ No If no, date expected October 2012

Written confirmation from the NIRB confirming that NIRB's requirements regarding development impact assessment have been addressed.

☐ Yes ☒ No If no, date expected December 2012

Completed General Water Licence Application form.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Information addressing Supplemental Information Guideline (SIG) , where applicable (see Block 11)

☒ Yes ☐ No If no, date expected \_\_\_\_\_

English Summary of Application.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Inuktitut and/or Inuinnaqtun Summary of Application.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Application Fee of \$30.00 CDN (Payee Receiver General for Canada).

☐ Yes ☒ No If no, date expected \_\_\_\_\_

Water Use Fee Deposit of \$30.00 CDN (Payee Receiver General for Canada). The actual water use fee will be calculated by the NWB based upon the amount of water authorized for use in accordance with the Regulations at the time of issuance of the licence.

☐ Yes ☒ No If no, date expected \_\_\_\_\_

**28. SIGNATURE**

**Natalie Plato**

**Director,  
Lands and  
Contaminated Sites**



Name (Print)

Title (Print)

Signature

Date

Oct 3, 2012