APPLICATION FOR WATER LICENSE AMENDMENT

CONTAMINATEDWATER TREATMENT

HAZARDOUS WASTE MANAGEMENT

CONTAMINATED SOIL TREATMENT

Document presented to

This document is reproduced electronically and contains 112 pages including the cover page

- Application for Water Licence Amendment
- Topographical Map
- Written confirmation from NPC
- Plan layout of water treatment unit
- Cost Estimate spreadsheet
- Certificate of Incorporation and Business License
- English Summary of Application
- Inuktitut and/or Inuinnaqtun Summary of Application

Y/Ref.: 1BR-THI1419/Type ‘’B’’ O/Ref.: QE15-102-2

Application for Water Licence Amendment

Document Date: April 2013

Application Submission Date: February 17, 2016

Month/Day/Year

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OFFICE DES EAUX DU NUNAVUT

DOCUMENT MANAGEMENT

Original Document Date: April 2010

DOCUMENT AMENDMENTS

	Description	Date
(1)	Updated for public distribution as separate document from NWB Guide 7	June 2010
(2)	Updated NWB logos and reformatted table to allow rows to break across page	May 2011
(3)	New NWB logo; request for background information; and change to Block 24	April 2013
(4)		
(5)		
(6)		
(7)		
(8)		
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(10)		

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APPLICATION FOR WATER LICENCE AMENDMENT

The applicant is referred to the NWB's Guide 7: *Licensee Requirements Following the Issuance of a Water Licence* for more information about this application form.

Where possible, provide background information regarding the original licence application or attach previously submitted information.

EXISTING LICENCE NO: *1BR-THI1419 / Type ''B''*

1. LICENSEE CONTACT INFORMATION

Is the licensee the same as that referred to on the existing licence?

☒ Yes ☐ No

If No, a licence assignment must be completed and approved by the NWB. **An amendment will only be issued in the name of the current licensee in the absence of assignment of the licence.**

If the licensee is the same, but the name of the licensee has changed, attach a certificate of name change.

2. LICENSEE REPRESENTATIVE CONTACT INFORMATION – If different from Block

Name: *Olivier Simard*

Address: *PO Box 1228, Iqaluit, Nunavut, X0A 0H0*

Phone: *867 222-8194*
Fax: *N/A*
e-mail: osimard@qenv.ca

Authorization letter is attached in Appendix A

3. NAME OF PROJECT

Has the name of the project changed?

☒ Yes ☐ No

If Yes, indicate the name of the project including the name of the location:
Environmental Waste Processing Facility, Iqaluit

4. LOCATION OF UNDERTAKING

Does the proposed amendment change the location of the amended undertaking?

☒ Yes ☐ No

Provide the project extents and camp locations.

Project Extents

NW: Latitude: *(63° 44' 40" N)* Longitude: *(68° 33' 03" W)*
NE: Latitude: *(63° 44' 40" N)* Longitude: *(68° 32' 51" W)*
SE: Latitude: *(63° 44' 34" N)* Longitude: *(68° 32' 51" W)*
SW: Latitude: *(63° 44' 34" N)* Longitude: *(68° 33' 03" W)*

Camp Location(s)
N/A

5. MAP

Does the proposed amendment change the locations of any of the main components of the undertaking?

☒ Yes ☐ No

Attach a topographical map, indicating the main components of the undertaking. Identify proposed changes.
All developments shown are new since Qikiqtaaluk Environmental will be moving all of its operations to the new property (see Appendix B).

6. NATURE OF INTEREST IN THE LAND

Does the proposed amendment change the nature of the interest in the land?

☒ Yes ☐ No

If Yes, indicate changes.

_____

Check any of the following that are applicable to the proposed undertaking (at least one box under the 'Surface' header must be checked).

6. NATURE OF INTEREST IN THE LAND (suite)

Does the proposed amendment change the nature of the interest in the land?

☒ Yes ☐ No

If Yes, indicate changes.
Qikiqtaaluk Environmental Inc. will be using the new location for the treatment of water with additional contaminants, and the treatment and management of contaminated soils.

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: _____
Date of expiry: _____

☐ Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)
Date (expected date) of issuance: _____
Date of expiry: _____

☐ 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; *Land Lease w/ GN ED&T*
Date (expected date) of issuance: *April 2016*
Date of expiry: *March 2026 (see Appendix C)*

☒ Other; City of Iqaluit Development Permit
Date (expected date) of issuance: *April 2016*
Date of expiry: *N/A (see Appendix C)*

Is the name of the entity(s) holding authorizations the same as that considered in the existing water licence?

☒ Yes ☐ No

If No, a licence assignment must be completed and approved by the NWB.

Name of entity(s) holding authorizations: _____

7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION

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

☐ North Baffin
☒ South Baffin
☐ Akunniq
☐ Keewatin
☐ Sanikiluaq
☐ West Kitikmeot

Does the proposed amendment change the land use planning area?

☐ Yes ☒ No

If yes, indicate the land use planning area in which the amended undertaking is located.

☐ North Baffin
☐ South Baffin
☐ Akunniq
☐ Keewatin
☐ Sanikiluaq
☐ West Kitikmeot

Was a land use plan conformity determination required from NPC prior to the issuance of the existing water licence?

☐ Yes ☒ No - *See Appendix D*

If Yes, indicate date issued and attach copy.

Does the proposed amendment change the original NPC conformity determination or the need to obtain one?

☐ Yes ☒ No

If Yes, indicate date issued (or expected) and attach a copy.

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

8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION

Was a screening determination required from NIRB prior to the issuance of the existing water licence?

☐ Yes ☒ No - *See Appendix E*

If Yes, indicate date issued and attach copy.

Does the proposed amendment change the original NIRB screening determination or the need to obtain one?

☒ Yes ☐ No

If Yes, indicate date issued (or expected) and attach a copy. *February/March 2016 (see Appendix E).*

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

9. DESCRIPTION OF UNDERTAKING

Does the proposed amendment change the description of the undertaking?

☒ Yes ☐ No

List and attach plans and drawings or project proposal. Identify proposed changes. *All operations will be moved to a new site with a new layout. Details are attached in the figures in Appendix B. The same water treatment process will be used for the treatment of contaminated water with the addition of a pre-treatment for metal contamination. We will be adding activities of hydrocarbon contaminated soil treatment and management of waste for disposal in the south.*

10. OPTIONS

Does the proposed amendment change any of the alternative methods and locations that were considered to carry out the project?

☐ Yes ☒ No

Provide a brief explanation of the alternative methods or locations that were considered to carry out the project. Identify proposed changes.
The purpose of this project is to reduce the environmental impact of contaminants in Iqaluit. The work methods proposed are those that are the most efficient in reducing the environmental impact. No other open lots with the required zoning are available in Iqaluit.

11. CLASSIFICATION OF PRIMARY UNDERTAKING

Indicate the primary classification of undertaking for the existing licence by checking one of the following boxes:

☒ Industrial
☐ Agricultural
☐ Mining and Milling (includes exploration/drilling/exploration camps)
☐ Conservation
☐ Municipal (includes camps/lodges)
☐ Recreational
☐ Power
☐ Miscellaneous (describe below):

_____

Does the proposed amendment change the classification of primary undertaking?

☐ Yes ☒ No

If Yes, indicate the primary undertaking of the amendment:_____

Information in accordance with applicable Supplemental Information Guidelines (SIG) must be updated and submitted with an Application for Amendment. Indicate which SIG(s) are applicable to your application.

☐ Hydrostatic Testing
☐ Tannery
☐ Tourist / Remote Camp
☒ Landfarm & On-Site Storage of Hydrocarbon Contaminated Soil *(New activity)*

☐ Onshore Oil and Gas Exploration Drilling
☐ Mineral Exploration / Remote Camp
☐ Advanced Exploration
☐ Mine Development
☐ Municipal
☐ General Water Works
☐ Power

12. WATER USE

Indicate, using the boxes below, the types of water use(s) approved in the existing licence.

☐ To obtain water for camp/ municipal purposes
☐ To obtain water for industrial purposes ☐ To divert a watercourse
☐ To cross a watercourse ☐ To modify the bed or bank of a watercourse
☐ To alter the flow of, or store water ☐ Flood control
☒ Other: *Hydrocarbon contaminated water collection, treatment and discharge*

Does the proposed amendment change the type(s) of water use(s)?

☒ Yes ☐ No

If Yes, indicate using the boxes below, the proposed change(s) to the type(s) of water use(s) noting any water use(s) that are to be added, continued, or removed.

☐ To obtain water for camp/ municipal purposes
☐ To obtain water for industrial purposes *(to be added)* ☐ To divert a watercourse
☐ To cross a watercourse ☐ To modify the bed or bank of a watercourse
☐ To alter the flow of, or store water ☐ Flood control
☒ Other: *Contaminated water collection, treatment and discharge (will continue, with additional parameters added to the treatment process).*

13. QUANTITY OF WATER INVOLVED

Does the proposed amendment change the source of water? ☒ Yes ☐ No

Indicate the water source(s). Identify proposed changes.:

Existing licence water source: *Various spill sites around the city of Iqaluit (will continue)*.

Proposed amendment:
In addition to the above source, contact water will be collected from the POL reservoir cleaning operations in Iqaluit, containment berms within the city, water from clients that has come into contact with organic and/or metal contaminants and from containment pads at Qikiqtaaluk Environmental's Environmental Waste Processing Facility.

(show location(s) on map) *N/A – All of the City of Iqaluit*

Does the proposed amendment change the quality of the water source and/or its available capacity?

☐ Yes ☒ No

Describe the quality of the water source(s) and the available capacity(s). Identify any changes:
Existing licence water source consists of contaminated water obtained from various spills around the City of Iqaluit. Qikiqtaaluk Environmental will add additional sources of contamination in this license. Water source quality/available capacity: N/A

Does the proposed amendment change the overall quantity of water to be used?

☐ Yes ☒ No

Provide the overall estimated quantity to be used. Identify proposed changes. :

Existing licence: < 15 m^3/day (quantities vary according to client needs)

Does the proposed amendment change the quantity of water to be used from each source?

☐ Yes ☒ No

Provide the estimated quantity(s) of water to be used from each source. Identify proposed changes. :

Existing licence

- *Contaminated water quantity: 15 m^3/day (No change)*

Does the proposed amendment change the quantity of water to be used for each purpose?

☒ Yes ☐ No

Provide the estimated quantities to be used for each purpose (camp, drilling, etc.). Identify proposed changes:

Existing licence:

- *Contaminated water: no water use for other purposes from this source.*

Proposed amendment:

- *Contaminated water: Depending on availability and suitability, contaminated water may be added to soils with similar contaminants to assist with the biological degradation of the organic contaminants in the soils. Contaminated water will be tested prior to use to ensure that it will not add more contaminants to the soils to be treated;*
- *Treated water meeting discharge criteria: Treated water may be used for the cleaning of equipment as well as for contaminated soil management and treatment needs. This water will be collected and analyzed at a certified laboratory, and managed according to analytical results.*

Does the proposed amendment change the method(s) of extraction?

☐ Yes ☒ No

Describe the method(s) of extraction. Identify proposed changes.

Existing licence:

- *Contaminated water extraction: a) snow collection using heavy equipment or shovels, b) pumping of contact water from excavations or holding basins;*

Proposed amendment:

- *Contaminated water collection: contact water accumulated in holding basins, wash- and condensate water from reservoirs, contact water from spills in snow and on the ground, and contaminated water from clients. This water will be pumped into either a vacuum trailer or other safe means of transport and brought to our facility.*

Does the proposed amendment change the quantity(s) of water returned to source(s)?

☐ Yes ☒ No

Estimated quantity(s) of water returned to source(s). Identify proposed changes. :

15 m^3/day (no change)

Does the proposed amendment change the quality(s) of water returned to source(s)?

☐ Yes ☒ No

Describe the quality(s) of water(s) returned to source(s). Identify any changes. :

Existing licence: *Water will be treated to meet the discharge criteria that will be determined by the NWB and discharged at a location approved by the City of Iqaluit and other regulatory agencies having jurisdiction; no water will be returned to the source. The only change will be the discharge location which will be relocated to Qikiqtaaluk Environmental's new site.*

14. WASTE

Check the appropriate box(s) to indicate the types of waste(s) approved in the existing licence.

☐ Sewage
☐ Solid Waste
☐ Hazardous
☐ Bulky Items/Scrap Metal
☐ Animal Waste
☒ Waste oil
☐ Greywater
☐ Sludges
☐ Contaminated soil and/or water
☒ Other (describe): *Treated water tested for discharge criteria*

Does the proposed amendment change the type(s) of waste(s) to be generated or deposited?

☒ Yes ☐ No

If Yes, indicate using the boxes below, the proposed change(s) to the type(s) of waste(s) to be generated and/or deposited noting the addition, removal or continued generation and/or disposal of waste(s).

☐ Sewage
☒ Solid Waste *(to be added)*
☒ Hazardous
☐ Bulky Items/Scrap Metal
☒ Waste oil *(will continue)*
☐ Greywater
☒ Sludges *(to be added)*
☒ Contaminated soil and/or water *(soil, to be added)*
☐ Animal Waste
☒ Other (describe):
Treated water tested for discharge criteria (will continue);
Treated soil tested for decontamination criteria (to be added).

15. QUANTITY AND QUALITY OF WASTE INVOLVED

Does the proposed amendment change the quantity(s) of the types of wastes involved?

☒ Yes ☐ No

Does the proposed amendment change the composition(s) of the types of wastes involved?

☒ Yes ☐ No

Does the proposed amendment change the method(s) of treatment for the types of waste involved?

☒ Yes ☐ No

Does the proposed amendment change the method(s) of disposal for the types of waste involved?

☒ Yes ☐ No

If Yes to any of the above, describe the proposed changes:
Qikqtaaluk Environmental is requesting authorization to treat additional parameters in the water, such as metals and other organic chemical contaminants. As a result of this, sludge and other types of waste-filtering media may be generated due to the additional treatment methods.

In addition, Qikiqtaaluk Environmental is adding contaminated soil volume reduction and treatment to our operations. This will involve the storage of contaminated soils on lined containment pads until there is a sufficient volume and/or space to treat them. The soils will be treated using a biopile treatment technique, which will eliminate the generation of contact water.

Finally, Qikiqtaaluk Environmental will be operating a Hazardous Waste Transfer Centre, licensed by the Government of Nunavut. This will require the repackaging and/or consolidation of waste to be shipped south for disposal. Once packaged, the waste will be stored at our site while awaiting sealift. It is possible that waste be stored over the winter, while awaiting the next available sealift vessel.

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
Contaminated Water	Water is tested to meet discharge criteria.	Varies depending on the source of the contaminated water. Our treatment unit can treat a maximum of 15 m^3/24 hrs.	• pH adjustment to precipitate metals, polymers used for flocculation; • Oil/water separator; • Particulate filter; • ULTRASORPTION™ filter; • Activated carbon filter.	Discharge on land 30 m from a waterbody in a location approved by authorities having jurisdiction.
Waste Petroleum, Oil, and Lubricants (POL)	Hydrocarbons collected from the settling tank and oil/water separator or from other clients in Iqaluit.	Varies	• Segregation; • Consolidation; • Packaging and labelling.	Ship south for disposal in accordance with regulations or incineration on-site in a waste oil furnace.
Waste filter media from treatment units and used absorbent materials	• ULTRASORPTION ™ (shredded absorbent); • Granular activated carbon; • Particulate filters; and • Absorbents used during spill response.	• Varies depending on volume of water to be treated and level of contamination; • Maximum 5 m^3/yr of each waste type	• Segregation; • Consolidation; • Packaging and labelling.	Ship south for disposal in accordance with regulations.
Sludge	Acid and or caustics used for pH adjustment, coagulating agent, metals.	• Varies depending on volume of water to be treated, metal concentration, and process efficiency; • Estimated maximum 15 m^3.	• Dry; • Segregation; • Consolidation; • Packaging and labelling.	Disposal in local landfill if meet disposal criteria or ship south for disposal in accordance with regulations.

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method

Contaminated Soils	Soils contaminated by organics and metals.	Varies, maximum 500 m^3.	• Soils with organic contaminants:
			  • treated on-site in a biopile or landfarm after volume reduction if treatment will allow the soils to meet guidelines within a reasonable period of time;
			• Untreatable organics (such as oil, grease creosote and PCBs):
			  • volume reduction, packaging and labelling;
			• Metal soils:
			  • packaged and labelled.
				• Treated soils can be used as backfill or for other purposes approved by INAC;
				• All untreatable contaminated soils will be transported south for disposal in accordance with regulations.

Glycols	Antifreeze agents used in machinery and vehicles, as well as waste antifreeze used for de-icing purposes.	Varies according to client needs.	• Segregation; • Consolidation; • Packaging and labelling.	Ship south for disposal in accordance with regulations.
Batteries	Batteries from vehicles and other equipment.	Varies according to client needs.	• Segregation; • Consolidation; • Packaging and labelling.	Ship south for disposal in accordance with regulations.
Paint and/or paint related materials	Waste paint from building construction or demolition.	Varies according to client needs	• Segregation; • Consolidation; • Packaging and labelling.	Ship south for disposal in accordance with regulations.
Regulated Building Demolition Debris	Ballasts, light bulbs, capacitors, thermostats, asbestos.	Varies according to client needs.	• Segregation; • Consolidation; • Packaging and labelling.	Ship south for disposal in accordance with regulations.
Biohazard, medical waste	Medical sharps	Varies according to client needs.	Biohazard packaged in proper Class 8 containers at hospital or health centre.	• Containers consolidated in a locked marine container; • Ship south for disposal in accordance with regulations.

16. OTHER AUTHORIZATIONS

Does the proposed amendment change the need for other authorizations in addition to the sub-surface and surface land use authorizations provided in Block 6?

☐ Yes ☒ No

If Yes, indicate any additional authorizations required, which authorizations are no longer required, and which authorizations continue to be required.

For each provide the following:

Authorization:

_____

Administering Agency:

_____

Project Activity:

_____

Date (expected date) of issuance: _____ Date of expiry:

_____

17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES

Does the proposed amendment change the predicted environmental impacts of the undertaking or the mitigation measures?

☒ Yes ☐ No

Describe direct, indirect, and cumulative impacts related to water and waste. Identify any changes.

Existing Licence:

Collection and treatment of contaminated water has a positive impact on the environment (will continue). The soils at the discharge location will be monitored yearly to ensure that these activities do not have a negative environmental impact (will continue). If an increase in contamination in excess of the criteria for the land use at the selected discharge location is detected, then the area will be remediated to below these levels and the entire process will be re-examined to determine the origin of the contamination (will continue).

Proposed Amendment:

Collection and treatment of contaminated water with additional contaminants will have a further positive impact on the environment. The treatment unit will be modified to remove other types of contaminants, producing effluent in compliance with discharge criteria in our water licence. Sludge generated from metal contaminated water will be removed, stored and disposed of at an appropriate facility.

The addition of soil treatment to our activities will result in a lower volume of contaminated soils present in Iqaluit. The re-use of treated soils in approved industrial settings will also reduce the need to produce additional clean fill in the community, which will, in turn, reduce the volumes of soils originating from the local quarries.

