UPDATED WATER LICENSE APPLICATION

HYDROCARBON IMPACTED WATER TREATMENT

Document presented to

This document is reproduced electronically and contains 41 pages including the cover page

- General Water Licence Application (Application for a new Water Licence) (pages 1-12)
- Topographical Map & Additional information (page 13-15)
- Written confirmation from NPC (pages 16-17)
- Plan layout of water treatment unit (page 18-19)
- Cost Estimate spreadsheet (page 20)
- Certificate of Incorporation and Business License (page 21)
- English Summary of Application (page 22-24)
- Inuktitut and/or Inuinnaqtun Summary of Application (page 25-27)
- Spill Contingency Plan (pages 28-37)
- Abandonment and Remediation Plan (pages 38-40)

Version 1.1 – March 15th, 2014

O/Ref.: RQ11-114-2

General Water Licence Application
(Application for a new Water Licence)

Document Date: April 2013

Application Submission Date: 09/12/2013
Month/Day/Year

Updated March 15th, 2014

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NUNAVUT WATER BOARD
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 4	June 2010
(2)	Updated NWB logos and reformatted table to allow rows to break across page	May 2011
(3)	Update NWB logo	April 2013
(4)		
(5)		
(6)		
(7)		
(8)		
(9)		
(10)		

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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYIT
OFFICE DES EAUX DU NUNAVUT

GENERAL WATER LICENCE APPLICATION
(APPLICATION FOR NEW WATER LICENCE)

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

LICENCE NO:
(for NWB use only)

1. APPLICANT (PROPOSED LICENSEE) CONTACT INFORMATION (name, address)

Greg Johnson
C/O Qikiqtaaluk Environmental Inc
9935 Ave Catania, Entrance 1, Suite 200
Montreal, Qc, J4Z 3V4
Phone: _514-940-3332_____
Fax: _514-940-3435_____
e-mail: _ gjohnson@qenv.ca _____

2. APPLICANT REPRESENTATIVE CONTACT INFORMATION if different from Block 1 (name, address)

Phone: _____
Fax: _____
e-mail: _____
(Attach authorization letter.)

3. NAME OF PROJECT (including the name of the project location)

Treatment of Hydrocarbon Impacted Water

4. LOCATION OF UNDERTAKING

Project Extents

NW: Latitude: (63° 46' 55" N) Longitude: (68° 34' 40" W)
NE: Latitude: (63° 46' 55" N) Longitude: (68° 25' 60" W)
SE: Latitude: (63° 43' 32" N) Longitude: (68° 25' 60" W)
SW: Latitude: (63° 43' 32" N) Longitude: (68° 34' 40" W)

Camp Location(s): NOT APPLICABLE

Latitude: (° ' " N) Longitude: (° ' " W) N/A

5. MAP - Attach a topographical map, indicating the main components of the undertaking.

Maps attached. Project area can be seen on NTS Map Sheet No.: 25N10, 25N9, 25N15, 25N16 Map Name: Iqaluit Map Scale: 1:50000

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

Sub-surface

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

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

Surface

☐ Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ 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
Date (expected date) of issuance: _____ Date of expiry: _____

☒ Other: We are responding to spills of hydrocarbons and/or containment of water that has come into contact with hydrocarbons within the city boundaries of Iqaluit
Date (expected date) of issuance: **N/A** Date of expiry: **N/A**

Name of entity(s) holding authorizations: Property owners where contaminated water is located

7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION

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

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

Is a land use plan conformity determination required?

☐ Yes ☒ No

If Yes, indicate date issued and attach copy _____
If No, provide written confirmation from NPC confirming that a land use plan conformity review is not required.

8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION

Is an Article 12 Part 4 screening determination required?

To be determined – this application was forwarded to NIRB at the same time it was submitted to the NWB

☐ Yes ☐ No

If Yes, indicate date issued and attach copy _____
If No, provide written confirmation from NIRB confirming that a screening determination is not required.

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

This request results from a need arising from clients that have to manage impacted water and/or snow and ice resulting from spills from storage tanks or water from tank washing. The impacted water will be collected from the site of spills by being pumped into a tank and transported to our facility in Iqaluit. The water will then be treated through an oil/water separator and particulate filters to remove free product and sediments. The water then passes through our patented Ultrasorption filters and activated carbon filters to remove any organic chemicals in the water. The treated water will then be stored in clean tanks. The treated water in the tanks will be sampled and analyzed in a CALA certified laboratory ensure it meets the criteria to be provided by the NWB for discharge.

The treatment unit and waste storage area are located within a fenced in area with a locking gate.

A plan presenting the layout of the water treatment unit is attached.

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

If the contaminated snow or water impacted by contact with petroleum hydrocarbons cannot be treated properly in Iqaluit, the parties responsible for generating the impacted water can only containerize in drums or tanks to be shipped down south to authorized treatment facilities therefore resulting in a very high cost for the generators, who often are home owners.