The management of hazardous waste will prevent waste from being stored in an unsafe manner within the community, which will result in a reduced risk of spills.

It is not anticipated that these activities will result in a negative impact on the environment.

18. WATER RIGHTS OF EXISTING AND OTHER WATER USERS

Was compensation paid and/or an agreement(s) for compensation been entered into with any existing or other users of water during consideration of the existing licence?

☐ Yes ☒ No

If Yes, provide the names, addresses and the nature of water use by those persons or properties.

Not applicable

Does the proposed amendment adversely affect any known persons or property including those that hold licences for water use in precedence 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?

☐ Yes ☒ No

If Yes, provide the names, addresses and the nature of water use of those persons or properties.

Not applicable

Advise the Board if compensation has been paid and/or an agreement(s) for compensation has been reached with any existing or other water users with respect to the proposed amendment.

Not applicable

19. INUIT WATER RIGHTS

Was compensation paid/ or an agreement(s) for compensation been entered into with any Designated Inuit Organization (DIO) during consideration of the existing licence?

☐ Yes ☒ No

If Yes, which DIO(s)

_____

Does the proposed amendment substantially affect the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL)?

☐ Yes ☒ No

If Yes, 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 DIO(s) with respect to the proposed amendment.

20. CONSULTATION - 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.

No consultation was carried out during the development of this undertaking.

21. SECURITY INFORMATION

Does the proposed amendment change the financial security assessment?

☒ Yes ☐ No

Does the proposed amendment change the estimate of the total financial security for final reclamation?

☒ Yes ☐ No

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. 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. The estimate must also include contingency factors appropriate to the particular work to be undertaken. Identify any changes in the financial security assessment resulting from the proposed amendment.

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 *Mine Site Reclamation Policy for Nunavut,* Indian and Northern Affairs Canada, 2002.

The following is a combination of the assessment submitted with the existing licence application and that of the proposed amendment:

In the case of abandonment due either to bankruptcy or major failure of the water treatment unit, the unit must be dismantled and the filtering media will need to be containerized for off-site disposal in an authorized facility. Similarly, any impacted untreated water or sludge will be containerized for off-site shipment and disposal. Water treatment facility components (pumps, oil/water separator, tanks) can be dismantled and sold or discarded in the landfill as non-hazardous waste.

Soils at the discharge point would need to be sampled to ensure they meet the guidelines established by the Government of Nunavut Department of Environment. Any impacted soils with concentrations in excess of the guidelines will need to be excavated, containerized and shipped to an authorized facility for disposal.

In addition, the existing stockpile of untreated and treated soils will have to be disposed of in an authorized facility. These soils will be packaged and shipped off-site for disposal in accordance with applicable regulations. The containment pads will be dismantled and the soils underneath will be sampled and managed according to the contaminants found.

Finally, any contaminated waste found on the site will need to be packaged, labelled and disposed of in accordance with applicable regulations.

In a worst case scenario, we assume that 30,000 L of impacted water may remain untreated, and that 250 m.t. of impacted soils may be stored on-site. In addition, another 40 m.t. of waste may be stored on the site. It is estimated that the labour efforts required to restore the site to its original condition, by dismantling the water treatment unit, the management of impacted soils and waste, backfilling excavated areas, the transport of all impacted materials by sealift and disposal of all impacted materials in authorized facilities will require approximately 4 weeks of work, including a manager, a helper, and heavy equipment assistance for the excavation work and the hauling of materials to the barge landing in Iqaluit. The cost estimates for the final reclamation are estimated at $324,460 as related to this worst case scenario (see attached spreadsheet in Appendix F).

22. FINANCIAL INFORMATION

Is the statement of financial security the same as that considered in the existing water licence?

☐ Yes ☒ No

Provide an updated statement of financial security. *See Appendix G.*

If the applicant is a business entity please answer the questions below:

Is the list of the officers of the company the same as those considered in the existing water licence?

☐ Yes ☒ No

Provide a list of the officers of the company.

Levi Barnabas, Director
Ludy Pudluk, Director
Blandina Tulugarjuk, Director
Alain Sauriol, Director
Jacques Dion, Director, Vice-President
Mario Leathead, Director
Harry Flaherty, President

Is the Certificate of Incorporation or evidence of registration of the company name the same?

☒ Yes ☐ No

Attach a copy of the Certificate of Incorporation or evidence of registration of the company name.

See attached Certificate of Incorporation and Business Licence in Appendix H

23. STUDIES UNDERTAKEN TO DATE

List and attach updated studies, reports, research etc.

No studies have been undertaken related to this activity

Provide a compliance assessment and status report including a response to any inspector's reports. The licensee must contact the NWB for licence specific direction in completing the assessment and report.

The last compliance assessment and status report is attached in Appendix I
If in non-compliance, a licence may not be issued until compliance is achieved. If in non-compliance, attach plans/reports for consideration. Application will not be processed if significant issues of non-compliance exist.

24. PROPOSED TIME SCHEDULE

When are proposed amendments scheduled to be undertaken:

May 2016 – October 2016

Does the proposed amendment change the time schedule considered in the existing licence for any phase of development?

☐ Yes ☒ No

Indicate the start and completion dates for each applicable phase of development (construction, operation, closure, and post closure). Identify proposed changes.

Construction
Proposed Start Date: *May 2016* (month/year) Proposed Completion Date: *October 2016* (month/year)

Operation
Proposed Start Date: *May 2016*
Proposed Completion Date: *N/A, this is a permanent installation*

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

Post - Closure
Proposed Start Date: *N/A*
Proposed Completion Date: *N/A*

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

On what date does the existing licence expire?
August 19, 2019

Is the Licensee applying for a combined renewal and amendment of the existing licence?

☒ Yes ☐ No

If Yes, indicate the proposed term of the renewal (maximum of 25 years):
Licence valid for 5 years from date of issue (2021)

Requested date of renewal issuance: *April 2016* (month/year) Requested Expiry Date: *April 2021* (month/year)

(The requested date of renewal 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

Will the proposed amendment change the content of annual reports or the annual report template?

☒ Yes ☐ No

If Yes, provide details regarding the content of annual reports and a proposed outline or template of the annual report.

Annual reporting will continue to be done using the 111028 REVISED Standard NWB Annual Reporting Form-FSTE(or the latest version thereof). The applicable sections in the report that cover new activities will be completed.

27. CHECKLIST

The following must be included with the application for Amendment for the water licensing process to begin.

Completed Application for Water Licence Amendment form.

☒ Yes ☐ No If no, date expected

_____

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

☐ Yes ☒ No If no, date expected
To be submitted by February 19th, 2016, will be submitted as *Appendix J*

Compliance Assessment / Status Report (see Block 23).

☒ Yes ☐ No If no, date expected
See Appendix I

Indication of Renewal Requirement (see Block 26)

☐ Yes ☒ No If no, date expected
Not Applicable_____

English Summary of Amendment Application.

☒ Yes ☐ No If no, date expected
See Appendix K

Inuktitut and/or Inuinnaqtun Summary of Amendment Application.

☒ Yes ☐ No If no, date expected
See Appendix L

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

☒ Yes ☐ No If no, date expected
Cheque sent in mail_____

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
Not Applicable_____

28. SIGNATURE

Greg Johnson, P.Eng.	**Project Director**		**2016-02-17**
Name (Print)	**Title (Print)**	**Signature**	**Date**

APPENDIX A

AUTHORIZATION LETTER

Qikiqtaaluk environmental
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January 12, 2016

Nunavut Water Board
15 Stone Marker Road
Gjoa Haven NU X0B 1J0

O/Ref.: QE15-102-2

Subject: Authorization to Act as an Agent for Qikiqtaaluk Environmental Inc.

To whom it may concern:

The purpose of this letter is to authorize for Greg Johnson and Olivier Simard to act as agents for Qikiqtaaluk Environmental Inc. (QE). As such, they may answer any questions related to the application for approvals and licences with the Nunavut Water Board.

If you require additional information, please do not hesitate to contact me.

Best regards,

Jacques Dion
Vice President and Member of the Board of Directors

JD/kaf

P.O. Box 1228
Iqaluit (Nunavut) X0A 0H0
CANADA
Tel. 1 866 634.6367
info@qenv.ca
www.qenv.ca

9935 Catania Avenue
Entrance 1 — Suite 200
Brossard (Quebec) J4Z 3V4
CANADA
Tel. 514 940.3332
Fax. 514 940.3435

APPENDIX B

MAPS AND PLANS

0.0 0.2 0.4 0.6 0.8 1.0km

Source: GoogleEarth; 2015.

Presented to:

Property located at:
Lease parcels O and Q,
Airport lands in Iqaluit, NU

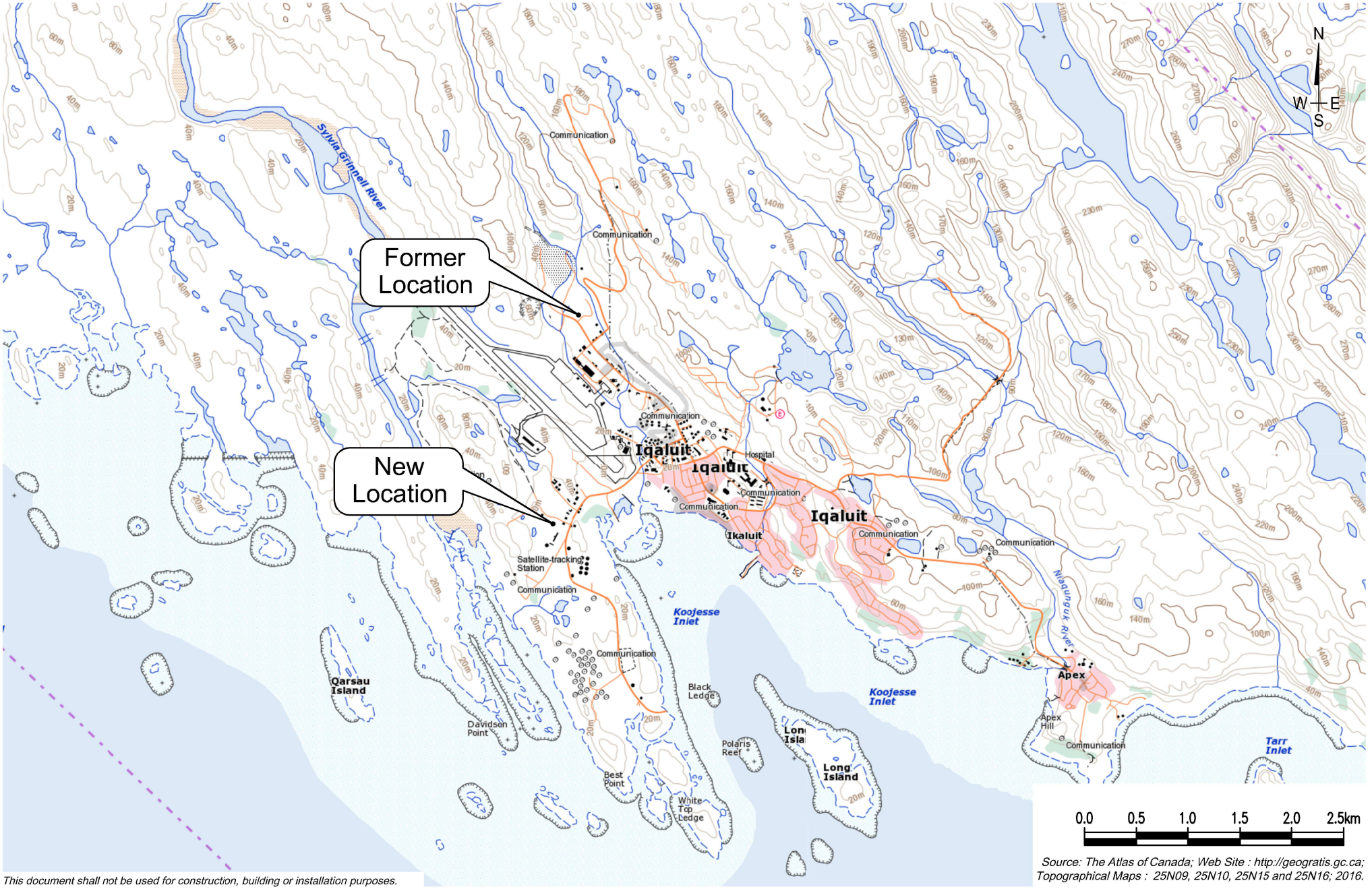
Figure 1

Regional Site Location

NIRB AND NWB LICENCE APPLICATIONS

Drawn by:	Verified by:	Approved by:
J. Bergeron	G. Johnson	S. Laberge
Date:	Drawing no.:	Geodetic reference:
2016-02-17	QE15-102-2-05 | A	Latitude/Longitude

Qikiqtaaluk environmental



This document shall not be used for construction, building or installation purposes.

Source: The Atlas of Canada; Web Site : http://geogratis.gc.ca; Topographical Maps : 25N09, 25N10, 25N15 and 25N16; 2016.

Presented to:

Properly located at:

Lease parcels O and Q, Airport lands in Iqaluit, NU

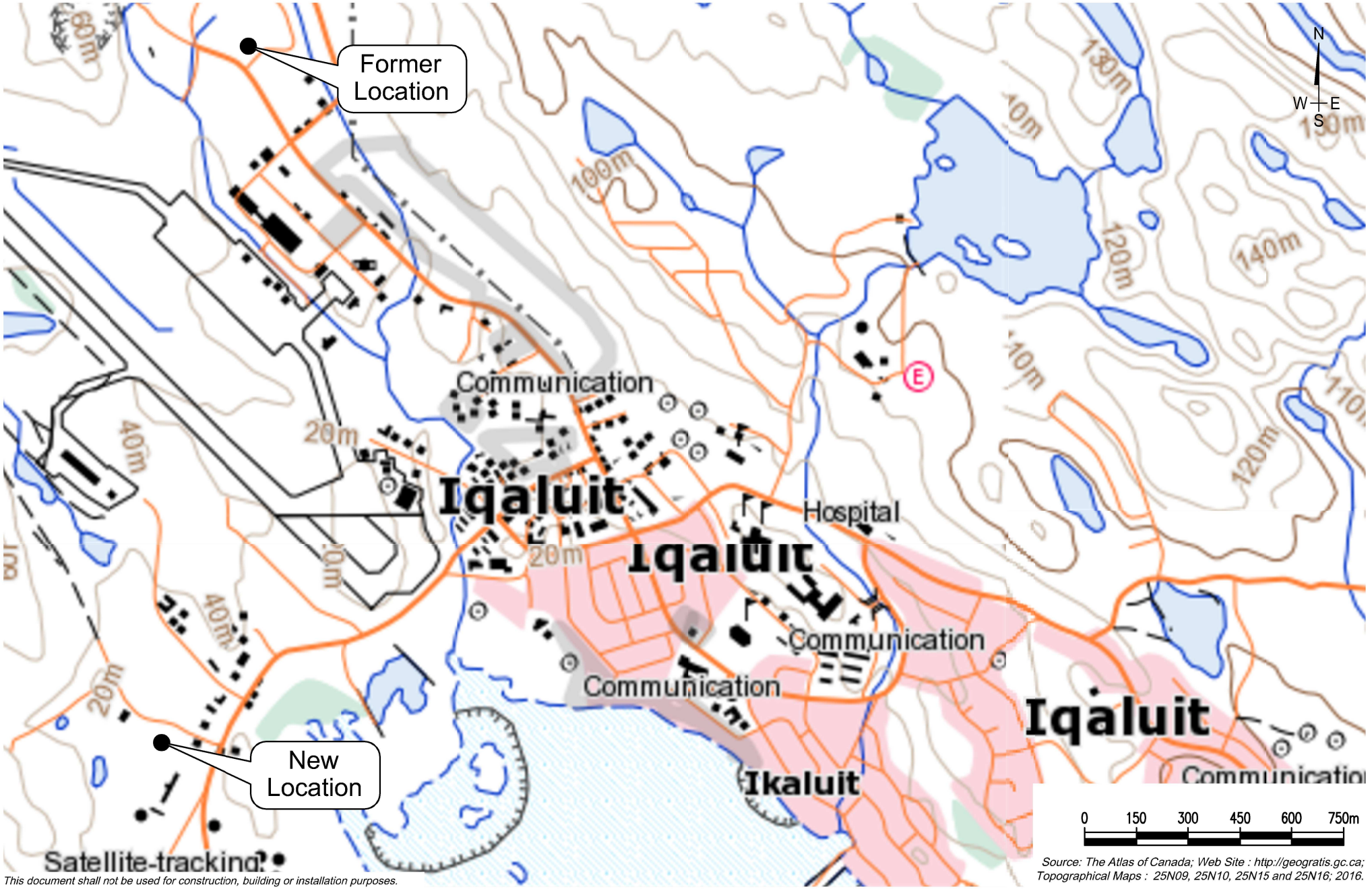
Figure 2

Regional Site Location - scale: 1: 50,000

NIRB AND NWB LICENCE APPLICATIONS

Drawn by:	Verified by:	Approved by:
H. Longval	G. Johnson	S. Laberge
Date:	Drawing no.:	Geodetic reference:
2016-02-17	QE15-102-2-04 A	UTM/NAD83 Zone 19

Qikiqtaaluk environmental



This document shall not be used for construction, building or installation purposes.

Presented to:

Properly located at:

Lease parcels O and Q, Airport lands in Iqaluit, NU

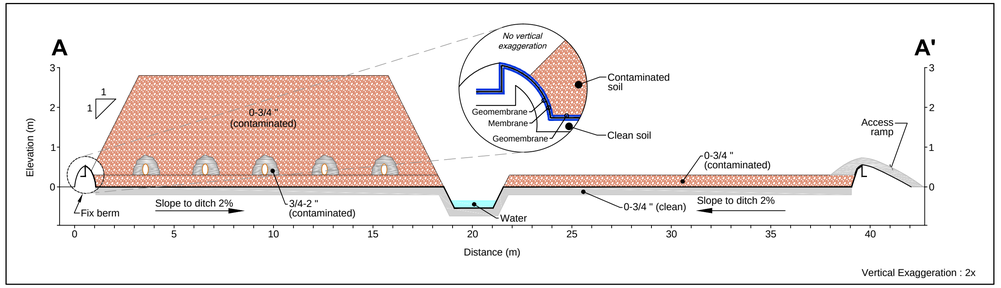
Figure 3

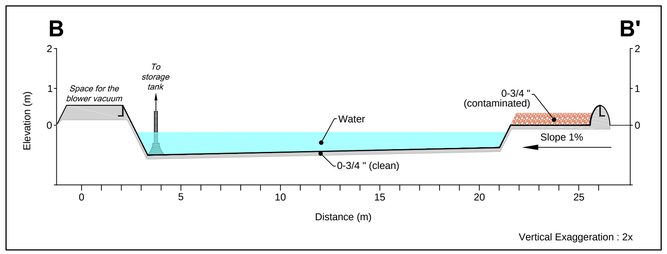
Regional Site Location - scale: 1: 15,000

NIRB AND NWB LICENCE APPLICATIONS

Drawn by:	Verified by:	Approved by:
H. Longval	G. Johnson	S. Laberge
Date:	Drawing no.:	Geodetic reference:
2016-02-17	QE15-102-2-04 B	UTM/NAD83 Zone 19

Qikiqtaaluk environmental





Legend

- Proposed monitoring well
- Proposed water quality monitoring point
- Proposed draining ground elevation (m)
- Proposed drainage ditch elevation (m)
- Proposed fence
- Proposed ditch
- Berm to be built to final ground design elevation
- Overhead electrical line
- Utility pole and guy wire
- Lot line
- Parcel identification
- Proposed parcel
- Boundary of lease (approximate location)
- Processing and lines soil treatment area

Source :
- *Sub-Arctic Surveys Ltd.; File no. 15-206-QE-JL14-TOPO; July 16, 2015;*
- *Iqaluit - Survey Sketch 001-2015.dwg*

0 3 6 9 12 15m

Figure 4

Site Plan

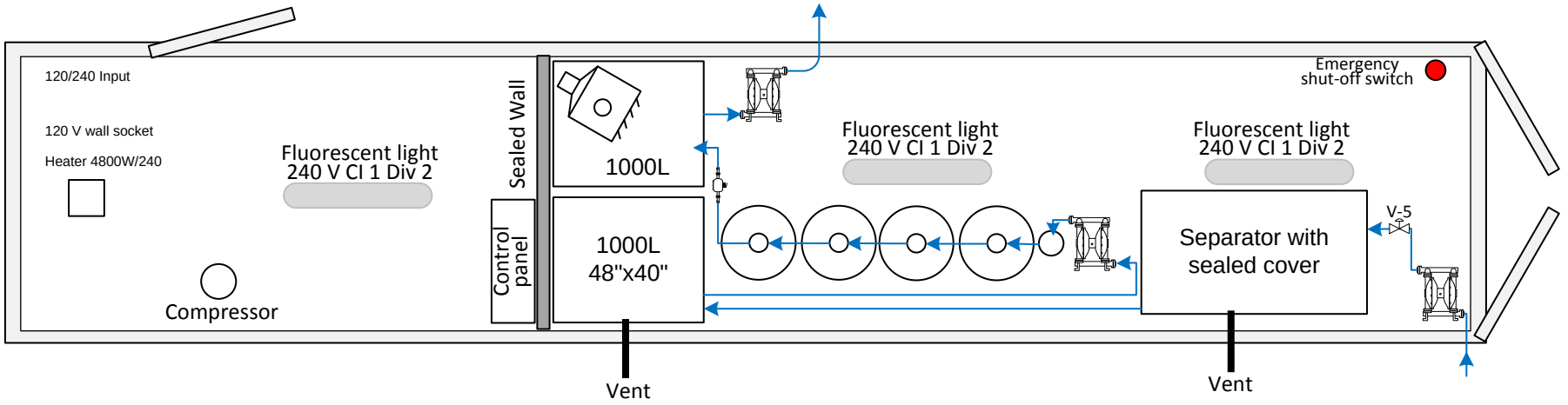
NIRB AND NWB LICENCE APPLICATIONS

Presented to:

Property located at:
Lease parcels O and Q,
Airport lands in Iqaluit, NU

Drawn by:	Verified by:	Approved by:
J. Bergeron	G. Johnson	J. Dion
Date:	Drawing no.:	Geodetic reference:
2016-02-17	QE15-102-2-05 | B	MTM/NAD83 | Zone 6

Qikiqtaaluk environmental



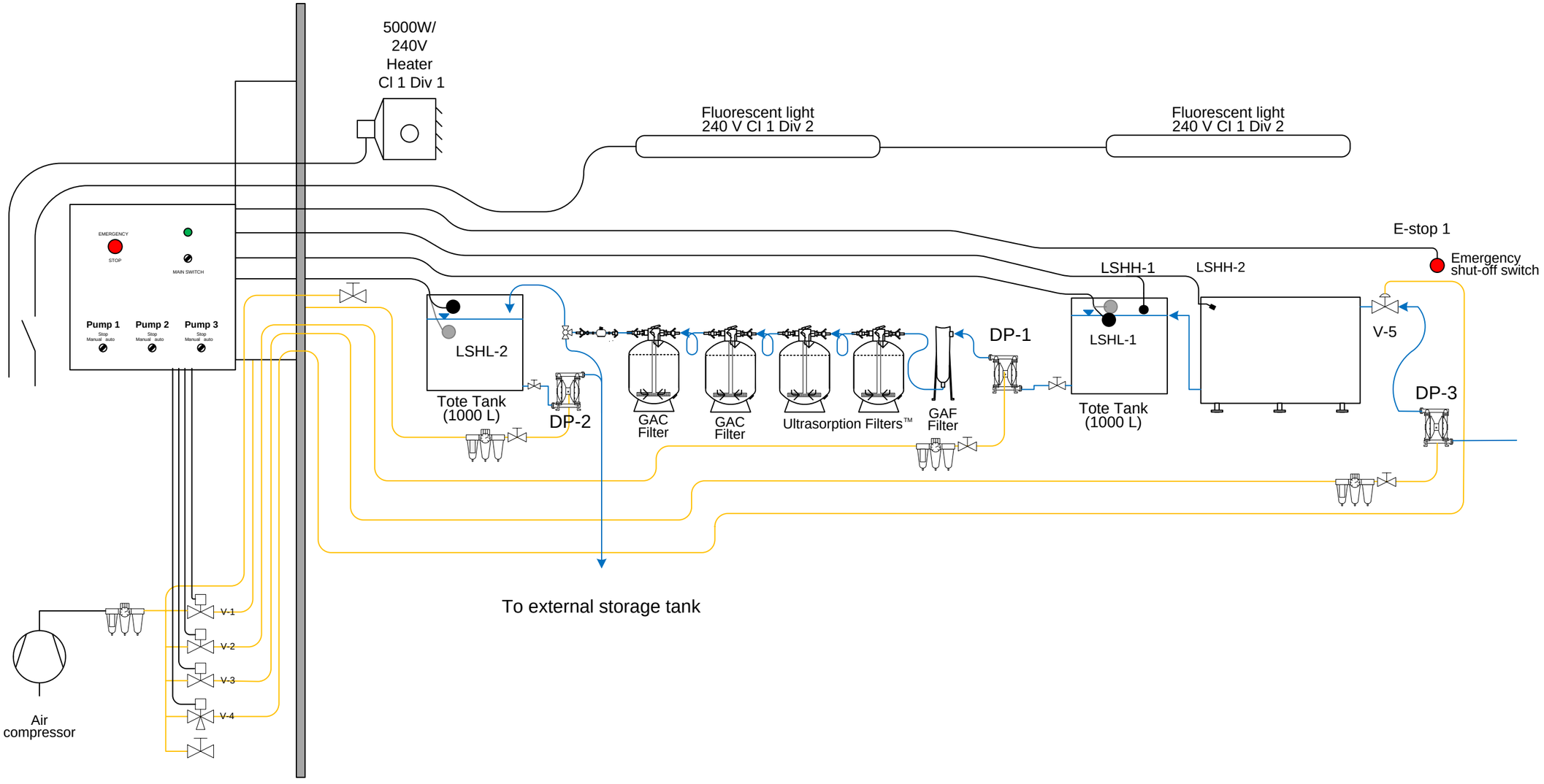
Legend

Water line

Diaphragm pump

Presented to:	Title: **Figure 5 Water Treatment Facility Layout**	Scale: No scale	Design date: 2015-03-25	Revision date: 2016-02-17
		Drawn by: É. Leblanc	Verified by: O. Simard	Approved by: G. Johnson
	Project: **WATER TREATMENT FACILITY** *1571 Kakivak Court, Iqaluit*	Projet n°: QE15-102-2	Drawing n°: QE15-102-2-02.vsd	Layout: A

Qikiqtaaluk environmental



Legend

- Water line
- Air line
- Electrical connection
- Float switch
- Pressure regulator
- Diaphragm Pump
- Valve

Title: **Figure 6** **Water Treatment Facility Flow Diagram**		
Project: **WATER TREATMENT FACILITY** *1571 Kakivak Court, Iqaluit*		
Scale: No scale	Design date: 2015-03-25	Revision date: 2016-02-17
Drawn by: É. Leblanc	Verified by: O. Simard	Approved by: G. Johnson
Project n°: QE15-102-2	Drawing n°: QE15-102-2-01.vsd	Layout: A

Presented to:

Presented by:

Qikiqtaaluk environmental

APPENDIX C

ACTIVE PERMITS AND LAND USE AUTHORIZATIONS

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ᐃᖃᓗᐃᑦ, ᓄᓇᕗᑦ
X0A 0H0
ᐅᖃᓚᐅᑎᖓ (867) 979-5600
ᓱᑲᑦᑐᒃᑯᑦ (867) 979-5922

City of Iqaluit
Box 460
Iqaluit, Nunavut
X0A 0H0
Phone (867) 979-5600
Fax (867) 979-5922

Ville d'Iqaluit
C.P. 460
Iqaluit, Nunavut
X0A 0H0
Tél. (867) 979-5600
Télécop. (867) 979-5922

admin@city.iqaluit.nu.ca
www.iqaluit.nu.ca

August 14th, 2015

Oliver Simard
P.O. Box 1228,
Iqaluit, NU
XOA 0H0

-Sent by email – osimard@qenv.ca -

NOTICE OF DECISION – 15-024

Re: Development Permit Application No. 15-024 (Plan 1673, Block 0, Lot 666)

I am pleased to inform you that your application for a Development Permit 15-014 to permit a Water Treatment Facility on Plan 1673, Block 0, Lot 666 (Parcels O and Q of SK-IQAL-001-2015) has been conditionally approved. The conditionally approved site work is shown on the Site Plan dated August 10th, 2015, received by the City August 11th, 2015.

Construction shall not begin until a Development Permit is issued. The following needs to be completed prior to issuance of the Development Permit:

DECISION APPEAL PERIOD

The decision on Application 15-024 is subject to a fourteen (14) days appeal period. Any person claiming to be affected by the decision has fourteen (14) days from the date the notice is posted to appeal the decision.

If there are no appeals filed with the City at the end of the 14 days, and if all the relevant conditions of the permit are met the Development Permit will be issued by the City.

The Notice of Decision will be posted on the property on August 14th, 2015. The appeal period will complete on August 28th, 2015.

A draft copy of the Development Permit conditions is attached to this letter for reference.

Should you have any questions, please do not hesitate to contact the planning department at 979-6363 ext. 227.

Yours truly,

Mélodie Simard
Development Officer
City of Iqaluit

SPECIAL CONDITIONS

Future Development

1)The Developer/Lessee shall submit revised drawings and amend the Development Permit prior to any development, except for site grading, on the areas identified as "Future Development" on the Site Plan.

Subject to an Airport Lease

2)The Developer/Lessee shall obtain the approval from GN Airports Division of the final plans submitted with the Development Permit application, prior to the City issuing the Development Permit. The approval shall be in letter format and shall reference the application number and identify the name and dates of the plans approved for development.

Drainage

3)The Developer/Lessee will be responsible for ensuring drainage functions as proposed on the Site Plan and that there is no impact on adjacent properties. Any required remedial works required on-site or off-site that result from the relocated drainage patterns shall be at the cost of the Developer.

Culverts

4)The Developer/Lessee shall place a minimum 450mm diameter culvert across the driveway accesses in accordance with the Iqaluit Municipal Design Guidelines (January 2005).

STANDARD CONDITIONS

Damage to City Property

1.The Developer shall reinstate at its expense and to the satisfaction of the Development Officer, any City property including but not limited to roads, service vaults and signage, which may be damaged as a result of this development.

Grading & Drainage

2.All surface drainage where fill is introduced shall be contained within the limits of the lot and directed to a municipal drainage ditch in the adjacent road allowance.

Servicing

3.Water fill and sewage pump out connections, associated overflow vents, and the water tank level indicator shall be installed in accordance with the City of Iqaluit Municipal Design Guidelines and shall remain clear of obstructions at all times.

4.Water use shall not exceed 2,000 litres per day.

5.The Developer/Lessee shall install a water meter to the approval of the Superintendent of Public Works.

Fire Marshal

6.The Developer/Lessee shall meet all the requirements of the GN Fire Marshal prior to issuance of a Building Permit.

Signs

7. The Developer/Lessee shall erect signs, as may be required by the Development Officer.

Building Permit (if applicable)

8. The Developer/Lessee shall obtain a Building Permit prior to commencement of construction.

Lot Development Standards

9. The Developer shall install and maintain the following water-saving devices throughout the building:
    a. All toilets to be water-saver or ultra-low flush toilet units using 6 litres/flush (1.3 imp. Gal./flush) or less.
    b. All showerheads to be low-flow showerheads using 9.8 litres/min (2.2 imp. gal./min) or less when tested at 551 kPa (80 psi).
    c. All washroom and kitchen faucets to use 8.3 litres/min (1.8 imp. gal./min.) or less when tested at 413 kPa (60 psi).

10. All exterior lighting installed on the lot or attached to a building will face downward and not illuminate beyond the boundary of the lot.

11. The Developer shall ensure that a construction waste bin is on the lot during construction to contain debris.

Nunavut Airport Services

August 7, 2015

Qikiqtaaluk Environmental Inc.
P.O. Box 1228
Iqaluit, NU
X0A 0H0

Re: Application for Lease Land – Iqaluit International Airport

I have reviewed the application for land on Lot 666, Play 1673 which has been labelled lots Q and O for the purposes of surveying.

You have received conditional approval for the lease, however in order to prepare the documentation we will need the following:

1. Finalized survey from the City of Iqaluit, once it has been completed. In the interim, we will utilize the information on Sketch number SK-IQAL-001-2015 Map 2;
2. A workplan which identifies:
    a. the type of work that will be done on the lot;
    b. the equipment that will be used;
    c. the dates of the phasing of the work;
    d. the permits from the City or other parties if you will be impacting on roads, utilities or areas leased by other tenants;
    e. any other pertinent details which may impact upon the airport, roadway, or surrounding lands.
3. Confirmation from you in writing that any storage building constructed on site will need to be reviewed at the planning and design stage, and then reviewed and approval issued from the GN Office of the Fire Marshall, as well as the Iqaluit International Airport prior to construction.
4. Documentation from the City of Iqaluit approving of the development in principle, and then once completed, a copy of the actual development permit;
5. A copy of your Environmental Protection plan for the development.

The current market rate for this land is $1.26 per square meter. Development and preparation of the lot will be at the cost of the tenant. Tying into all utilities and services is also the cost of the tenant.

If you have questions about the above requirements, or any of the other requirements throughout the process of finalizing the lease, please contact me at 867-877-1970.

Yours truly,

Kathleen Henderson
Associate Services Director

REGISTRATION FORM
HAZARDOUS WASTE MANAGEMENT FACILITY

Department of Environment
Government of Nunavut

Instructions

1. The following information must be provided in order to register as a hazardous waste management facility in Nunavut and obtain a management facility number. Incomplete applications will be returned to the applicant.
2. Completed registration forms are to be forwarded to the Manager of Pollution Control, Department of Environment, Government of Nunavut, Box 1000, Station 1360, Iqaluit, Nunavut, X0A 0H0. Electronic registration forms are preferred and may be forwarded to EnvironmentalProtection@gov.nu.ca.
3. Use additional pages to provide information as required.
4. Applicants should refer to the accompanying users' guide for further assistance on completing the management facility registration form.

Section 1 - Identification

Applicant (Legal Name) Qikiqtaaluk Environmental Inc.

Corporate Address PO Box 1228, Building 922, Niaqunngusiaq Road, Iqaluit (Nunavut)

Postal Code X0A 0H0

Facility Address Iqaluit (Nunavut)

Postal Code X0A 0H0

Principle Contact Person Harry Flaherty Title President

Phone 867-979-8406 Email hflaherty@qcorp.ca

Alternate Contact Person Jacques Dion Title Vice President

Phone 514-940-3332 Email jdion@qenv.ca

Section 2 - Description of Waste to be Managed (provide a separate table if required)

Site Location(s) where Waste is Managed Building 1571, Federal Road, corner of Kakivak Court, on Lot 3

Shipping Name (Description)	TDG Number	TDG Class	Quantity Managed each Month (L or Kg)	Frequency of Acceptance
see attached list				

Section 2 – Continued

Attach a complete description of the proposed facility, safety measures, equipment and management processes to be used. Include engineered drawing where applicable.

Section 3 - Waste Management Information

Type of Business (check all that apply) Receiver of Waste X Manage Self-generated Waste ____

Type of Activity (check all that apply) Collect and Store X Transfer X

Treat X Recycle ____ Dispose ____

Hazardous Waste Generator(s) Used Qulliq Energy Corporation, City of Iqaluit, Uqsuq Oil, small businesses, garages, schools, households

Hazardous Waste Carriers(s) Used NEAS, NSSI Veolia (Quebec), Solva-Rec (Quebec)

Do you have an approved Emergency Response and Spill Contingency Plan? Yes ____ (attach copy) No X

Section 4 - Certification

I certify that the information provided on this form is correct, accurate and complete.

Signature of Contact Person [signature] Date (dd/mm/yy) 15/08/11

Print Name of Contact Person Jacques Dion Title Vice President

Phone 514-940-3332 Email jdion@qenv.ca

For Department Use Only
Management Facility Number NUF# 400006 Approved by [signature] Date 2011-08-23

GN DoE Waste Generator and Transporter Registration

De: Eno, Robert [REno@GOV.NU.CA]
Envoyé: 31 août 2011 14:07
À: 'Karl Côté'
Objet: RE: application for waste carrier and waste generator

Hello Karl,

You registration numbers are as follows:

Generator: NUG 100045
Carrier: NUC 200011

With respect to the carrier number, you should be aware that you will be expected to consult with
Transport Canada and/or the Motor Vehicles Division of Community and Government Services
with respect to TDGR for road transport. DoE does not administer TDGR so I cannot speak to
the requirements.

If you have any questions, please do not hesitate to get in touch with me.

Robert

Robert Eno
Director, Environmental Protection Division
Chief Environmental Protection Officer
Dept. of Environment
Gov't of Nunavut
Iqaluit, NU
867-975-7729

From: Karl Côté [mailto:kcote@sanexen.com]
Sent: Wednesday, August 31, 2011 11:18 AM
To: Eno, Robert
Subject: application for waste carrier and waste generator

Hi Robert,

Here are the 2 registration forms.

Karl

REGISTRATION FORM
HAZARDOUS WASTE RECEIVER

Department of Environment
Government of Nunavut

Instructions

1. The following information must be provided in order to register as a hazardous waste receiver in Nunavut and to obtain a receiver number. Incomplete applications will be returned to the applicant.
2. A receiver who operates a commercial business for the purpose of collecting, storing, transferring, treating, recycling or disposing of hazardous waste may be required to register the facility as a hazardous waste management facility. Refer to section 3.2.2 of the *Environmental Guideline for the General Management of Hazardous Waste* for further information.
3. Completed registration forms are to be forwarded to the Manager of Pollution Control, Department of Environment, Government of Nunavut, Box 1000, Station 1360, Iqaluit, Nunavut, X0A 0H0. Electronic registration forms are preferred and may be forwarded to EnvironmentalProtection@gov.nu.ca.
4. Use additional pages to provide information as required.
5. Applicants should refer to the accompanying users' guide for further assistance on completing the receiver registration form.