11. CLASSIFICATION OF PRIMARY UNDERTAKING - Indicate the primary classification of undertaking 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):

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

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

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

None of the above are applicable

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

☐ 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: Collected to remove contamination and then discharge once cleaned

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

Name of water source(s) (show location(s) on map):
Various spill sites around Iqaluit

Describe the quality of the water source(s) and the available capacity:
N/A

Provide the overall estimated quantity of water to be used: Varies based on size of spill no more than 15 m^3/day can be treated by our system in a 24 hour period

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

Indicate the estimated quantities to be used for each purpose (camp, drilling, etc.)

Describe the method of extraction(s): Collecting of snow using heavy equipment or shovels or pumping of contact water from excavations or holding basins

Estimated quantity(s) of water returned to source(s) 0 m^3/day

Describe the quality of water(s) returned to source(s): 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

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

☐ Sewage
☒ Solid Waste
☐ Hazardous
☐ Bulky Items/Scrap Metal
☐ Animal Waste
☒ Waste oil
☐ Greywater
☒ Sludges
☒ Contaminated soil and/or water
☒ Other (describe): _Treated water tested to respect discharge criteria_____

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

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
Treated water	Water is tested to meet discharge criteria	Our treatment unit can only generate 15 m^3 per 24 hour period	Oil/water separator, particulate filter, activated carbon filter & ultra sorption filter	Discharge on land 30 m from a water body in a location approved by Authorities Having Jurisdiction
Waste Petroleum, Oil, and Lubricants (POL) and Liquid Sludges	Hydrocarbons collected from the settling tank and oil/water separator	Varies depending on amount of contamination spilled. Maximum of 20,500 litres (100 drums) to be stored per year	Disposal according to regulations	Disposal/management according to regulations
Waste filter media (Solid Waste)	Ultrasorption (shredded absorbent), Granulated Activated Carbon and particulate filters	Varies depending on volume of water to be treated and level of contamination. Maximum 6 yd^3 per year of each type of solid waste	Disposal according to regulations	Disposal/management according to regulations
Contaminated Water	Water with organic and/or metal contaminants	Varies depending on the amount of water collected from a particular site. Maximum of 2,000,000 litres per year can be processed.	Treatment in our Water Treatment Unit	Managed as per treated water above

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

Authorization: _Permission to discharge treated water from the City of Iqaluit_____

Administering Agency: _City of Iqaluit_____

Project Activity: _Discharge of treated water_____

Date (expected date) of issuance: One month following issue of licence by NWB Date of expiry: __Unknown_____

The City of Iqaluit is waiting for QE to have a valid water licence prior to issuing written permission to discharge treated water.

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

Removal of contaminated water from the environment will only have a positive impact to the environment.

The soil at the discharge location will be monitored yearly to ensure that our activities are not having a negative impact on them. If an increase of contamination over the criteria for the land use of the selected discharge location is detected, then the area will be remediated below these levels and the entire process will be re-examined to determine where the contamination came from.

18. WATER RIGHTS OF EXISTING AND OTHER USERS OF WATER

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

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

Not applicable

19. INUIT WATER RIGHTS

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

It is not anticipated that the discharged water pass through any Inuit Owned Lands

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.

There is a potential that the discharge location will be discussed with the city of Iqaluit at a council meeting. A summary of the discussions held during this meeting (if necessary) will be forwarded to the water board.

No other consultations were held

21. SECURITY INFORMATION

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.

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.

In case of abandonment for either bankruptcy, or major failure of the treatment unit, the unit will have to be dismantled and the filtering media will have to be containerized for offsite disposal in an authorized facility. Similarly, if impacted water that has not been treated remains, said water will have to be containerized for offsite shipping and disposal. The other component of the treatment facility (pumps, oil water separator, tanks) can be dismantled and sold or discarded in the landfill as non-hazardous waste. Soil at the discharge point would have to be sampled to ensure it meets the environmental guideline established by the Government of Nunavut's Department of Environment. Should there be impacted soils exceeding the guidelines, said soil will need to be excavated, containerized and ship to an authorized facility.

In a worst case scenario, we assume 30 000 liters of impacted water (the total volume capacity in place) may remain untreated, and 20 Tons of soils are impacted. It is estimated that the labour efforts to restore the site to its original condition, by dismantling the unit, packaging impacted media, packaging impacted water remaining, excavating and containerization of impacted soils, backfilling the excavated area, shipping all impacted material by marine sealift and disposal of all impacted material in authorized facilities to be about 2 weeks for a manager, a helper and the assistance of heavy equipment for excavation, and hauling of material to the barge landing in Iqaluit. The cost estimates for the final reclamation is estimated at $79 340 for this worst case scenario (see attached spreadsheet).

QE can provide to the NWB a maintenance bond for the amount of $80 000 to be renewed and maintained in place annually.

22. FINANCIAL INFORMATION

Provide a statement of financial responsibility. **See attached for the audited financial statement**

If the applicant is a business entity, provide a list of the officers of the company.

Levi Barnabas, Director, Secretary Treasurer
Ludy Pudluk, Director
Loasie Audlaliak, Director
Mario Leathead, Director

Jacques Dion, Director, Vice President
Alain Sauriol, Director
Harry Flaherty, President

If the applicant is a business entity attach a copy of the Certificate of Incorporation or evidence of registration of the company name.