Section 1 - Identification

Receiver (Legal Name) Qikiqtaaluk Environmental Inc.

Mailing Address PO Box 1228, Building 922, Niaqunngusiaq Road, Iqaluit (Nunavut)

Postal Code X0A 0H0

Principle Contact Person Harry Flaherty

Title President

Phone 867-979-8406

Email hflaherty@qcorp.ca

Alternate Contact Person Jacques Dion

Title Vice President

Phone 514-940-3332

Email jdion@qenv.ca

Section 2 - Description of Waste Received (provide a separate table if required)

Site Location(s) where Waste is Received Building 1571, Federal Road, corner of Kakivak Court, on Lot 3

Shipping Name (Description)	TDG Number	TDG Class	Quantity Received each Month (L or Kg)	Frequency of Acceptance
see attached list				

Attach a brief description of the proposed facility.

Section 3 - Waste Management Information

General Type of Business: Environmental Contractor and Consultant

General Type of Activity: Environmental site remediation and hazardous waste management

Hazardous Waste Generator(s) Used: Qulliq Energy Corporation, City of Iqaluit, Uqsuq Oil, small businesses, garages, schools, households

Hazardous Waste Carriers(s) Used: NEAS, NSSI, Veolia (Quebec), Solva-Rec (Quebec)

Hazardous Waste Management Facilities Used: Qikiqtaaluk Environmental Inc., Veolia (Quebec), Solva-Rec (Quebec)

Do you have an approved Emergency Response and Spill Contingency Plan? Yes ____ (attach copy) No X

Section 4 - Certification

I certify that the information provided on this form is correct, accurate and complete.

Signature of Contact Person: [signature] Date (dd/mm/yy): 15/08/11

Print Name of Contact Person: Jacques Dion Title: Vice President

Phone: 514-940-3332 Email: jdion@qenv.ca

For Department Use Only

Receiver Number NUR#: 300001 Approved by: [signature] Date: 2011-08-23

ᓄᓇᕗᑦ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: **1BR-THI1419**

August 20, 2014

Greg Johnson, Director
C/o Qikiqtaaluk Environmental Inc.
9935 Ave Catania, Entrance 1, Suite 200
Montreal, QC J4Z 3V4

Email: gjohnson@qenv.ca

RE: NWB Water Licence No. 1BR-THI1419

Dear Mr. Johnson:

Please find attached Licence No. **1BR-THI1419** issued to Qikiqtaaluk Environmental Inc. by the Nunavut Water Board (NWB) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (*Nunavut Land Claims Agreement or NLCA*). The terms and conditions of the attached Licence related to Water use and waste deposit are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then Water use and waste disposal must cease, or the Licensee may be in contravention of the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least three (3) months prior to the Licence expiry date.

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process and timing may vary depending on the scope of the amendment; however, a minimum of sixty (60) days is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and are acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consult the comments received from interested persons on issues identified. This information is attached for your consideration.[1]

Sincerely,

Thomas Kabloona
Nunavut Water Board
Chair

TK/sa/ri

Enclosure: Licence No. **1BR-THI1419**
Comments – AANDC

Cc: Qikiqtani Distribution List

[1] Aboriginal Affairs and Northern Development Canada (AANDC), May 27, 2014.

DECISION

LICENCE NUMBER 1BR-THI1419

This is the decision of the Nunavut Water Board (NWB) with respect to an application, dated March 15, 2014, for a new Water Licence made by:

QIKIQTAALUK ENVIRONMENTAL INC.

to allow for the disposal of waste during the operation of a commercial Hydrocarbon Impacted Water Treatment Facility located within the City of Iqaluit, Nunavut, generally at the following geographical coordinates:

Latitude: (63° 45' 45" N) Longitude: (68° 32' 36" W)
Latitude: (63° 45' 45" N) Longitude: (68° 32' 35" W)
Latitude: (63° 45' 44" N) Longitude: (68° 32' 44" W)
Latitude: (63° 45' 44" N) Longitude: (68° 32' 41" W) (Water Treatment Facility Extents)

DECISION

After having been satisfied that the application was for a location that falls outside of an area with an approved Land Use Plan[2] and exempt from the requirement for screening as described within Schedule 12-1 by the Nunavut Impact Review Board[3] in accordance with Article 12 of the *Nunavut Land Claim Agreement* (*NLCA*), the NWB decided that the application could proceed through the regulatory process. In accordance with s.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (*Act*) and Article 13 of the *NLCA*, public notice of the application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the applicant and considering the representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the *NLCA* and of the *Act*, waived the requirement to hold a public hearing, and determined that:

Licence No. 1BR-THI1419 be issued subject to the terms and conditions contained therein. (Motion #: 2014-B1-016)

Signed this 15th day of July 2014 at Gjoa Haven, NU.

Thomas Kabloona
Nunavut Water Board, Chair
TK/sa/ri

[2] Nunavut Planning Commission Land, Use Conformity Determination, July 26 2013.
[3] Nunavut Impact Review Board Screening Exemption Decision, April 28 2014.

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INTRODUCTION

Between September 2013 and March 2014, the Board received, from Qikiqtaaluk Environmental Inc. (the Licensee or Proponent), an application and supporting information (Application) for a Type "B" Licence to construct and operate a proposed Water Treatment Facility (WTF) for the purpose of treating hydrocarbon impacted Water generated from spills occurring within the City of Iqaluit, Nunavut.

The WTF is expected to include the following main components:

- an oil/Water separator;
- particulate filters;
- activated carbon filters;
- patented ultra-sorption filters;
- Water pumps; and
- treated effluent storage reservoirs (from which the effluent will be sampled and analyzed prior being discharge).

The waste generated from the treatment process, including oil, lubricants, sludge, waste filter, and contaminated soil, is expected to be treated and/or disposed of at an approved facility in accordance with applicable regulations.

PROCEDURAL HISTORY

The following is a list of the submissions received by the Board in support of the Application:

September 12, 2013

- General Water Licence Application;
- Abandonment and Remediation Plan, Hydrocarbon Impacted Water Treatment, dated September 2013;
- Qikiqtaaluk Environmental Inc., Certificate of Incorporation, Industry Canada;
- Hydrocarbon Impacted Water Treatment, Cost Estimate in Case of Abandonment for Security;
- Cover letter, dated on September 12, 2013, in English and Inuktitut;
- Layout of Water Treatment Unit (two drawings);
- Spill Contingency Plan Hydrocarbon Impacted Water Treatment, dated September 2013;
- Table of Contents; and
- City of Iqaluit, Topographical Map.

Received on March 17, 2014

Updated Water Licence Application, Hydrocarbon Impacted Water Treatment dated March 15, 2014, containing:

- General Water Licence (Application for a New Water Licence);
- Figure 4: Water Treatment Unit;
- Figure 5: Water Treatment Unit;
- Hydrocarbon Impacted Water Treatment Cost Estimate in Case of Abandonment for Security;
- Industry Canada, Certificate of Incorporation;
- Executive Summary (English), dated September 12, 2013;

- Executive Summary, Inukitut;
- Spill Contingency Plan Hydrocarbon Impacted Water Treatment, dated September 2013;
- Abandonment and Remediation Plan Hydrocarbon Impacted Water, dated September 2013; and
- Supplementary Information Requirements, Re: File No. 1BR-THI---, Type "B" Application by Qikiqtaaluk Environmental Inc. for a Hydrocarbon Impacted Water Treatment Project, dated March 14, 2014.

Following an internal review, the NWB distributed the Application on April 23, 2014 for a thirty (30) day public comment period with a deadline for submissions set for May 23, 2014. Due to administrative matters associated with some of the information provided, the deadline for submission was extended to May 27, 2014. On or before the extended deadline, a submission was received from Aboriginal Affairs and Northern Development Canada (AANDC). In its submission, AANDC provided comments and recommendations with respect to measures that the Proponent could implement to minimize potential impacts of the project on the receiving environment; however, it did not provide any written objections to the potential issuance of a licence.

Apart from the comments received from AANDC, the Board received the NPC Land Use Conformity Determination for the project on September 12, 2013, which states that the Project proposal is located outside the boundaries of the two currently approved land use plans. In addition, the Board received on April 28, 2014, the NIRB determination for the project, which states that the Application is exempt from screening pursuant to Schedule 12-1 of the NLCA.

Copies of the submission received as well as all documents related to this Application can be accessed through the NWB's ftp site using the following link (**Username**: public and **Password**: registry):

ftp://nunavutWaterboard.org/1%20PRUC%20PUBLIC%20REGISTRY/1%20INDUSTRIAL/1B/1BR%20-%20Remediation/1BR-THI----%20Qik%20Env/.

GENERAL CONSIDERATIONS

Term of the Licence

In accordance with the Nunavut Waters and Nunavut Surface Rights Tribunal Act, s. 45, the NWB may issue a licence for a term not exceeding twenty-five (25) years. The Proponent requested in its Application a twenty five (25) year term for the licence. However, the Board has granted a five-year-term licence to the Project, which is generally granted for new licences for this type of an undertaking. AANDC also provided comments within their submission regarding a shorter term and that a five year licence term is recommended to allow an earlier opportunity to reconsider licence terms and conditions. The Board believes that the term granted will provide the Licensee with adequate opportunity to consistently demonstrate its ability to comply with the requirements in the Licence in advance of any future renewal and/or consideration of a longer term licence by the Board.

Annual Report
Under the reporting section of the Licence, Part B, Item 1, the Licensee is required to submit, on an annual basis, a report that describes the Licensee's activities as they relate to waste deposition during the preceding year. The Board makes annual reporting information available to interested persons upon request in addition to making the information available in its public registry. Public access to annual information reporting submitted by all licensees is made available through the NWB's ftp site using the following link (**Username**: public and **Password**: registry): ftp://nunavutwaterboard.org/1%20PRUC%20PUBLIC%20REGISTRY/.

Security
As part of its Application, the Proponent included a financial estimate of $79,340 for potential reclamation activities that might be associated with the proposed project in the document entitled *Hydrocarbon Impacted Water Treatment, Cost Estimate in Case of Abandonment for Security*, received September 12, 2013. AANDC in its submission indicated that it believes that the cost estimate provided by the Proponent is reasonable and should be considered by the Board. While the Board welcomes the information on reclamation security provided by the Proponent, the Board has decided to exclude, at this time, requirements in the licence related to posting of reclamation security for the Project. The Board understands that reclamation security for this type of undertaking has to be examined in a holistic manner and in accordance with the type of undertaking so as to avoid a tiered approach to reclamation security requirements for similar undertakings. The Proponent is, however, required to update the security estimate provide, as needed, to reflect the scope of and operational conditions for the project over time, under Part C, Item 2 in the Licence. In addition, should the Project scope change or further reviews of subsequent applications and information provided through Annual Reports and Inspection Reports warrant the need, and the Board approach to reclamation security broaden, the requirements for providing a total reclamation security for site liability may be required.

Deposit of Waste
Details provided in the Application indicate that, in addition to the treatment of hydrocarbon contaminated Water/snow/ice and the discharge of effluent in accordance with the licence conditions and Effluent quality criteria under Part E, Item 10, the following waste types will potentially be generated by the Water Treatment Facility (WTF): waste fuel and filters; oil, lubricants and liquid sludge; contaminated Water; contaminated soil; and other hydrocarbon contaminated waste. All waste generated will require management in accordance with the terms and conditions in this licence and/or applicable legislations and guidelines for wastes generated and proposed to be removed from site to an approved hazardous waste management facility.

Under Part E, of the Licence, the Licensee is required to manage primary waste and residual waste generated from its undertaking in accordance with applicable regulations including the Government of Nunavut - Department of Environment, *Environmental Guideline for Used Oil and Waste Fuel* (June 2012). Additional conditions have been included under Part E of this Licence to address overall waste management practices.

Spill Contingency Plan
Under Part H, Item 1 of the Licence, the Board has approved the Spill Contingency Plan submitted as additional information with the Application. The Licensee is, however, required

to address and submit, with its 2014 Annual Report, a revised plan as outlined in Item 2, that addresses comments and recommendations provided by AANDC during comment period and any other revisions that may become apparent in carrying out the activities associated with the undertaking.

Abandonment and Restoration Plan

The Board has approved the Interim Abandonment and Restoration (A&R) Plan that was submitted as additional information with the Application under Part I, Item 1 in the Licence. The licensee is required to annually review the Plan and to update the A&R plan on an ongoing basis to reflect any changes in operational conditions and scope of activities associated with the project.

Monitoring

Petroleum products or petroleum hydrocarbons (PHC) is a general term used to describe mixtures of organic compounds found in or derived from substances such as oil, bitumen and coal. These products released to soil and water can lead to contaminants entering into the environment through volatilization, adsorption to solid organic matter, leaching by rainwater and dissolution into groundwater, or through contaminated surface runoff migration to oceans, lakes, rivers and streams.

Accordingly to the Application, treated water previously impacted by petroleum products, will be discharged at the Final Discharge Point, with the effluent Final Discharge Point location yet undetermined.

To ensure that effluent generated from the facility does not exceed specific criteria, the Board has included general Effluent quality limits for the treated effluent, at the point of discharge, under Part E, Item 10. Parameters not included under Part E, Item 10 but relevant to the undertaking must not exceed values set in the Canadian Council of Ministers of Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life.

Furthermore, characterization of effluent, soil and Waters at the Final Point of Discharge, in addition to the information of contaminants levels, would help on determining if the discharged effluent had an impact on the environment and, if contamination is identified, would help to determine those parameters that shall be tracked during the remediation process.

Analysis recommended for soil and water characterization where petroleum hydrocarbon contamination is suspected[4,5] include Total Petroleum Hydrocarbon (TPH), Polycyclic Aromatic Hydrocarbons collectively referred as PHAs, benzene, toluene, ethylbenzene and xylenes collectively referred as BTEX and Canadian Wide Standards for petroleum hydrocarbon in soil fractions, CWS-PHC fractions. These contaminants are usually accompanied by heavy metals such as chromium, copper, lead, manganese, nickel and zinc that are commonly found in used lubricating oil from friction wear on engine parts.

Therefore, under Part J, Item 4 of the Licence, the Board has established a list of additional

4 Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils, Federal Contaminated Sites Action Plan (FCSAP), 2013

5 Guideline for the Dismantling and Removal of Petroleum Storage Tank Systems, Manitoba, 2007

parameters that the licensee is required to monitor for the purposes of developing site-specific effluent quality criteria and/or limits given that such criteria and limits may be more reflective of operational conditions for the treatment processes involved and the receiving environment at the final point of discharge.

And, under Part J, Item 6, the Board has included conditions that require the Licensee to submit a Monitoring Plan to the Board for approval, within sixty (60) days following the date of issuance of this Licence. To ensure that monitoring is conducted in accordance with established practices, the Board has included conditions requiring the Licensee to submit a Quality Assurance / Quality Control (QA/QC) Plan along with a cover letter from an accredited laboratory confirming acceptance of the Plan.

Operation and Maintenance Plan

To ensure that documented procedures pertaining to the operation of the facility for the undertaking are developed, the Licensee is required to submit an Operation and Maintenance (O&M) Plan for the WTF, to address the collection, treatment, and discharge of petroleum hydrocarbon impacted snow/ice/water and the handling of wastes generated from the undertaking requiring shipment off-site to an approved hazardous waste handling facility. Part G, Item 4 addresses the requirement to submit an O&M Plan within sixty (60) days from the date of issuance of this licence.

NUNAVUT WATER BOARD
WATER LICENCE

Licence No. 1BR-THI1419

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

QIKIQTAALUK ENVIRONMENTAL INC.

(Licensee)

9935 AVE CATANIA, ENTRANCE 1, SUITE 200, MONTREAL, QC J4Z 3V4

(Mailing Address)

herein after called the Licensee, the right to alter, divert or otherwise use Water or dispose of waste for a period subject to restrictions and conditions contained within this Licence:

Licence Number/Type:	1BR-THI1419 / TYPE "B"
Water Management Area:	FROBISHER BAY WATERSHED (53)
Location:	CITY OF IQALUIT / QIKIQTANI REGION, NUNAVUT
Classification:	INDUSTRIAL – TYPE "B"
Purpose:	DEPOSIT OF WASTE
Quantity of Water use not to Exceed:	USE OF WATER NOT AUTHORIZED
Date of Licence Issuance:	AUGUST 20, 2014
Expiry of Licence:	AUGUST 19, 2019

This Licence issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Thomas Kabloona,
Nunavut Water Board, Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

Scope

This Licence allows for the deposit of waste from an Industrial undertaking classified as *per* Schedule 1 of the *Regulations* at the Qikiqtaaluk Environmental Inc.'s Hydrocarbon Impacted Water Treatment Facility Project, located in an industrial area within the City of Iqaluit, Qikiqtani Region, Nunavut.

a. This Licence is issued subject to the conditions contained herein with respect to the depositing of waste of any type in any Waters or in any place under any conditions where such waste or any other waste that results from the deposits of such waste may enter any Waters. Whenever new Regulations are made or existing *Regulations* are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and

b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

1. **Definitions**

"**Act**" means the Nunavut Waters and Nunavut Surface Rights Tribunal Act;

"**Addendum**" means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report;

"**Amendment**" means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

"**Analyst**" means an Analyst designated by the Minister under Section 85 (1) of the Act;

"**Appurtenant Undertaking**" means an undertaking in relation to which a use of Water or a deposit of waste is permitted by a licence issued by the Board;

"**Batch Discharge**" means the controlled discharge of a discrete, contained volume of effluent from the WTF at the Final Discharge Point. The maximum volume of a batch discharge shall not exceed 21,000 m^3 per batch, otherwise as permitted by an Inspector;

"**Board**" means the Nunavut Water Board established under the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act;*

"**Care and Maintenance**" in respect of operation, means when the Licensee ceases production or commercial operation for an undefined period of time;

"**Construction**" means any activities undertaken to establish and install any or all components of the Water Treatment Facility;

"**Effluent**" means treated liquid waste material from the Water Treatment Facility;

"**Engineer**" means a professional engineer registered to practice in Nunavut in accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

"**Final Discharge Point"** means the point at which the Licensee releases the treated water or effluent from the WTF;

"Hazardous waste" means waste classified as "hazardous" by Nunavut Territorial or Federal Legislation, or as "dangerous goods" under the Transportation of Dangerous Goods Act at the time of clean-up;

"**High Water Mark**" means the usual or average level to which a body of Water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities);

"**ICP Scan**" means the laboratory method for determining trace metals in leachate or Water through Emission Spectroscopy using inductively coupled plasma (including from approximately 22 to 32 elements, depending on the laboratory performing the analysis);

"**Inspector**" means an Inspector designated by the Minister under Section 85 (1) of the *Act*;

"**Licensee**" means the holder of this Licence;

"**Minister**" means the Minister of Aboriginal Affairs and Northern Development Canada;

"**Modification**" means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

"**Monitoring Program**" means a program established to collect data on surface Water, groundWater, and soil quality to assess impacts to the environment of an appurtenant undertaking;

"**Nunavut Land Claims Agreement (NLCA)**" means the *"Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*",

including its preamble and schedules, and any amendments to that agreement made pursuant to it;

"**Regulations**" means the *Nunavut Waters Regulations* SOR/2013-69 18th April, 2013;

"**Seepage**" means any Water that drains through or escapes from any structure designed to contain, withhold, divert or retain Water or waste;

"**Spill Contingency Plan**" means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence;

"**Secondary Containment**" means an impermeable structure, external to and separate from primary containment, which prevents unplanned spills of hazardous materials and provides a minimum capacity of 110% of the original vessel. Where multiple vessels are stored within the containment, it must provide a minimum capacity equal to the sum of the largest vessel and 10% of the aggregate volume of all other vessels located in the containment. This structure shall also provide containment and control of hoses and nozzles;

"**Sump**" is a structure or depression that collects, controls, and filters liquid waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid waste;

"**Waste**" means, as defined in S.4 of the *Act*, any substance that, by itself or in combination with other substances found in Water, would have the effect of altering the quality of any Water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any Water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means;

"**Water**" **or "Waters**" means Waters as defined in section 4 of the Act;

"**Water Treatment Facility (WTF)**" means the Water treatment facility and associated components, including the Water Treatment Unit, piping, pumps and storage tanks used to treat hydrocarbon impacted Water as described in the March 15, 2014 Application and Figure 3, Layout of treatment equipment and waste storage area; Figure 4, Water treatment unit; and Figure 5, Water treatment unit.