See attached Certificate of Incorporation and Business License

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

No studies have been undertaken related to this activity

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

Construction
Proposed Start Date: _August 2013_____ (month/year) Proposed Completion Date: May 2014_____ (month/year)

Operation
Proposed Start Date: _As soon as licence is obtained (month/year) Proposed Completion Date: None (this will be a permanent installation)___ (month/year)

Closure
Proposed Start Date: ____N/A_____ (month/year) Proposed Completion Date: ___N/A_____ (month/year)

Post - Closure
Proposed Start Date: ____N/A_____ (month/year) Proposed Completion Date: ____N/A_____ (month/year)

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

Construction
☐ Winter ☒ Spring ☒ Summer ☒ Fall ☐ All season

Operation
☐ Winter ☒ Spring ☒ Summer ☒ Fall ☐ All season

Closure
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Post - Closure
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

25. PROPOSED TERM OF LICENCE

Number of years (maximum of 25 years): _25_____ years

Requested Date of Issuance: 05/2014_____ (month/year) Requested Expiry Date: 10/2038_____ (month/year)

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

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

Qikiqtaaluk Environmental will use NWB standardized form for annual reporting, and will provide the quantity of water treated and discharged monthly.

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

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

☒ Yes ☐ No If no, date expected _____

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

☐ Yes ☒ No If no, date expected _this application to be reviewed__

Completed General Water Licence Application form.

☒ Yes ☐ No If no, date expected _____

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

☐ Yes ☐ No If no, date expected _____

English Summary of Application.

☒ Yes ☐ No If no, date expected _____

Inuktitut and/or Inuinnaqtun Summary of Application.

☒ Yes ☐ No If no, date expected _____

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

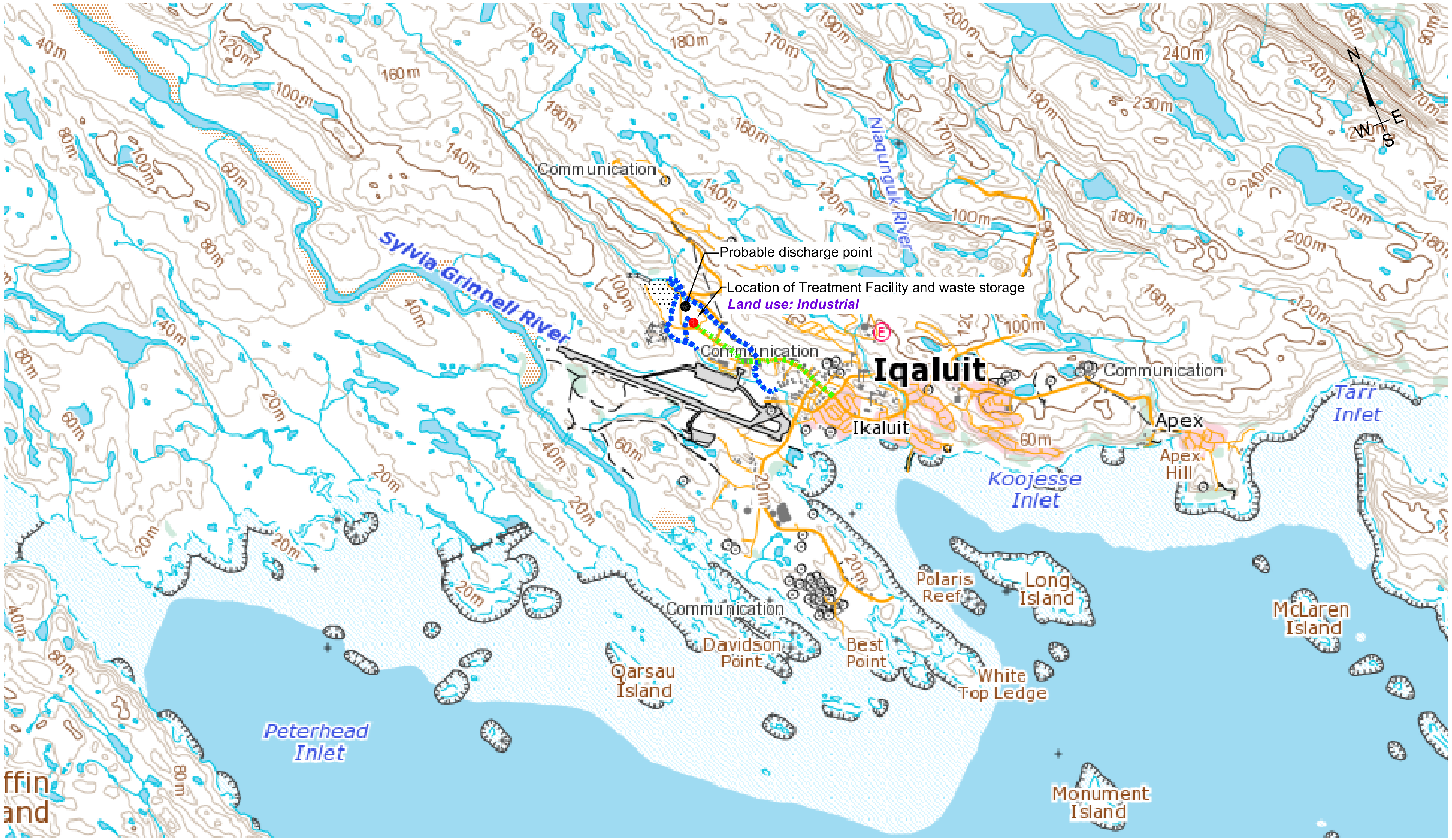
☒Yes ☐ No If no, date expected _____

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

☒ Yes ☐ No If no, date expected _____

28. SIGNATURE

Jacques Dion	Board Member & Vice President		March 15th, 2014
Name (Print)	Title (Print)	Signature	Date