2. **Enforcement**
   a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;
   b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and

3. For the purpose of enforcing this Licence and with respect to the deposit or discharge of waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than March 31 of the year following the calendar year being reported, containing the following information:

    a. a summary report of the following activities:
        i. quantity of Petroleum Hydrocarbon Contaminated (PHC) water/snow/ice collected for treatment through the Water Treatment Facility (WTF);
        ii. quantity of collected soil for removal and treatment at an approved facility;
        iii. quantity of waste generated from the undertaking including petroleum, oil, and lubricants (POL), sludge, waste filter media, and any other waste resulting from the treatment of Water at the WTF;
        iv. an inventory of contaminated Water stored at the project site; and
        v. an inventory of treated Water stored at the project site.
    b. a summary of waste disposal activities:
        i. quantity of soil sent for treatment at approved facilities;
        ii. Effluent discharged to the receiving environment from the WTF including location and quality of Effluent discharged;
        iii. a summary of all waste backhauled, including hazardous waste, for disposal at approved facilities under Part E, Items 12, 13 and 14;
    c. a list of any unauthorized discharges and a summary of follow-up actions taken;
    d. a summary of maintenance work performed on the WTF;
    e. any revisions to the plans approved under this licence, including the Spill Contingency Plan and Abandonment and Restoration Plan, as required by Part B, Item 6. Revisions should be submitted in the form of Addenda;
    f. a description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
    g. a review of the reclamation cost estimate, as required by Part C, Item 1;
    h. tabular summary of all information requested and results of the Monitoring Program;
    i. an analysis of data collected during the "Monitoring Program" and a brief description of any future studies planned by the Licensee;
    j. a public consultation/participation report describing consultation with local organizations and the residents of the nearby communities; and
    k. any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

2. The Licensee shall notify the NWB of any normal changes in operating plans or conditions associated with this project at least thirty (30) days prior to any such change.

3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Effluent volumes discharged into the receiving environment at the Final Discharge Point as required under Part J, Item 2 to the

satisfaction of the Inspector.

4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.

5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.

6. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of Addenda to be included with the Annual Report.

7. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.

8. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:

   (a) **Manager of Licensing:**
   Nunavut Water Board
   P.O. Box 119
   Gjoa Haven, NU X0B 1J0
   Telephone: (867) 360-6338
   Fax: (867) 360-6369
   Email: licensing@nwb-oen.ca

   (b) **Inspector Contact:**
   Water Resources Officer, AANDC
   Nunavut District, Nunavut Region
   P.O. Box 100
   Iqaluit, NU X0A 0H0
   Telephone: (867) 975-4295
   Fax: (867) 979-6445

9. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.

10. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the NWB is received and acknowledged by the Manager of Licensing.

11. This Licence is assignable as provided for in Section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO SECURITY

1. The Licensee shall review, annually, the reclamation cost estimate submitted as part of the Application for this Licence. Any changes made to the estimate should be submitted to the Board for review with the Annual Report required in Part B, Item 1.

2. The Licensee shall provide a revised reclamation/closure cost estimate to the Board for approval in writing, within sixty (60) days of receiving notice, that the estimate provided under Part C, Item 1 was not acceptable to the Board.

PART D: CONDITIONS APPLYING TO WATER USE

1. The Licensee is not authorized to use Water under this Licence.

PART E: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall provide at least fifteen (15) days' notice in writing, to an Inspector prior to any planned discharge of Effluent from the WTF. The notice shall include the volumes proposed for discharge, the analytical results for Water quality of the proposed discharge, location of discharge and an indication of any nearby Water bodies that may be impacted.

2. The Licensee shall confirm, with an Inspector, the suitable location(s) for Final Discharge Point(s) for Effluent from the WTF to be discharge prior to any discharge into the receiving environment.

3. The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any Water body such that the quality, quantity or flow of Water is not impaired, unless otherwise approved by the Board in writing.

4. The Licence shall implement appropriate measures to minimize erosion during any discharge of Effluent from the WTF into the receiving environment.

5. The Licensee shall treat all hydrocarbon-impacted Water/snow/ice at the Water Treatment Facility or as otherwise approved by the Board in writing.

6. The Licensee shall operate and maintain the WTF to the satisfaction of an Inspector and in accordance with acceptable engineering standards and the Operation and Maintenance Plan required under Part G, Item 4.

7. The License shall not combine incompatible waste types for the purpose of storage, shipment, buffering concentration of waste constituents or for any other purposes unless authorized by the Board in writing.

8. The License shall store, transport and treat all Waste generated for the undertaking in accordance with applicable regulations and best management practices and at approved facilities.

9. The Licensee shall maintain the Water treatment facility areas such that generation of dust and ponding of surface Water are minimized.

10. All Effluent discharged from Monitoring Program Station **THI -1** shall not exceed the following Effluent quality limits:

Parameter	Maximum Allowable Concentration of any Grab Sample (mg/L)
pH	6.5 to 9 (pH units)
TSS	50
Oil and Grease	15 and no visible sheen
Total Lead	0.001
Benzene	0.370
Toluene	0.002
Ethyl benzene	0.090

11. The Licensee shall establish and confirm compliance with Effluent quality limits of Part E, Item 10 prior to discharge.

12. If the Effluent referred to in Part E, Item 10 does not meet the discharge criteria, it shall be considered hazardous waste and be disposed off-site at an approved hazardous waste facility or as otherwise approved by the Board in writing.

13. The Licensee shall provide the Board with documented authorization from any community in Nunavut receiving waste from the Qikiqtaaluk Environmental Inc. Water Treatment Facility.

14. The Licensee shall maintain records of all waste stored, transported and final destinations, including details confirming proper disposal of the waste through a waste manifest. Detail related to waste backhauled should be included with the Annual Report in Part B, Item 1 and/or made available to and Inspector upon request.

PART F: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:

    a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
    b. such Modifications do not place the Licensee in contravention of the Licence or

the Act;

c. such Modifications do not change the scope of the project as approved by NIRB Decision;

d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and

e. the Board has not rejected the proposed Modifications.

2. Modifications for which all of the conditions referred to in Part F, Item 1 have not been met can be carried out only with written approval from the Board.

3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

PART G: CONDITIONS APPLYING TO CONSTRUCTION

1. The Licensee shall submit to the Board for review, at least sixty (60) days prior to the commencement of construction of any dams, dykes or structures intended to contain, withhold, divert or retain Water or waste, including facilities or systems for the storage and treatment of hydrocarbon contaminated Water, for-construction design drawings and plans, stamped by an Engineer.

2. The Licensee shall provide to the Board, within ninety (90) days of completion of the construction of any dams, dykes or structures intended to contain, withhold, divert or retains water or waste, including facilities or systems for the storage, treatment and disposal of hydrocarbon contaminated Water and wastes, design drawings and construction reports, including as-built drawings stamped by an Engineer, documentation of field decisions that deviate from original plans, and any data used to support these decisions.

3. The Licensee shall conduct all activities in such a manner as to minimize impacts on surface drainage and immediately undertake and implement corrective measures in the event of any impacts on surface drainage.

4. The Licensee shall submit to the Board for approval within ninety (90) days of Licence issue, an Operation and Maintenance Plan (O&M) that addresses the collection, treatment of petroleum hydrocarbon impacted snow/ice/water, and effluent discharge. The O&M shall include information related but not limited to the following:

   a. effluent quality limits;
   b. effluent quality monitoring requirements;
   c. soil quality monitoring at the discharge point;
   d. secondary containment provisions for waste storage facilities associated with the undertaking;
   e. records confirming acceptance from the approved facility that will be treat petroleum hydrocarbon impacted soils generated from the undertaking;
   f. details pertaining to the annual shipment of recovered petroleum hydrocarbons

and other wastes to an approved hazardous materials disposal facility;
g. a map that references of the project infrastructure;
h. a map that references the treated effluent discharge location(s);
i. as-built design drawings for the secondary containment and petroleum hydrocarbon impacted Water treatment system; and
j. facilities and equipment maintenance and inspection plan.

5. The Licensee shall operate the Water Treatment Facility in accordance with the Plan required under Part G, Item 4 or as otherwise approved by the Board in writing.

PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Board has approved the Plan entitled "Spill Contingency Plan Hydrocarbon Impacted Water Treatment" dated September 2013 that was submitted as additional information with the Application.

2. The Licensee shall submit for review of the Board, with the 2014 Annual Report, a revision of the Plan referred to in Part H, Item 1, in the format set out by the Consolidation of Spill Contingency Planning and Reporting Regulations R-068-93, to include the following:
   a. a table of contents (index);
   b. name, address and title of person in charge of the undertaking;
   c. name, title and 24hr contact information of person responsible;
   d. date of plan preparation and the effective period of the Plan;
   e. description of the location, facility and capacity (storage capacity and types waste to be treated, and storage capacity of treated product to be released;
   f. sec. 1.3.1 refers to assistance being obtained from the Hamlet, this should reference the local resources if available in Iqaluit;
   g. Under sec. 1.7, a response flow chart to indicate responsibility, contact information of site personnel and initial reporting requirements;
   h. a map of the project area showing all components of the undertaking, of suitable scale to indicate any sensitive Waters subject potential impacts from the undertaking;
   i. a detailed description of the secondary containment systems that will be employed to prevent any spills of petroleum hydrocarbons;
   j. contact information, Nunavut Water Board (867) 360-6338;
   k. a copy of the NT/NU Spill Report Form and Reporting Guide as referenced;
   l. the transport of contaminated materials (filter media, sludge, barreled petroleum hydrocarbons) to port for shipment to an approved hazardous waste management facility; and
   m. transport of treated Waters to the discharge location.

3. The Licensee shall prevent any chemicals, petroleum products or wastes associated with the project from entering Water. All sumps and fuel caches or contaminated Water storage shall be located at a distance of at least thirty one (31) metres from the ordinary high Water mark of any adjacent Water body and inspected on a regular basis.

4. If during the term of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:

   a. employ the approved Spill Contingency Plan;
   b. report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
   c. for each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.

5. The Licensee shall, in addition to Part H, Item 4, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a Water body.

6. Spills, overfills, and storm water from product transfer areas shall be contained, and treated by the WTF to remove any residual hydrocarbons prior to being discharged.

7. The oil-water separator at the WTF shall be equipped with a spill containment device at the point of oil removal.

PART I: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION OR TEMPORARY CLOSING

1. The Board has approved the Plan entitled "Abandonment and Remediation Plan Hydrocarbon Impacted Water Treatment" dated September 2013, that was submitted as additional information with the Application.

2. The Licensee shall annually review the approved Plan in Part I, Item 1 and modify the Plan as necessary to reflect changes in personnel, operations and/or technology. Any proposed modifications to the Plan shall be submitted to the Board for review as an addendum to the original Plan.

3. The next annual review of the Plan in Part I, Item 1 shall include or address the following:
   a. a detailed schedule for temporary abandonment as a contingency measure;
   b. a detailed schedule for final abandonment.

4. The Licensee shall complete the restoration work within the time schedule specified in the approved Plan, or as subsequently revised and accepted by the Board in writing.

5. The Licensee shall carry out progressive reclamation for any components of the project no longer required for the Licensee's operations.

6. The Licensee shall notify the Board of its intention to proceed with final abandonment of undertaking at least six (6) months prior to the planned dates of closure.

7. The Licensee shall backfill and restore, all temporary containment sumps, to the pre-existing natural contours of the land.

8. All disturbed areas shall be stabilized and re-vegetated as required, upon completion of work, and restored as practically as possible to a pre-disturbed state.

PART J: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall establish and maintain, at a minimum, the following Monitoring Program Stations or as otherwise approved by the Board in writing:

Monitoring Station ID	***Description***	***Frequency***	***Parameters***
THI -1 (Water)	effluent from the WTF to be discharged at the Final Discharge Point	as per part J, Item 4	volume as per Part J, Item 2; Quality as per Part J, Item 4

2. The Licensee shall measure and record in cubic metres, the quantity of Effluent to be discharged from the Water Treatment Facility at monitoring station THI -1.

3. The Licensee shall monitor compliance with respect to Part E, Item 10, by collecting grab samples, representative of the total volume of effluent to be discharged from the Water Treatment Facility at monitoring station THI -1.

4. The Licensee shall sample at Monitoring Station THI-1, at minimum, once prior to each batch discharge event and prior to completion of discharge, and analyze for the following parameters:

pH	Conductivity
Total Suspended Solids	Ammonia Nitrogen
Nitrate – Nitrite	Oil and Grease (visual)
Total Phenols	Sulphate
Total Hardness	Total Alkalinity
Sodium	Potassium
Magnesium	Calcium
Chloride	Total Cadmium
Total Copper	Total Chromium
Total Iron	Total Lead
Total Mercury	Total Nickel
Total Zinc	Total Phosphorous
Total Aluminum	Total Manganese
Total Cobalt	Total Arsenic

Polycyclic Aromatic Hydrocarbons (PAHs)
Total Petroleum Hydrocarbons (TPH)
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)

5. The Licensee shall determine, prior to discharge and upon agreement with an Inspector at any final discharge location, and record the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) where treated effluent is discharged.

6. The Licensee shall submit to the Board for review, within sixty (60) days of issuance of this Licence, and after having confirmed the Final Discharge Point location, a Monitoring Plan. The Monitoring Plan shall include but not be limited to the following:
   a. soil monitoring within the vicinity of the Effluent discharge at the Final Discharge Point;
   b. monitoring of any nearby Water bodies that may be impacted for the effluent discharge at the Final Discharge Point.

7. The Monitoring Plan referred to in Part J Item 6, shall include Water and soil sampling procedures and chemical analysis and be consistent where appropriate with the Guidance Manual on Sampling, Analysis and Data Management for Contaminated Sites, Volume 1: Main Report (CCME, 1993), and Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil – Tier 1 Method (CCME, 2001).

8. Modifications/Amendments to the Monitoring Plan referred to in Part J Item 6 may be made only upon written request and approval by the Board in writing.

9. The Licensee shall conduct additional sampling and analysis by the request of an Inspector.

10. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of Standard Methods for the Examination of Water and Wastewater, or by such other methods approved by the Board in writing.

11. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.

12. The Licensee shall submit, within three (3) months of Licence approval, to an Analyst for approval, a Quality Assurance/ Quality Control Plan that includes requirements for independent third party sampling and analysis. This Plan shall be developed in accordance with the *1996 Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "A" (INAC)*.

13. If the Analyst does not approve the Plan referred to in Part J, Item 12, the Licensee shall revise the Plan and resubmit to the Analyst for approval within thirty (30) days of notification by the Analyst.

14. The Board shall be notified of the Analyst decision with respect to the QA/QC Plan referred to in Part J Item 12 and 13.

15. The Licensee shall include summaries and an interpretation of all the data and information required by the "Monitoring Program" (required under Part J) in the Annual Report as per Part B, Item 1.

16. The Licensee shall submit to the Board for approval in writing, at least sixty (60) days prior to temporary or permanent suspension of normal site activities, a Post-closure Monitoring Plan that includes information on monitoring requirements of the Water Treatment Facility and site Water management.

APPENDIX D

PREVIOUS NPC CONFIRMATION

From: Christopher Tickner [ctickner@nunavut.ca]
Sent: July 26 2013 10:15 AM
To: Philippe Simon
Cc: Brian Aglukark
Subject: RE: land use plan conformity determination

Good morning Mr. Simon,

Re: land use plan conformity determination

Thank you for your email.

The Nunavut Planning Commission (NPC) has determined that the project proposal as described below is located outside the boundaries of the two approved land use plans currently administered by the NPC.

No further review is required by the NPC at this time.

Please ensure that any change in scope of the proposed project is forwarded to the NPC so as a determination can be made as to weather a conformity review is required.

Please contact me should you have any questions.

Sincerely,

Christopher

Christopher Tickner MCIP, RPP
Senior Planner
Nunavut Planning Commission
P.O. Box 2101 Cambridge Bay, NU X0B 0C0
Phone: (867) 983-4634
Fax: (867) 983-4626
Website: www.nunavut.ca

From: Philippe Simon [mailto:psimon@sanexen.com]
Sent: July-25-13 9:12 AM
To: Christopher Tickner
Subject: land use plan conformity determination

Hi Christopher,

The project for which we will be applying for a water licence is for:

The treatment of hydrocarbon contaminated water resulting from fuel spill (contact water) or from the cleaning of fuel tanks. The impacted water is collected in tanks and haul to a facility located in the industrial district of Iqaluit, and then pumped through various filters and

treatment system prior to be containerize, tested, and discharge if it meet the proper parameters.

The coordinates for the project are:

NW: Latitude: (63 °46 ’21 ” N) Longitude: (68 °33 ’34 ” W)
NE: Latitude: (63 °44 ’10 ” N) Longitude: (68 °25 ’20 ” W)
SE: Latitude: (63 °43 ’18 ” N) Longitude: (68 °26 ’26 ” W)
SW: Latitude: (63 °44 ’27 ” N) Longitude: (68 °34 ’30 ” W)

Regards,

Philippe Simon, P.Eng., Ph.D.
Managing director

Qikiqtaaluk environmental

Iqaluit & Montreal
Toll Free: 1-866-634-6367 x 201
Tel: (514) 940-3332 x 201
Cell: (514) 779-3332
www.qenv.ca

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Nunavunmi Parnaiyiit
Nunavut Planning Commission
Commission d'Aménagement du Nunavut

November 24, 2015

Jaida Ohokannoak
Manager, Technical Administration
Nunavut Impact Review Board
P.O. Box 1360, Cambridge Bay, NU X0B 0C0
By email: info@nirb.ca

Jamessee Moulton
Pollution Prevention Specialist, Environmental Protection
Government of Nunavut Department of Environment
PO Box 1000, Station 1360, Iqaluit, Nu X0A 0H0
By email: Jmoulton@gov.nu.ca

Harry Flaherty, President
Olivier Simard B.SC., Project Manager, Environment
Qikiqtaaluk Environmental Inc.
1571B, Kakivak Ct. PO Box 11443
Iqaluit (Nunavut) X0A 0H0 Canada
By email: osimard@qenv.ca

Phyllis Beaulieu, Manager of Licensing
Nunavut Water Board
PO BOX 119, Gjoa Haven, NU X0B 1J0
By email: licensing@nwb-oen.ca

Dear Ms. Ohokannoak, Mr. Moulton, Mr. Flaherty, Mr. Simard, Ms. Beaulieu:

RE: NPC File # 148158 Iqaluit Land Farm (Qikiqtaaluk Environmental New Lot Development)

The Nunavut Planning Commission (NPC) has determined that this project proposal is outside the area of an applicable regional land use plan. The project proposal requires screening by the Nunavut Impact Review Board (NIRB) because it does not belong to a class of exempt works or activities set out in Schedule 12-1 of the Nunavut Land Claims Agreement (NLCA).

By way of this letter, the NPC is forwarding the project proposal to the NIRB for screening. Project materials are available at the following address:
http://npc.strata360.com/portal/project-dashboard.php?appid=148158&sessionid=

This decision applies only to the above noted project proposal as submitted. If there is a significant modification to the project proposal, the proponent is required to re-submit the modified project proposal to the NPC. For reference, a significant modification may include:

- Any change to the location of the work or activity;
- Any change to the type of land use;

- Any change to the timing of the work or activity (e.g. seasonal changes);
- An increase or modification in a work or activity that, for example, requires changes to a land use permit from Class B to Class A or a water licence from Type B to Type A;
- Any change that disqualifies a project proposal from a previously applicable NIRB screening exemption provided in NLCA Schedule 12-1.

This list is non-exhaustive and is simply an example of what the NPC may consider to be “significant modifications” from a land use planning perspective.

If you have any questions, please do not hesitate to contact me at (867) 857-2242.

Sincerely,

Peter Scholz
Senior Planner,
Nunavut Planning Commission

APPENDIX E

PREVIOUS NIRB DETERMINATION

NIRB File No.: EX201
NWB File No.: 1BR-THI----

April 28, 2014

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Sent via email: phyllis.beaulieu@nwb-oen.ca

Re: Application exempt from Screening pursuant to NLCA Schedule 12-1: Qikiqtaaluk Environmental Inc.'s "Treatment of Hydrocarbon Impacted Water" project proposal

Dear Phyllis Beaulieu:

On April 28, 2014 the Nunavut Impact Review Board (NIRB) received an application from the Nunavut Water Board (NWB) for Qikiqtaaluk Environmental Inc.'s "Treatment of Hydrocarbon Impacted Water Project" project proposal. The NIRB has determined that this project proposal is exempt from screening pursuant to item 5 of Schedule 12-1 of the Nunavut Land Claims Agreement (NLCA), *Types of Project Proposals Exempt from Screening*:

NLCA Schedule 12-1 (5):

> *"Water uses that do not require a public hearing under Section 13.7.3".*

As this project proposal is exempt from the requirement for Screening by the NIRB, authorizations associated with this proposal may be processed by your office.

If you have any questions or require additional clarification, please contact the undersigned directly at info@nirb.ca or **(867) 983-4612.**

Sincerely,

Natasha Lear
Environmental Administrator
Nunavut Impact Review Board

cc: Greg Johnson, Qikiqtaaluk Environmental Incorporated
Bernie MacIsaac, Qikiqtani Inuit Association

APPENDIX F

COST ESTIMATE

Qikiqtaaluk environmental

ENVIRONMENTAL WASTE PROCESSING FACILITY

Cost estimate in case of abandonment for security

Water treatment Unit

Item	QTY	Unit	Unit Price	Total
Cost to Manage 30,000 L of Impacted Water				
Container (tote tanks - 1200 liter) for shipping	30	each	$450	$13,500
Marine shipping to Iqaluit	39	cu.m.	$150	$5,850
Marine shipping from Iqaluit	39	cu.m.	$120	$4,680
Handling from to harbor in Iqaluit - loader/truck	8	hrs	$275	$2,200
Manager for coordination of impacted water transfer	2	days	$720	$1,440
Labour assistance for transfer of impacted water	2	days	$400	$800
Disposal of impacted water in an authorized facility	30000	liter	$0.60	$18,000
Spill control supplies		lump sum		$500
			Subtotal	**$46,970**
Cost to Excavate and Containerize 20 Tons of Soil at Discharge Point				
Provision of soil containers	10	each	$125	$1,250
Excavator	12	hrs	$200	$2,400
Backhoe to move soil bags prior to shipping	8	hrs	$150	$1,200
Manager to supervise and sample	3	days	$720	$2,160
Labour to assist in soil containerisation	3	days	$400	$1,200
Marine shipping of contaminated soil from Iqaluit	20	Tons	$300	$6,000
Disposal of contaminated soil in an authorized facility	20	Tons	$95	$1,900
Laboratory analysis for confirmatory sampling		lump sum		$800
Manager for reporting and coordination with authorities	3	days	$720	$2,160
Gravel for backfilling excavated area	20	Tons	$35	$700
			Subtotal	**$19,770**
Dismantling of the Treatment Unit				
Provision of containers for impacted filtering media	5	each	$145	$725
Manager for dismantling coordination	5	days	$720	$3,600
Labour for assistance	5	days	$400	$2,000
Electrician to unconnect power	4	hrs	$125	$500
Loader to move non-hazardous dismantled parts to landfill	8	hrs	$150	$1,200
Truck to bring non-hazardous dismantled parts to landfill	8	hrs	$125	$1,000
Marine shipping of impacted filtering media	4	Tons	$300	$1,200
Disposal of impacted filtering media in an authorized facility	4	Tons	$425	$1,700
Spill control supplies		lump sum		$500
Credit for valued reselling of parts		lump sum		-$3,000
			Subtotal	**$9,425**
			Grand total for Abandonment in Worst Case Scenario	**$76,165**

GRAND TOTAL

$324,460

ENVIRONMENTAL WASTE PROCESSING FACILITY

Cost estimate in case of abandonment for security

Soil treatment facility

Item	QTY	Unit	Unit Price	Total
Cost to Manage 500 m3 of contaminated soils				
Provision of soil containers	500	each	$125	$62,500
Marine shipping to Iqaluit	10	cu.m.	$150	$1,500
Excavator	60	hrs	$200	$12,000
Backhoe to move soil bags prior to shipping	20	hrs	$150	$3,000
Manager to supervise and sample	7	days	$720	$5,040
Labour to assist in soil containerisation	7	days	$400	$2,800
Marine shipping of contaminated soil from Iqaluit	250	Tons	$300	$75,000
Disposal of contaminated soil in an authorized facility	250	Tons	$95	$23,750
Laboratory analysis for confirmatory sampling		lump sum		$400
Manager for reporting and coordination with authorities	4	days	$720	$2,880
			Subtotal	**$188,870**
Dismantling of the Treatment System				
Manager for dismantling coordination	2	days	$720	$1,440
Labour for assistance	4	days	$400	$1,600
Electrician to unconnect power	1	hrs	$125	$125
Excavator	16	hrs	$200	$3,200
Loader to move non-hazardous dismantled parts to landfill	10	hrs	$150	$1,500
Truck to bring non-hazardous dismantled parts to landfill	10	hrs	$125	$1,250
Marine shipping of equipment from Iqaluit to Montreal	20	Tons	$300	$6,000
Credit for valued reselling of parts		lump sum		-$6,000
			Subtotal	**$9,115**
			Grand total for Abandonment in Worst Case Scenario	**$197,985**

HW management facility

Item	QTY	Unit	Unit Price	Total
Cost to Manage 50 drums of HW				
Provision of drums	10	each	$90	$900
Marine shipping drums and supplies to Iqaluit	5	cu.m.	$150	$750
Backhoe to move containers prior to shipping	16	hrs	$150	$2,400
Manager to supervise	2	days	$720	$1,440
Labour assistance	2	days	$400	$800
Marine shipping of HW from Iqaluit	10	Tons	$300	$3,000
Disposal of HW in an authorized facility	10	Tons	$200	$2,000
Manager for reporting and coordination with authorities	2	days	$720	$1,440
			Subtotal	**$12,730**
Cost to Excavate and Containerize 40 Tons of Soil in storage area				
Provision of soil containers	20	each	$125	$2,500
Excavator	24	hrs	$200	$4,800
Backhoe to move soil bags prior to shipping	16	hrs	$150	$2,400
Manager to supervise and sample	4	days	$720	$2,880
Labour to assist in soil containerisation	4	days	$400	$1,600
Marine shipping of contaminated soil from Iqaluit	40	Tons	$300	$12,000
Disposal of contaminated soil in an authorized facility	40	Tons	$95	$3,800
Laboratory analysis for confirmatory sampling		lump sum		$800
Manager for reporting and coordination with authorities	3	days	$720	$2,160
Gravel for backfilling excavated area	40	Tons	$35	$1,400
			Subtotal	**$34,340**
Dismantling of the Storage Facility				
Manager for dismantling coordination	2	days	$720	$1,440
Labour for assistance	2	days	$400	$800
Marine shipping of equipment from Iqaluit to Montreal	10	Tons	$300	$3,000
Credit for valued reselling of parts		lump sum		-$2,000
			Subtotal	**$3,240**
			Grand total for Abandonment in Worst Case Scenario	**$50,310**

APPENDIX G

STATEMENT OF FINANCIAL SECURITY

Qikiqtaaluk environmental

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Will be provided when available.

APPENDIX H

CERTIFICATE OF INCORPORATION
AND
BUSINESS LICENCE

Industry Canada Industrie Canada

Certificate of Incorporation

Canada Business Corporations Act

Certificat de constitution

Loi canadienne sur les sociétés par actions

QIKIQTAALUK ENVIRONMENTAL INC.	609567-4
Name of corporation-Dénomination de la société	Corporation number-Numéro de la société

I hereby certify that the above-named corporation, the articles of incorporation of which are attached, was incorporated under the *Canada Business Corporations Act.*

Je certifie que la société susmentionnée, dont les statuts constitutifs sont joints, a été constituée en société en vertu de la *Loi canadienne sur les sociétés par actions.*

Director - Directeur

May 12, 2003 / le 12 mai 2003

Date of Incorporation - Date de constitution

Canada

Iqaluit
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CITY OF IQALUIT
P.O. Box 460
IQALUIT, NUNAVUT
X0A 0H0
TELEPHONE: (867) 979-5600
FAX: (867) 979-0228

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ᐅᖄᓚᐅᑎᖓ: (867) 979-5600
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BUSINESS LICENSE
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MAILING ADDRESS:
ᑎᑎᖅᑲᓂᐊᕐᕕᒃᑯᑦ ᑐᕐᕿᑎ:

QIKIQTAALUK CORPORATION/
SANEXEN
BOX 1228
IQALUIT NUNAVUT X0A 0H0

BUSINESS LICENSE#
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16-0079

LICENSEE (NAME AND PLACE OF BUSINESS)
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QIKIQTAALUK ENVIROMENTAL INC.

922 UNIT

IS LICENSED TO CARRY ON THE BUSINESS OF:
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ENVIRONMENTAL SERVICES

LICENSE FEES:
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Pre Dec 31 Resident Renewal	1 @ $ 200.00

*This License must be posted in a conspicuous place on the premises. ᕈᐅᓇ ᐱᔪᓐᓇᐅᑎ ᓴᖅᑭᔮᖅᑎᑕᐅᒋᐊᖃᖅᑐᖅ ᑕᑯᑦᓴᐅᔫᒥᔪᒥ ᓇᖕᒥᓂᖃᕐᕕᖓᒥ.

EXPIRY DATE: 31/12/2016
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THE LICENSEE IS HEREBY LICENSED WITHIN THE CITY OF IQALUIT TO CARRY ON THE BUSINESS, TRADE OR PROFESSION STATED HEREIN UNLESS THE LICENSE IS SOONER CANCELLED, SUSPENDED OR FORFEITED. THIS LICENSE IS ISSUED SUBJECT TO ALL.

ᐱᔪᓐᓇᐅᑎᖃᖅᑎᒥᑦ ᑎᒍᒥᐊᖅᑐᖅ ᐱᔪᓐᓇᐅᑎᖃᓕᖅᐳᖅ ᐃᓗᐊᓂ ᓄᓇᓕᐸᐅᔭᐃᑦ ᐃᖃᓗᐃᑦ ᐱᓕᕆᔪᓐᓇᓕᕐᓂᕐᒥᓂᒃ ᑭᓇᐅᔭᓕᐅᕈᑎᒥᓂᒃ ᐱᓕᕆᕝᕕᖕᒥᑦ, ᐱᓕᕆᔾᔪᑎᒥᓂᒃ ᓱᓇᐅᓂᒃᑯᑦ ᐅᑉᐸᓘᓐᓃᑦ ᐱᓕᕆᔾᔪᑎᒥᓂᒃ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᒥᑦ ᑕᑉᐸᓂ ᐱᔪᓐᓇᐅᑎᖓ ᖁᔭᓈᖅᑕᐅᓚᐅᖏᓐᓂᖓᓂ, ᐊᑐᖕᖏᑎᑕᐅᑲᐃᓐᓇᕐᓂᖓᓂ ᐅᑉᐸᓘᓐᓃᑦ ᐊᑐᕈᓐᓃᖅᑎᑕᐅᓚᐅᖏᓐᓂᖓᓂ. ᐱᔪᓐᓇᐅᑎᐅᔪᖅ ᒪᓕᒋᐊᖃᖅᑐᖅ ᐊᑐᑎᓕᒫᑦᓯᐊᓂᑦ

APPLICABLE CITY OF IQALUIT BY-LAWS NOW AND HEREAFTER IN FORCE AND ANY AMENDMENT THAT MAY HEREAFTER BE MADE TO THE APPLICABLE BY-LAWS DURING THE TERM OF THIS LICENSE.

ᓄᓇᓕᐸᐅᔭᐃᑦ ᐃᖃᓗᐃᑦ ᒪᓕᒐᖓᖁᑎᖏᓐᓂᑦ ᒫᓐᓇᒃᑯᑦ ᐊᒻᒪᓗ ᑭᖑᓂᐊᒍᑦ ᐊᑐᓕᕐᓂᐊᖅᑐᓂᑦ ᐊᒻᒪᓗ ᑎᑎᕋᕐᓯᒪᓂᖏᒍᑦ ᐊᓯᔾᔨᖅᑕᐅᕙᓪᓕᓂᐊᖅᑐᓂᑦ ᑭᖑᓂᐊᒍᑦ ᐱᔪᓐᓇᐅᑎᖃᓕᖅᑎᓪᓗᒍ ᓴᖅᑭᑕᐅᒐᔪᖅᑐᓂᑦ ᒪᓕᑉᐸᑦᑕᖏᓐᓂᑦ ᒪᓕᒐᖓᓂ ᐱᔪᓐᓇᐅᑎᖓᑕ ᐊᑐᕐᓇᕐᓂᓕᒫᖓᓂ.

IN THE EVENT THAT THE NATURE OF THE BUSINESS IS CHANGED OR THE ADDRESS FROM WHICH THE BUSINESS IS CARRIED ON IS CHANGED, THE LICENSE INSPECTOR MUST BE NOTIFIED.

ᖃᖓᑐᐃᓐᓇᒃᑯᑦ ᓇᖕᒥᓂᓕᔭᐅᔪᑉ ᖃᓄᐃᑦᑑᓂᖓ ᐊᓯᔾᔨᓂᖅᐸᑦ ᐅᑉᐸᓘᓐᓃᑦ ᑐᕐᕿᑎᖓ ᓇᖕᒥᓂᖃᕐᕕᖓᑕ ᐊᓯᔾᔨᓂᖅᐸᑦ, ᐱᔪᓐᓇᐅᑎᓂᑦ ᖃᐅᔨᓴᖅᑎᐅᔪᖅ ᖃᐅᔨᑲᖅᑎᑕᐅᒋᐊᖃᖅᑐᖅ.

nKierstead

for **Chief Administrative Officer**
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APPENDIX I

COMPLIANCE ASSESSMENT

Aboriginal Affairs and Northern Development Canada | Affaires autochtones et Développement du Nord Canada

WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Qikiqtaaluk Environmental	Olivier Simard
Licence No. / Expiry	**Representative's Title**
1BR-THI1419	Project Manager
Land / Other Authorizations	
None	
Date of Inspection	**Inspector**
September 15, 2015	Justin HACK

Activities Inspected

☐ Camp/Municipality ☐ Drilling ☐ Mining ☐ Construction ☐ Reclamation ☐ Fuel Storage
☐ Roads/Hauling ☐ Other: ☒ Other: Activities related to Water Treatment

Conditions: **A - Acceptable** **C - Concern** **U – Unacceptable** **NA – Not Applicable** **NI – Not Inspected**

Water Use	Condition	Comment	Site Conditions	Condition	Comment	Haz/Mat Management	Condition	Comment
Intake/Screen	NA		Water Management Structures	A		Storage	A	
Flow Measure. Device	NA		Culverts / Bridges	NA		Spills	A	
Source:	NA		Drainage	A		Spill Plan	A	
Water Use:	A		Erosion / Sediment	A				
Recirculation (y /n)	NA		Mitigation Measures	A		**Administrative**		
			Reclamation Activities	NA		Records	NA	
			Materials Storage	A		Reports	NI	
Waste Disposal			Signage	A		Plans	NI	
Waste Water	A					Notifications	A	
Solid Waste	A		**Monitoring**			**Other**		
Hazardous Waste	A		Sample Collection / Analysis	NI				

**The number in the comments field will correspond with specific comments provided below.*

Samples taken by Inspector:	Location(s):
☐ Yes ☒ No	

SECTION 1 ☒ **Comments** ☐ **Non-Compliance with Act or Licence** ☐ **Action Required**

Background

Qikiqtaaluk Environmental was issued a waste disposal licence from the Nunavut Water Board on July 15, 2014. The Licensee is authorized to discharge water containing waste as long as it meets conditions contained within the licence.

Inspectors Statement

On September 15, 2015 a water licence inspection was conducted at Qikiqtaaluk Environmental's property in Iqaluit, NU as a follow-up to a report released by AANDC on September 1, 2015 entitled, *"Review of Qikiqtaaluk Environmental Inc.'s Operation and management Plan for Water licence #1BR-THI1419 – Hydrocarbon impacted water treatment facility*.

In the AANDC Review it was noted that there were activities occurring on site which may require a water licence that are not currently covered under licence 1BR-THI1419. These activities included the storage of two large piles of presumably contaminated soil on site, the storage of a larger pile of soil covered with tarps, and fuel storage contained outside of secondary containment.