Legend

- Location of treatment facility and waste and treated waste storage location
- Adjacent surface water bodies to the treatment facility
- Facility site access routes
- ***Industrial*** Land use

Source:
· Natural Ressources Canada; Web Site: http://atlas.gc.ca; 2014.

0.0 0.5 1.0 1.5 2.0 2.5km
APPROXIMATE

CONFIDENTIAL

Figure 1

1 : 50 000 map showing location of facility, probable discharge point adjacent surface water bodies

HYDROCARBON IMPACTED WATER TREATMENT PROJECT

Presented to:

Nunavut Water Board

Property located at:

1571 Kakivak Crescent, Iqaluit

Scale: As shown	Design date: 2014-02-24		Revision date: 2014-02-28	
Drawn by: H. Longval	Verified by: G. Johnson		Approved by: S. Laberge	
Project no.: RQ14-109-3	Drawing no.: RQ14-109-3-01	Layout: B	Geodetic reference: None	None

Qikiqtaaluk environmental
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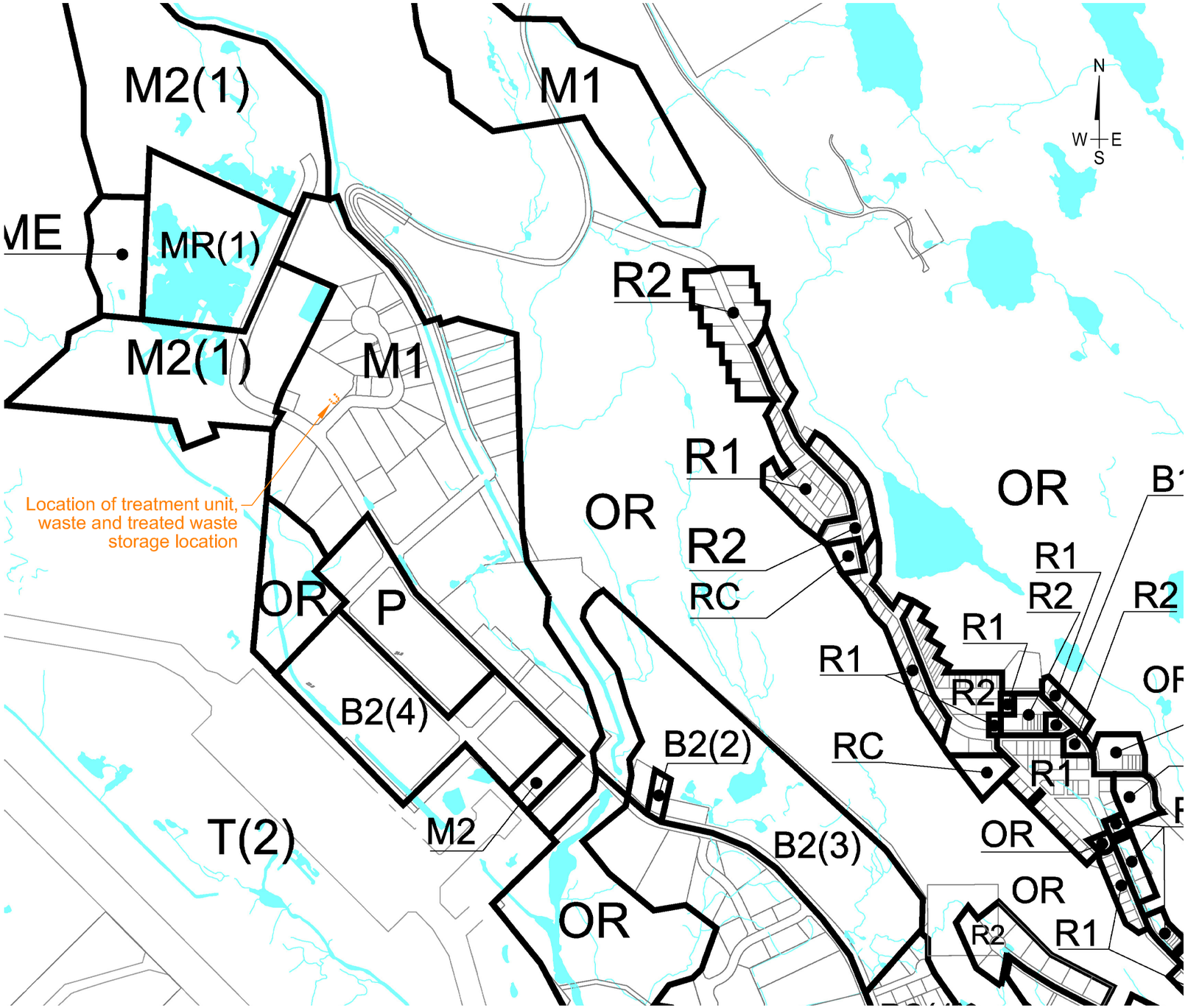