Inspection

A follow-up Water Licence Inspection was completed on September 15, 2015.

Materials Storage:

1. "The two large piles of presumably contaminated soil" on site were inspected as recommended in the AANDC Report, Sept 1, 2015.
    a. During the inspection on September 15, 2015 it was noted that these piles of soil were clean sand material. This was confirmed by Alex Brisco, Environmental Protection Officer from Government of Nunavut, Department of Environment during the Inspection.
    b. This material is stockpiled by QE for the purposes of applying it to their parking lot when there are icy conditions.
    c. There are no concerns with the storage of this soil and this activity does not require a water licence/amendment. It poses no risk to water and does not trigger section 12 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (the Act) or its *Regulations*.
2. As recommended in the AANDC Report on Sept 1, 2015, the storage of the larger pile of soil covered by tarps was inspected because it may require a licence.

a. During the inspection, it was confirmed by the Licensee that this soil was contaminated with hydrocarbons.
b. However, it was noted that this soil was effectively covered within an appropriate liner to prevent any water from entering the stockpile.
c. The soil was also appropriately lined to prevent any water from entering the stockpile and/or waste from leaving the stockpile.
d. The facility showed no signs of performance issues and no signs of run-off were noted.
e. It is determined that the Licensee has taken reasonable measures to prevent this contaminated soil from entering water.
f. There are no concerns with the storage of this soil and this activity does not require a water licence/amendment to the current licence because it does not trigger any sections of the *Act* or its *Regulations*.

Hazardous Materials Storage

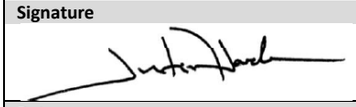
3. The AANDC report highlighted that drum caches were not in secondary containment.
   a. During a site inspection, it was confirmed that drum caches were not in secondary containment.
   b. However, there is no requirement within the licence or as part of the *Act* or its *Regulations* that requires this Licensee to ensure that fuel is within secondary containment.
   c. There are no concerns related to the storage of fuel on site.

Waste Disposal

4. Discharge Point
   a. The discharge point for the effluent was inspected.
   b. No concerns related to erosion or sedimentation was noted at the point of discharge.
   c. A soil sample was taken by the Licensee in 2014 after the discharge to confirm no adverse effects to the soil occurred due to discharge, as required in the water licence.
5. Concern was noted over the exceedances of Lead in the AANDC Inspection Report, Sept 1, 2015.
   a. On August 4, 2014, in a report released by Exova on behalf of QE, samples did show an exceedance of lead by 0.001mg/L.
   b. In a letter, sent to AANDC on September 25 2014, it was confirmed that this water was not discharged into the environment but it was re-treated. This email is attached to this inspection report.
   c. The results from the retreated water show that the water has met discharge criteria.
   d. Given the information provided by QE regrading this exceedance, there are no issues regarding the discharge of water by QE.
6. Concern was noted over the insufficient sampling in the AANDC Inspection Report, Sept 1, 2015.
   a. During the inspection, it was confirmed that QE has approximately 60m^3 of water storage capacity on site.
   b. As confirmed in an email written to AANDC, QE only discharged from their facility once during 2014 and has provided the required number of samples. This email is attached to this Inspection Report.
   c. It is to be noted that QE operated in accordance with their water licence and there are no concerns regarding the number of samples QE analysed prior to discharge.

SECTION 2	☒ **Comments**	☐ **Non-Compliance with Act or Licence**	☐ **Action Required**

Click here to enter text.

Inspector's Name	
Justin Hack	
Signature	
	
Date	
November 27, 2015	

Justin Hack - Re: QE Water Discharge 2014

From: "Andrew Keim" <Andrew.Keim@aandc-aadnc.gc.ca>
To: "Simard, Olivier" <osimard@qenv.ca>
Date: 9/25/2014 2:34 PM
Subject: Re: QE Water Discharge 2014
CC: "Allain, Erik" <Erik.Allain@aandc-aadnc.gc.ca>, "Beaulieu, Phyllis" <lic...

Good day Olivier,

Thank you for the up-date.
Please advise once you have started the discharge.
Please ensure you record and report the the amount discharged and the duration of the discharge.

Thank you

Andrew Keim
Water Resources Officer
Field Operations Unit
Aboriginal Affairs and Northern Development Canada
Nunavut Regional Office
P.O. Box 100
Iqaluit, Nunavut X0A 0H0
Andrew.Keim@aandc-aadnc.gc.ca
Phone: (867) 975-4289
Fax: (867) 979-6445
B.B (867) 222- 6488
>>> "Olivier Simard" <osimard@qenv.ca> 9/25/2014 12:05 PM >>>
De : Olivier Simard [mailto:osimard@qenv.ca]
Envoyé : septembre 25 2014 10:32
À : gjohnson@qenv.ca
Objet : Est-ce que c'est correct comme ça?

Hi,

On the results we received 2014-08-13 (attached) only lead was over discharge criteria. We retreated the water and had it analysed for metals. Results we received 2014-09-09 (attached) show that lead has reached the discharge criteria. Following your written agreement, I will release the water at the discharge location (Lot 3) according to our NWB license.

Olivier Simard B.SC.
Project Manager - Northern Projects

1571B Kakivak Ct. PO Box 1228
Iqaluit, Nunavut X0A 0H0 Canada
Cellular 867 222-8194

Justin Hack - TR: 2014 annual report 1BR-THI1419

From: "Olivier Simard" <osimard@qenv.ca>
To: "Justin Hack" <Justin.Hack@aandc-aadnc.gc.ca>
Date: 11/19/2015 3:03 PM
Subject: TR: 2014 annual report 1BR-THI1419
Attachments: image002.jpg; 20140909101148_0015.PDF; Re: QE Water Discharge 2014

Good afternoon Justin,

As per your questions regarding last year's report, after a small research I was able to find your answers. At the time, we were having discussions with Mr. Andrew Keim on the approval of a suitable discharge location for QE. We stored the treated water in our two holding tanks on stands (that you've seen during your visit) but also in two smaller tanks (Tank 1 & Tank 2), a ''Roll-Off Tank'' belonging to QIL and a water truck also belonging to QIL. The calculated volumes of each containers are :

- Tank on stand A = ≈12.00m^3
- Tank on stand B = ≈18.00m^3
- Tank 1 = 4.28m^3
- Tank 2 = 4.92m^3
- Roll-Off Tank = ≈10.00m^3
- Water Truck = ≈10.00m^3

Should you wish to have pictures of the above or come see them for yourself just ask. Before taking the sample for analysis we ''linked'' all reservoirs with hoses and pumps and let the water circulates for a day in a closed loop **thus creating a single batch** that we discharged following Mr. Keim's approval.

As per your question regarding the lead, you will find attached a second set of results after the water received a second treatment to remove the exceeding lead. This result was provided to Mr. Keim before discharging (see email attached).

Should you have other questions please let me know.

Olivier Simard B.SC.
Project Manager - Northern Projects
Qikiqtaaluk environmental
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Cellular 867 222-8194

Aboriginal Affairs and Northern Development Canada
Affaires autochtones et Développement du Nord Canada

Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

Your file - Votre référence
1BR-THI1419

September 1, 2015

Our file - Notre référence
CIDM #941498

Robin Ikkutisluk
Acting Manager of Licensing
Nunavut Water Board
Gjoa Haven, NU X0E 1J0

Re: Aboriginal Affairs and Northern Development Canada's (AANDC) Review of Qikiqtaaluk Environmental Inc.'s Operation and Management Plan for Water Licence #1BR-THI1419 – Hydrocarbon impacted water treatment facility

Dear Ms. Ikkutisluk,

Thank-you for the email notice received on August 13, 2015 regarding the above mentioned plan.

AANDC Water Resources Division reviewed the operation and management plan submitted and the results of our review are provided in the enclosed memorandum for the Board's consideration. Comments have been provided pursuant to the Department's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

Please do not hesitate to contact me at 867-975-3876 or Sarah.Forte@aandc-aadnc.gc.ca for any additional information.

Regards,

Sarah Forté
Water Management Coordinator

c.c.: Andrew Keim, Acting Manager of Water Resources, AANDC Nunavut
Justin Hack, Water Resource Officer, AANDC Nunavut
Erik Allain, Manager of Field Operations, AANDC Nunavut

Canada

Technical Review Memorandum

To: Robin Ikkutisluk – Acting Manager of Licensing, Nunavut Water Board

From: Sarah Forté – Water Management Coordinator, AANDC

Date: September 1, 2015

Re: Operation and Management Plan Submission for Water Licence #1BR-THI1419

Licensee: Qikiqtaaluk Environment Inc.
Project: Hydrocarbon Impacted Water Treatment Facility
Region: Qikiqtani

A. BACKGROUND INFORMATION

On August 13, 2015 the Nunavut Water Board provided notification to interested parties that Qikiqtaaluk Environment Inc. (the licensee) had submitted an Operation and Management Plan, as required in Part G Item 4 of their Type 'B' water licence #1BR-THI1419.

The licence was granted for treating hydrocarbon impacted water and snow at a facility located at 1571 Kakivak Court in Iqaluit and the Operation and Management Plan describes how the facility is to be run.

Interested parties were requested to review the Operation and Management Plan and provide comments by September 13, 2015.

B. EXPRESSION OF CONCERN

Aboriginal Affairs and Northern Development Canada (AANDC) is concerned that the Operation and Management Plan submitted by the licensee does not reflect the actual operations on site. Moreover, activities occurring site which may require a water licence are not currently covered under licence 1BR-THI1419.

On a visit to site on August 28th 2015, we saw the berms to be constructed for secondary containment were not yet built and there were two very large piles of presumably contaminated soil on site. The first, which was uncovered and spilt over the property-line fence was approximately 25 × 5 × 3m. The second pile was even larger and was covered by tarps. No secondary containment was present to keep leachate from these soil piles from contaminating water and AANDC believes they pose a threat to water quality. There is no watercourse within 100 m, but runoff from the property will eventually reach nearby water bodies.

An additional source of concern is the lack of adequate water testing before discharge. According to the licence Part E Items 1, 10 and 11, prior to any planned discharge the effluent must be analysed to ensure it conforms to effluent quality limits. One sample should be taken per tank, provided the liquid in the tank is well mixed and the sample is representative. The 2014 annual report states 56.59 m^3 of contaminated water was collected, treated and discharged in 2014 and provides analytical results for a single water sample. The stated liquid storage capacity for the facility is 30 m^3 (section 1.1 of Plan), therefore an insufficient number of samples were collected and analysed because at least two discharge events would have been necessary if the liquid was stored in a single 30 m^3 reservoir. Without adequate testing, it is not possible to determine the efficacy of the water treatment facility. AANDC is concerned that the licensee may be discharging water from its water treatment facility that does not meet effluent quality limits, in contravention to its licence.

C. RESULTS OF REVIEW

The Operation and Management Plan submitted was reviewed by comparing it to the requirements in Part G Item 4 of water licence #1BR-THI1419. On behalf of AANDC, the following comments and recommendations are submitted to the Nunavut Water Board for consideration:

1. Effluent quality limits and monitoring requirements

- Section 1.7 of the Plan submitted describes effluent parameters to be tested and the maximum limits as required in the licence. AANDC notes that the total lead concentration in the water sample analysis presented in appendix B exceeds the maximum allowable concentration.
- The location of the monitoring station established, THI-1, is not shown on the site plan provided. A single sampling station is insufficient to adequately ensure the effluent quality of several storage tanks.

  AANDC recommends that monitoring station THI-1 be identified on the site plan and that the Plan describe how adequate monitoring will be done on the different storage tanks.
- The timing of the sampling and analysis with respect to discharge is unclear. Section 1.7 of the Plan states "*One sample is collected at Monitoring Station THI-1 prior to each batch discharge event and prior to completion of discharge. The sample is to be analyzed for ...*" The first sentence can be read as if it is necessary to take two samples. Only one is needed and it should be both collected and analysed prior to discharge. AANDC recommends that the wording of the Plan be clarified.

2. Secondary containment provisions

- Section 1.3 of the Plan and Figure 1 describe two secondary containment areas with berms to be constructed in spring 2015. Apart from the approximate height of the berm around the liquid waste storage area, no information is available regarding the construction plans, dimensions or volumes of liquid stored. AANDC notes that the licensee is to provide as-built drawings and requests that they be made available for review.
- Section 1.2 of the Plan states "*All fuel storage containers will be situated in a manner that allows easy access and removal of containers in the event of leaks or spills.*" During the visit to site, drum caches were not situated in secondary containment areas. AANDC recommends that all fuel storage containers and caches be in secondary containment and that the Plan clarify this point.

3. Petroleum hydrocarbon impacted soils

- Section 1.4 of the Plan states "*Impacted soils are containerized and shipped for off-site disposal at authorized facilities or are disposed of at the Nunatta Environmental Services Landfarm Facility*". AANDC notes that the general considerations of the licence mention contaminated soil as a waste type potentially generated by the Water Treatment Facility but the licence does not include authorization to accept or stockpile petroleum hydrocarbon impacted soils. The quantity of soil seen on site during the visit is unlikely to have been generated by the Water Treatment Facility.
- AANDC recommends that the licensee be required to amend their licence in order to accept or stockpile contaminated soils and provide plans for structures that will prevent stockpile leachate and contact water from being discharged without prior testing.

4. Facilities and equipment maintenance and inspection

- Daily inspections are included in the Plan for fuel caches in excess of 20 drums. No other references to inspections or maintenance were found in the Plan. AANDC recommends that the licensee incorporate in the Plan the preventative measures they will take, as required in the licence.

D. CONCLUSION

AANDC recommends that the licensee be required to immediately submit a licence amendment application to reflect the activities on site. The application should include a revised Operation and Management Plan.

APPENDIX J

SUPPLEMENTARY INFORMATION GUIDE

Qikiqtaaluk environmental
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Will be provided by February 19, 2016.

APPENDIX K

ENGLISH SUMMARY OF APPLICATION

ENVIRONMENTAL WASTE PROCESSING FACILITY

PROJECT SUMMARY

Qikiqtaaluk Environmental Inc. (QE) was established in Iqaluit, Nunavut in 2003. Its activities consist of managing hazardous and non-hazardous waste, contaminated water treatment and contaminated soil management. QE will move its operations to a property, located at Lot 666, Plan 1673, Parcels O and Q (the Site). This move will allow QE to add a treatment facility for the remediation of hydrocarbon impacted soils to its existing operations. As part of its mission and field of expertise, QE will safeguard against contaminants escaping the Site. Monitoring wells, watertight lined cells, storage in proper containers, controlled drainage off the site and regular inspections are part of the measures taken by QE to prevent contaminants from escaping the Site.

Hazardous and non-hazardous waste is collected from various clients in Iqaluit. Waste consists of, but is not limited to, batteries, waste oil, fuel and gasoline, hydrocarbon contaminated sludge and solids (absorbents, rags and filter media), waste glycol, ACMs[1], lead paint and other lead-containing materials, among others. These types of waste are often improperly packaged and/or stored in containers that are in poor condition. QE's business consists of identifying, repackaging, safely storing, the marine transport and final disposal of this waste. The Site will ultimately be used for this purpose.

Hydrocarbon impacted water is often collected from spills, site remediation projects or fuel storage containers during the cleaning process. QE is licensed by the Nunavut Water Board (NWB) to collect, store, treat and discharge this water. The water treatment unit consists of a water/oil separator and a series of filters activated by diaphragm pumps. The contaminated and treated water is stored in separate holding tanks with capacities ranging from 5,000 to 15,000 L. After treatment, confirmatory samples are taken and analyzed for comparison with the discharge criteria as defined by the NWB Licence. Following receipt of results that respect the criteria, the clean water is then discharged at a location authorized in the water licence. QE is requesting an amendment to its current NWB licence to allow for the treatment of all possible contaminants that may be found in water to be managed as well as to change the location of our treatment facility and discharge location.

QE will treat hydrocarbon contaminated soils using a combination of physical (screening and washing), chemical (oxidation) and biological (biopile and/or landfarm) techniques. The contaminated soils are screened to remove rocks. The remaining soils which hold the contamination are then placed in a lined treatment cell. A biopile is comprised of a lined cell with a grid of screened piping that injects air into the soil pile. Amendments are added to the soils to stimulate the bacterial activity that, over time, degrades and removes the contaminants from the soils. The soils are covered with a black semi-permeable tarp to maintain higher temperatures and minimize infiltration of precipitation water. A land farm operation is the same as a biopile, except that there is no forced aeration of the pile and there is no cover over the contaminated soils. Chemical oxidation may also be used for removing contamination that is more difficult to biodegrade. QE will launch a research and development project for new technologies and treatment techniques that could provide better soil remediation results in the Arctic.

Monitoring measures put in place by QE consist of on-site groundwater monitoring wells and an environmental monitoring program to ensure that no contamination migrates off-site.