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Source:
- *Iqaluit; Map 1, Schedule B, Populated Area Zoning Map; 2014.*

SCHEDULE B
POPULATED AREA ZONING MAP
ZONING BY-LAW No. 704

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R1	Low Density Residential Zone - Fully Serviced ᐊᑕᐅᓯᒪᔪᖅ ᖃᓄᐃᓐᓂᒃᓴᓂᑦ ᐊᑎᖏᑐᕐᓂᖅ - ᓱᓇᓐᓴᒪᔪᖅ ᐃᒪᓐᓇᑦ ᐱᓕᕆᔨᑦᑐᖅ
R1A	Low Density Residential Zone - Trucked Services ᐊᑕᐅᓯᒪᔪᖅ ᖃᓄᐃᓐᓂᒃᓴᓂᑦ ᐊᑎᖏᑐᕐᓂᖅ - ᓄᓇᕗᑎᓂᒃ ᐱᓕᕆᔨᑦᑐᖅ [ᓱᓇᓐᓴᒪᓕᕆᓂᖅ]
R2	Medium Density Residential Zone ᐊᒻᒪᓗᓕᒃᑐᓂᑦ ᖃᓄᐃᓐᓂᒃᓴᓂᑦ ᐊᑎᖏᑐᕐᓂᖅ
R3	High Density Residential Zone ᐊᒥᓱᓂᑦ ᖃᓄᐃᓐᓂᒃᓴᓂᑦ ᐊᑎᖏᑐᕐᓂᖅ
RC	Cluster Residential Zone ᑲᔪᓯᖑᑎᓂᑦ ᐊᑎᖏᑐᕐᓂᖅᓴᓂᒃ
CD	Capital District Zone ᓴᕆᒪᓂᕐᓴᑦ ᐊᓪᓚᕐᓴᒪᓂᕐᓂᒃ ᐊᑎᕐᓴᒃ
B1	Central Commercial Zone ᑎᑎᕋᑕ ᓇᖓᓂᑲᖏᓐᓂᑦ ᐊᑎᕐᓴᒃ
B2	District Commercial ᓇᖓᓂᑲᖏᓐᓂᑦ ᐊᑎᖑᓇᒃ
B3	Neighbourhood Business Zone ᐊᑎᖏᕐᕕᐊᓂᓚᓂᑦ ᓇᖓᓂᑲᖏᓐᓂᑦ ᐊᑎᖑᓇᒃ
P	Public / Institutional Zone ᐅᑕᐅᐊᓂᓚᓂᑦ / ᐱᓕᓴᐃᓐᓂᒃ ᐊᑎᕐᓴᒃ
M1	Light Industrial Zone ᓴᓇᕐᓴᓂᑦ ᐊᑐᑕᐅᓇᖏᑐᓂᑦ ᐊᑎᕐᓴᒃ
M2	Heavy Industrial Zone ᓴᓇᕐᓴᓂᑦ ᐊᑐᑕᐅᓯᓚᑐᖅ ᐊᑎᕐᓴᒃ
ME	Industrial Extractive Zone ᓴᓇᖅᑐᓂᒃ ᐱᓕᕆᔨᑦᑐᖅ ᓯᑕᒥᑦ ᐅᓴᐃᒥᓱᓂᒃ
T	Transportation Zone ᐃᓕᖓᔪᓕᓕᒫᓂᑦ ᐱᓕᓂᐱᓕᒃ ᐊᑎᕐᓴᒃ
OR	Open Area Zone ᒪᑐᐱᓂᑦ ᐃᓱᓪᓕᐅᕆᐊᖑᓕᖓᔪᓂᒃ
WD	Waste Disposal Zone ᓴᓐᓇᓂᑦ ᑲᓪᓕᑎᐱᓪᓚᑦ ᐊᑎᕐᓴᒃ
MR	Municipal Reserve Zone ᓄᓇᕗᑦᑐᓂᑦ ᓴᓐᓂᖅᑐᕐᓂᓪᓚᓂᒃ ᐊᑎᕐᓴᒃ
S	Sijjanga Zone ᓯᓴᓂᑦ ᐊᑎᕐᓴᒃ
(#)	Denotes Exception Zone ᑭᓱᑦ ᓴᓐᓂᖅᑐᕐᓂᓪᓚᓂᒃ ᐊᑎᖑᓇᓂᑦ ᐊᑐᑕᐅᓇᖏᑐᓂᒃ
[h#]	Denotes Height Limit (metres) ᓄᓇᓕᐃᑦᑯᑦ ᐅᕐᓄᓕᖅᑐᑦᓴᓕᓂᒃ