1. Asbestos-containing materials

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CANADA
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info@qenv.ca
www.qenv.ca

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Brossard (Quebec) J4Z 3V4
CANADA
Tel. 514 940.3332
Fax. 514 940.3435

APPENDIX L

INUKTITUT SUMMARY OF APPLICATION

ᐊᓯᔨᐃᕙᓪᓕᐊᖏᑦᑐᒥᒃ ᐊᕙᑎᒥᒃ ᐊᑦᑕᑯᓕᓇᑉᕕᒃ

ᐱᓕᕆᐊᖑᔪᒥᒃ ᑐᑭᓯᑎᑦᓯᒋᐊᕈᑦ

ᕿᑭᖅᑖᓗᒃ ᐊᕙᑎᓕᕆᔾᑯᑦ ᑎᒥᖓ (QE) ᓴᖅᑭᖅᑕᐅᓚᐅᖅᑐᖅ ᐃᖃᓗᓐᓂ, ᓄᓇᕗᑦ 2003-ᒥ. ᐊᐅᓚᖃᑦᑕᖅᑕᖏᑦ ᐊᐅᓚᔾᔨᓂᖅ ᐅᑐᓇᐊᓇᖅᑐᓂᒃ ᐅᑐᓇᐊᓇᓐᖏᑦᑐᓂᓪᓗ ᐊᑦᑕᑯᓂᒃ, ᓱᐴᓇᖅᑐᑦ ᐃᒪᐃ ᓴᓗᒻᒪᖅᑕᐅᕕᖓᓂᒃ ᐊᒻᒪᓗ ᓱᐴᓇᖅᑐᓛᑦ ᐃᔾᔪᑦ ᐊᐅᓚᑕᐅᓂᖓᓂᒃ. QE ᓄᒃᑎᓂᐊᖅᑕᖓ ᐊᐅᓚᑕᐅᓂᖓ ᓇᖕᒥᓂᕐᑯᑕᐅᔪᒧᑦ, ᓄᓇᖓᓛᑦᑐᖅ 6666, ᐸᕐᓇᐅᑦ 1673, ᐃᓪᓗᓕᐅᕐᕕᒃᓴᖏᓐᓂ O ᐊᒻᒪᓗ Q (ᓄᓇᖓ). ᑖᓐᓇ ᓅᑕᐅᓂᖓ QE ᐋᖅᑭᔅᓯᕕᐅᒃᑲᓂᖅᑐᒃᓴᒦᖅ ᓴᓗᒻᒪᕐᓴᐃᕕᖕᒥᒃ ᓴᓗᒻᒪᖅᑕᐅᔾᔪᑎᒃᓴᖓᓄᑦ ᓱᐴᓇᖅᑐᓕᖕᒧᑦ ᐊᒃᑐᖅᑕᐅᓯᒪᓂᖓ ᐃᔾᔪᖓ ᒦᓐᓇ ᐊᑐᖅᑕᐅᕙᑦᑐᒧᑦ ᐊᐅᓚᓂᐅᔪᒧᑦ. ᐃᓚᒋᓪᓗᓂᐅᒃ ᐱᓇᓱᐊᕋᑦᓴᓕᐊᖑᓯᒪᔪᖅ ᐊᒻᒪᓗ ᖃᐅᔨᒪᔪᕐᔪᐊᖑᓂᕐᒧᑦ, QC ᐊᑦᑕᕐᓇᐃᕐᓯᓯᒪᓂᐊᖅᑐᖅ ᓱᐴᓇᖅᑐᑦ ᓯᐊᒻᒪᕐᑯᓇᒋᑦ ᓄᓇᖓᓂ. ᖃᐅᔨᓴᐳᑏᑦ ᐃᒪᖃᕐᕕᓕᐊᖑᓯᒪᔪᑦ, ᐃᒥᕐᒧᑦ ᕿᕐᓛᕕᓴᐅᖏᑦᑐᑦ ᓯᒥᔅᓯᒪᔅᓯᔪᑏᑦ, ᑐᖅᑯᐃᕙᓕᐊᖑᓯᒪᔭᕆᐊᓖᑦ ᐃᓗᓕᕐᑯᑏᑦ, ᐊᐅᓚᑕᐅᔪᑦ ᑯᕕᕓᑦ ᓄᓇᖓᓂ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᖃᑦᑕᕐᓗᓂ ᐱᓕᕆᐊᖑᔪᑦ ᐋᖅᑭᔅᓯᒪᔭᐅᓪᓗᑎᒃ QE-ᑯᓐᓄᑦ ᓱᐴᓇᖅᑐᑦ ᓯᐊᒻᒪᔭᐃᒃᑯᑎᖏᑦ ᓄᓇᖓᓂ.

ᐅᑐᓇᐊᓇᖅᑐᓛᑦ ᐅᑐᓇᐊᓇᖅᑐᕐᑲᓐᖏᑦᑐᓪᓗ ᐊᑦᑕᑯᑦ ᓄᐊᑕᐅᔪᑦ ᓇᑭᑐᐃᓐᓇᖅ ᐃᖃᓗᓐᓂ ᐱᔾᔪᔾᔭᐅᔪᓂᒃ. ᐊᑦᑕᑯᑦ ᐃᒋᑕᐅᕐᑲᑦᑕᖅᑐᑦ, ᑖᒃᑰᓐᖏᒃᑲᓗᐊᖅᑐᑎᒃ, ᕚᑕᓛ, ᐊᑦᑐᑯᑦ ᐅᖅᓱᖅᑎᐳᑎᒥᓃᑦ, ᐅᖅᓯᐃᑦ ᐊᒻᒪᓗ ᒢᓴᓛ, ᐅᖅᓯᐊᓗᐃᑦ ᐅᖅᓱᖅᑎᐳᑏᑦ ᓯᒪᕐᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐊᑦᑕᑯᐃᑦ (ᒪᓴᕐᑯᑏᑦ, ᐊᓪᓚᐳᑎᒥᓃᑦ ᐊᒻᒪᓗ ᓴᓐᓂᕉᒃᑯᑏᑦ), ᐊᑦᑕᑯᐃᑦ ᕐᑯᐊᓈᒃᑯᑏᑦ ᐅᖅᓱᖅᑎᐳᑕᐅᕙᑦᑐᑦ (glycol), ACMs[1], ᓴᕕᕋᔭᒃᓴᓖᑦᒥᖑᐊᐳᑏᑦ/ᐊᒥᐊᐳᑏᑦ ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᓴᕕᕋᔭᒃᓴᓖᑦ ᓱᓇᑐᐃᓐᓇᐃᑦ, ᐊᓯᖏᓪᓗ. ᑖᒃᑯᐊ ᐊᔾᔨᒌᓐᖏᑦᑐᑦ ᐊᒃᑕᑯᐃᑦ ᐆᓇᕆᐊᓕᖏᓐᓄᑦ ᐆᖅᓯᒪᔭᐅᒐᔪᐃᑦᑐᑦ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᑐᖅᑯᖅᑕᐅᓯᒪᕐᑲᑦᑕᓰᑦ ᐃᓗᓕᕐᑯᑎᓄᑦ ᓯᕐᓯᒪᔪᓄᑦ. QC ᐱᓕᐊᒃᓴᖏᑦ ᓇᓗᓇᐃᖅᑐᐃᓂᖅ, ᐆᖅᑲᐃᓯᐊᕐᓂᖅ, ᐊᑦᑕᓇᐃᕐᓯᒪᔪᒥ ᑐᖅᑯᐃᓯᒪᓂᖅ, ᑕᕆᐅᒃᑯᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᓂᖏᑦ ᐊᒻᒪᓗ ᑭᖑᓪᓕᕐᐹᒥ ᐊᒃᑖᓯᒻᕕᐅᒋᐊᓕᕐᒎᕐᓯᓂᕐᒥᒃ ᐊᒃᑕᑯᓂᒃ. ᓄᓇᖓ ᑖᑦᓯᒧᖓᑐᐊᖅ ᐊᑐᖅᑐᒃᓴᒦᖑᓇᔭᖅᑐᖅ.

ᐅᖅᓯᐊᓗᓐᓄᑦ ᐊᒃᑐᖅᑕᐅᓯᒪᔪᑦ ᐃᒪᐃ ᓄᐊᑕᐅᕐᑲᑦᑕᓰᑦ ᑯᕕᔪᒥᓃᑦ, ᓄᓇᖓ ᓴᓗᒻᒪᖅᑕᐅᓂᖓ ᐅᕝᕙᓘᓐᓃᑦ ᐅᖅᓯᐊᓗᕐᑲᐅᑏᑦ ᓴᓗᒻᒪᖅᑕᐅᓂᖓ. QC ᓚᐃᓴᑖᕐᓯᒪᔪᑦ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔾᑯᑦ ᑲᑎᒪᔨᖏᓐᓂᒃ ᓄᐊᕐᓯᓂᕐᒧᑦ, ᑐᖅᑯᐃᓂᕐᒧᑦ, ᓴᓗᒻᒪᕐᓴᐃᓂᕐᒧᑦ ᐊᒻᒪᓗ ᓴᒃᑯᐃᓂᕐᒧᑦ ᐃᒪᕐᒥ ᑖᑦᓯᒥᖓ. ᐃᒪᕐᒧᑦ ᓴᓗᒻᒪᕐᓴᐅᑕᐅᕙᑦᑐᖅ ᐃᒥᕐᒧᑦ/ᐅᖅᓯᐊᓗᓪᒧᑦ ᐊᒡᒍᐃᒍᑎ ᐊᒻᒪᓗ ᑭᖑᓕᓃᑦᑐᑦ ᓴᓐᓂᕉᒃᑯᑏᑦ ᐋᖅᑭᔅᓯᒪᔭᐅᓪᓗᑎᒃ ᐊᐅᓚᑕᐅᔪᑦ ᓴᓐᓂᔭᐃᒃᑯᑎᓕᓐᓄᑦ ᒥᓪᓗᐊᕆᑎᓄᑦ. ᓱᐴᓇᖅᑐᓂᒃ ᐊᒻᒪᓗ ᓴᓗᒻᒪᓴᐃᔾᔪᑎᒃᑯᕐᓯᒪᔪᖅ ᐃᒥᖅ ᑐᖅᑯᖅᑕᐅᓯᒪᓪᓗᓂ ᐃᓖᒃᑯᖓᔪᐊᓂ ᐅᖅᓯᖅᑲᐅᑎᓂ ᐃᒪᕐᑲᐳᓐᓇᖅᑐᓂᒃ ᑎᑭᐅᑎᓯᒪᔪᓂᒃ 5,000-ᓂᒃ 15,000 ᓖᑕᓄᑦ. ᓴᓗᒻᒪᓴᐃᔾᔪᑎᒃᑰᓇᕐᐃᒻᒪᑦ, ᓇᓗᓇᐃᖅᑕᐅᓂᖓ ᖃᐅᔨᓴᐳᑎᒃᑯᑦ ᐲᖅᓯᕕᐅᓪᓗᑎᒃ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑕᐅᓚᖅᑐᑎᒃ ᑕᑯᒥᐊᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᑯᕕᓯᕕᒃᓴᖕᒪᓗᓄᑦ ᓇᓗᓇᐃᒃᑯᑕᑕᓕᐊᖑᓯᒪᔪᖅ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᑦ ᓚᐃᓴᓐᓯᖓᓂᒃ. ᑐᓂᔭᐅᓚᐅᖅᑎᓪᓗᒋᑦ ᓴᖅᑭᖅᑐᑦ ᒪᓕᒐᕐᓴᓕᐊᖑᓯᒪᔪᓂᒃ ᒪᓕᒃᓯᒪᓪᓗᑎᒃ, ᐃᒪᖅ ᓴᓗᒪᔪᖅ ᑯᕕᔭᐅᓕᖅᑐᓂ ᑯᕕᕕᓕᐊᖑᓯᒪᔪᒧᑦ ᐊᖏᖅᑕᐅᓯᒪᔪᒧᑦ ᐃᒪᕐᒧᑦ ᓚᐃᓴᓐᓯᖓᓂ. QE ᐋᖅᑭᒋᐊᓇᕐᑯᔮᖅ ᒦᓐᓇ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔾᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓚᐃᓴᓐᓯᖓᓂᒃ ᓴᓗᒻᒪᖅᑕᐅᔾᔨᑎᒃᓴᖓᓂᒃ ᓱᐴᓇᖅᑐᖅᑲᐳᓇᖅᑑᔭᖅᑐᓕᒫᓂᒃ ᐃᒥᒋᑦᑐᒥᒃ ᐊᐅᓚᑕᐅᓯᐊᐳᑎᒃᓴᖓᓂᒃ ᐊᒻᒪᓗ ᐊᔾᔨᓕᐅᕐᑕᐅᓗᓂ ᐃᓂᖓ ᓴᓗᒻᒪᖕᓴᐃᕕᐅᑉ ᐊᒻᒪᓗ ᑯᕕᕕᒃᓴᖓᓂᒃᑲᓐᓂᖅ.

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[1] ᓱᐴᓇᖅᑐᑦ-ᓴᕕᕋᔭᒃᓴᓖᑦ Asbestos-containing materials

QE ᓴᓄᒪᖏᐱᐅᓂᐊᖅᑐᑦ ᓯᑭᓐᓇᖅᑐᑕᓐᓂᐅᓂᒃ hydrocarbon ᐃᓕᓴᐅᓂᒃ ᐊᑐᖏᓄᑎᒃ ᑕᒪᒃᑭᓐᓂᒃ ᑕᑯᑦᖁᒃᑯᑦ (ᖃᐅᔨᓴᖏᓂᖅ ᐅᐊᖏᖅᓂᓗ), ᓯᑭᓐᓇᖅᑐᑦ (oxidation) ᐊᒻᒪᓗ ᓄᓇᖓᑕ ᐅᒪᓂᖓᓂᒃ (ᓴᓄᒪᖏᐱᐃᓕᐊᑎ ᐊᒻᒪᓗ/ ᐅᕐᓀᑲᓐᓂᑦ ᓄᓇᖓᑕ ᐱᑭᖃᑦᑕᖅᓂᖓ) (biopile and/or landfarm) ᐊᑐᖅᑕᐅᖃᖅᑕᓯᓂᒃ. ᓯᑭᓐᓇᖅᑐᓪᓚᑦ ᐃᓕᓴᑦ ᖃᐅᔨᓴᖏᖅᑕᐅᓯᑦ ᐅᔾᕿᐃᔾᖅᑕᐅᓂᒃᑯᑦ. ᐊᒥᐊᕐᒧᖅᑯᖓ ᐃᓕᓴ ᓯᑭᓐᓇᖅᑐᖅᑕᓕᓂᒃ ᐋᖅᑭᑦᓯᒪᔨᐅᓴᒃᑯᑦ ᓴᓄᒪᖏᐱᐃᓕᐊᑎᒃᑯᑦ. ᓴᓄᒪᖏᐱᐃᓕᐊᑎᒋᓕᖏᓐᓄᑦ ᐋᖅᑭᑦᓯᒪᔨᐅᓴᖅᑕᐅᓯᒪᓂᖅ ᐋᖅᑭᑦᓯᒪᔨᐅᓴᒪᓂᖅ ᖃᐅᔨᓴᖏᖅᑕᐅᓯᒪᓂᖅ ᖃᐅᔨᓴᖏᖅᑕᐅᓯᒪᓂᓗᑐ ᓯᓚᑖᓂᖅᓴᓂ ᐊᓂᖅᑎᑦᖅᑐᒃᑯᑦ ᐃᓴᖅᓯᓴᖅ ᐃᓕᓴᒧᑦ ᑲᑎᑕᐅᓯᒪᓴᒧᑦ. ᐃᓕᓴᐅᓯᒪᓕᓂᒃᑐᑦ ᐃᓕᓴᑦ ᓯᑲᓂᖅᐅᖃᖅᑐᑦ ᐋᖅᑭᑦᓯᒪᔨᐅᓴᖅᑕᐅᓯᒪᓂᖅ ᐋᓐᓂᐊᓐᓂᖅᑐᑦ ᐊᐅᓚᓂᖅᓴᖅᑎᓂᒃ ᐊᐅᓚᓂᖅᓴᖅ, ᓚᐃᓚᓂᖅᓴᖅᑎᓂᒃ ᐊᐅᓚᓂᖅᓴᖅ ᐊᒻᒪᓗ ᓄᓇᖓᑕ ᐋᖅᑭᑦᓯᒪᔨᐅᓴᖅᑕᐅᓯᒪᓂᖅ ᑲᑎᑕᐅᓯᒪᓴᒧᑦ ᐊᐅᓚᓂᖅᓴᖅ ᐊᒻᒪᓗ ᐅᓕᓯᒪᔨᐅᑎᒃ ᓯᑭᓐᓇᖅᑐᓕᑦ ᐃᓕᓴᑦ. ᓯᑭᓐᓇᖅᑐᓕᑦ oxidation ᐊᑐᖅᑕᐅᐅᓐᓇᒋᔭᑦ ᓯᑭᓐᓇᖅᑐᐃᓕᖅᑕᐅᔨᕐᑕᐅᓂᒃ ᐱᓴᓇᐊᑐᓂᓴᖅ ᓄᖓᐅᑎᑕᐅᖅᑲᑦᑕᓂᖓᓄᑦ. QC ᓴᖅᑭᓂᐊᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᒃᓴᒥᒃ ᐱᓀᑦᓕᐊᔨᑎᒃᓴᒥᓪᓗ ᓄᑦᓗᑦ ᐃᓯᓴᓇᐅᑎᑦ ᐊᒻᒪᓗ ᓴᓄᒪᓴᐃᔨᑎᑦ ᐃᓯᓴᓇᐅᑎᓂᒃ ᓴᓄᒪᓴᖏᖅᑕᐅᓯᒪᓂᖅᓴᖅᑎᓂᓗ ᐃᓕᓴᑦ ᓴᓄᒪᓴᖏᖅᑕᐅᖅᑲᑦᑕᓂᖓᓄᑦ ᐅᑭᐅᖅᑕᖅᑐᑎ.

ᖃᐅᔨᓴᖅᑎᑦ ᐊᖅᑭᑦᓯᒪᔨᐅᓴᒪᓂᖅ QE-ᑯᓘᓄᑦ ᑕᒃᑯᐊᖓᔪᑦ ᓄᓇᖓᓂᒃ ᐃᒪᖓᒃ ᓄᓇᐅᓕ ᖁᑦᖓᑦᑐᖅᑯᑦ ᖃᐅᔨᓴᖅᑎᑦ ᐃᒪᓕᐊᖓᔪᓂᖅᓴᖅ ᐊᒻᒪᓗ ᐊᐅᓚᓂᖅᑐᒃ ᖃᐅᔨᓴᖅᑐᑦᓯᓚᐅᑎᓕᒫᑦ ᖃᐅᔨᓴᓪᓚᕆᐊᓂᖅᑐᒃᓴᒥᒃ ᓯᑭᓐᓇᖅᑐᑦ ᓯᐊᓪᓚᕆᐊᖓᔪᓂᖅᓴᖅᑎᓂᓪᓗ ᐊᐅᓚᓂᒃ ᑕᒪᐅᕐᓀᑲᓐᓂᑦ.

APPENDIX M

ABANDONMENT AND REMEDIATION

Qikiqtaaluk environmental
ᖁᑭᖅᑕᓗᒃ ᐊᓯᑎᓕᓐᓄᑦ

Will be provided by February 19, 2016.

APPENDIX N

SPILL CONTINGENCY PLAN

Qikiqtaaluk environmental
ᖁᑭᖅᑕᓗᒃ ᐊᓯᑎᓕᓐᓄᑦ

Will be provided by February 19, 2016.

APPENDIX O

OPERATION MANUALS

Qikiqtaaluk environmental
ᖁᑭᖅᑕᓗᒃ ᐊᓯᑎᓕᓐᓄᑦ

Will be provided by February 19, 2016.

APPENDIX P

ENVIRONMENTAL PROTECTION PLAN

Qikiqtaaluk environmental
ᖁᑭᖅᑕᓗᒃ ᐊᓯᑎᓕᓐᓄᑦ

Will be provided by February 19, 2016.

APPENDIX Q

ARCHAEOLOGICAL RESEARCH

Qikiqtaaluk environmental
ᖁᑭᖅᑕᓗᒃ ᐊᓯᑎᓕᓐᓄᑦ

Will be provided by February 19, 2016.

APPENDIX R

NWB APPLICATION

Qikiqtaaluk environmental
ᖁᑭᖅᑕᓗᒃ ᐊᓯᑎᓕᓐᓄᑦ

Will be provided by February 19, 2016.

APPENDIX S

PHOTOGRAPHS

Qikiqtaaluk environmental
ᖁᑭᖅᑕᓗᒃ ᐊᓯᑎᓕᓐᓄᑦ

Will be provided by February 19, 2016.

APPENDIX T

EMERGENCY RESPONSE PLAN

Qikiqtaaluk environmental
ᖁᑭᖅᑕᓗᒃ ᐊᓯᑎᓕᓐᓄᑦ

Will be provided by February 19, 2016.

APPENDIX U

WASTE MANAGEMENT PLAN

Qikiqtaaluk environmental
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Will be provided by February 19, 2016.