Figure 2
City of Iqaluit Zoning Map

HYDROCARBON IMPACTED WATER TREATMENT PROJECT

Presented to:

Nunavut Water Board

Property located at:
1571 Kakivak Crescent, Iqaluit

Scale: As shown	Design date: 2014-02-24		Revision date: 2014-02-28
Drawn by: H. Longval	Verified by: G. Johnson		Approved by: S. Laberge
Project no.: RQ14-109-3	Drawing no.: RQ14-109-3-01	Layout: A	Geodetic reference: None / None

Qikiqtaaluk environmental
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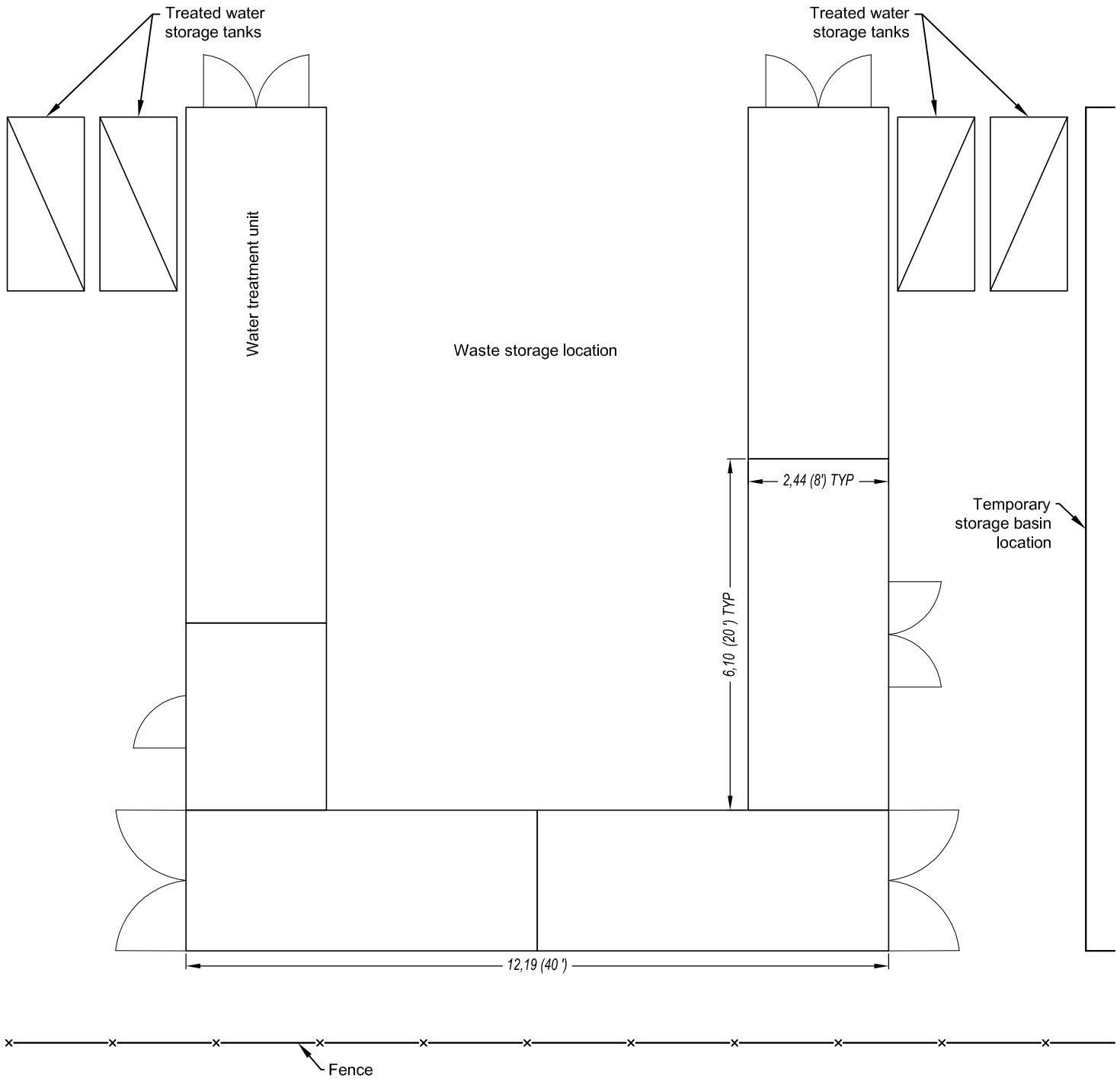


Presented to:

Nunavut Water Board

Property located at:
1571 Kakivak Crescent, Iqaluit

Figure 3

Layout of treatment equipment and waste storage area

HYDROCARBON IMPACTED WATER TREATMENT PROJECT

Scale:	Design date:	Revision date:
As shown	2014-02-26	2014-02-28
Drawn by:	Verified by:	Approved by:
H. Longval	G. Johnson	S. Laberge
Project no.:	Drawing no.: / Layout:	Geodetic reference:
RQ14-109-3	RQ14-109-3-01 / C	None / None

Qikiqtaaluk environmental

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:

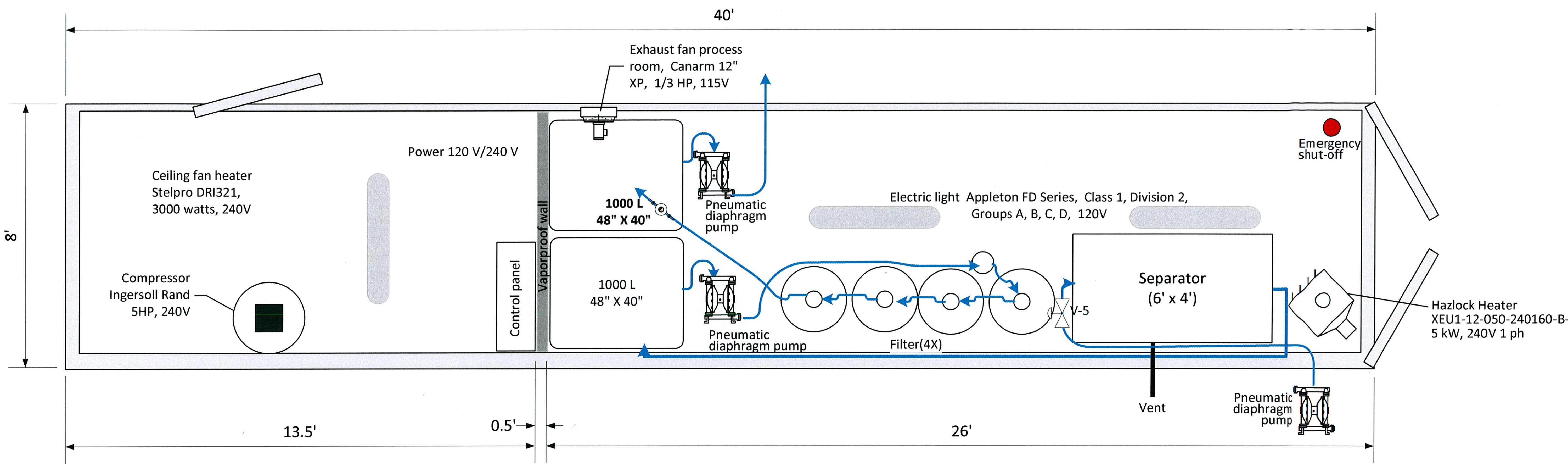
NW: Latitude: (63 °46 ’21 ” N) Longitude: (68 °33 ’34 ” W)
NE: Latitude: (63 °44 ’10 ” N) Longitude: (68 °25 ’20 ” W)
SE: Latitude: (63 °43 ’18 ” N) Longitude: (68 °26 ’26 ” W)
SW: Latitude: (63 °44 ’27 ” N) Longitude: (68 °34 ’30 ” W)

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



CONFIDENTIAL

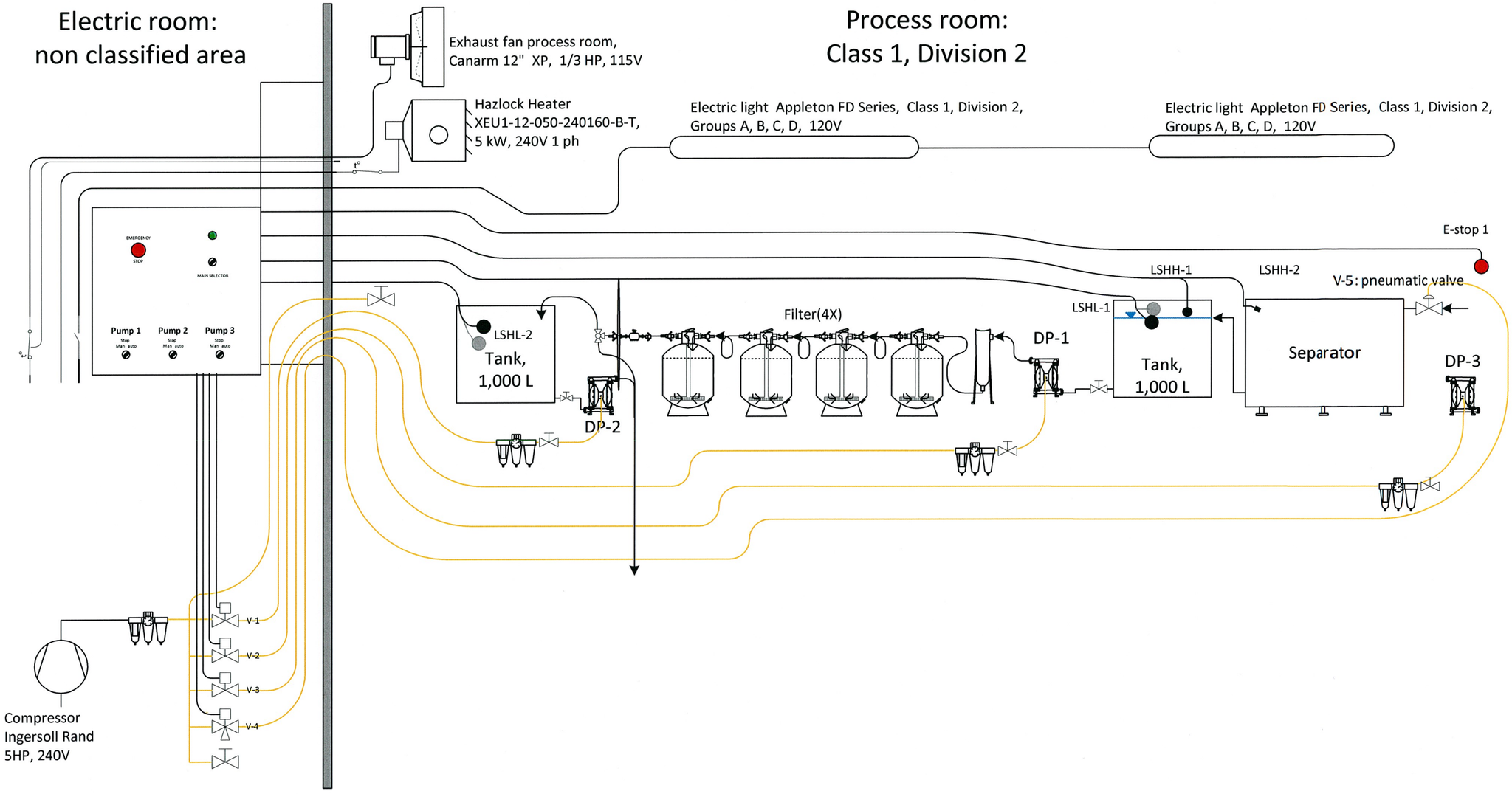
Title: Figure 4 Water Treatment Unit		
Project: HYDROCARBON IMPACTED WATER TREATMENT PROJECT		
Scale: As shown	Creation date: 2014-02-06	Revision date: 2014-02-25
Drawn by: J. Bergeron	Verified by: O. Simard	Approved by: S. Laberge
Project nº: RQ14-109-3	Drawing nº: RQ14-109-3-01.vsd	Layout: A

Presented to: Nunavut Water Board

Presented by: Qikiqtaaluk environmental

REGISTERED PROFESSIONAL ENGINEER G.S. JOHNSON LICENSEE NWT/NU

Not for construction



LEGEND

Pneumatic diaphragm pump	DP-x	Flowmeter	
Pneumatic Regulator filter		3-way ball valve	
Float switch and level control device	LSHL-x	Ball valve	
High-High float switch	LSHH-x	Thermostat	
Emergency stop	E-stop x		
Bag Filter			
Selenoid valve	V-x		
3-way selenoid valve	V-4		

REGISTERED PROFESSIONAL ENGINEER
C.R. JOHNSON
LICENSEE
NWT/NU

Not for construction

CONFIDENTIAL

Title: **Figure 5 Water Treatment Unit**		
Project: **HYDROCARBON IMPACTED WATER TREATMENT PROJECT**		
Scale: As shown	Conception date: 2014-02-06	Revision date: 2014-02-28
Drawn by: J. Bergeron	Verified by: O. Simard	Approved by: S. Laberge
Project n°: RQ14-109-3	Drawing n°: RQ14-109-3-02.vsd	Layout: C

Presented to:

Nunavut Water Board

Presented by:

Qikiqtaaluk environmental

Hydrocarbon Impacted Water Treatment
Cost Estimate in Case of Abandonment for Security

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	20	each	$145	$2 900
Excavator	16	hrs	$200	$3 200
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	**$22 220**
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 disconnect 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	5	Tons	$300	$1 500
Disposal of impacted filtering media in an authorized facility	5	Tons	$425	$2 125
Spill control supplies		lump sum		$500
Credit for valued reselling of parts		lump sum		-$3 000
			Subtotal	**$10 150**
			Grand total for Abandonment in Worst Case Scenario	**$79 340**

Refer to electronic document "2013-09-12 QE General Water License Application ca"

Industry Canada Industrie Canada

Certificate of Incorporation

Certificat de constitution

Canada Business Corporations Act

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

September 12, 2013

To: Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, Nu
X0B 1J0
Tel: 867-360-6338, ext: 26
Fax: (867) 360-6369

RE: Water Licence Submittal Executive Summary

Ms. Beaulieu,

Qikiqtaaluk Environmental Inc. would like to have authorization to discharge treated water resulting from the operation of a hydrocarbon impacted water treatment unit in Iqaluit. This request results from a need arising from clients that have to manage impacted water and/or snow resulting from spills from storage tanks or water from tank washing.

Description of the Undertaking

The impacted water will be collected from the site of spills by being pumped into a reservoir and hauled to our facility in Iqaluit. The water will then be treated through an oil/water separator and particulate filters to remove free product and sediments. The water then passes through activated carbon filters and our patented ultrasorption filters to remove any organic chemicals in the water. The treated water will then be stored in clean reservoirs. The treated water in the reservoirs will be sampled and analysed in a CALA certified laboratory to see if it respects the discharge criteria determined by the Nunavut Water Board.

Once test results show that the treated water respects the concentrations above, the water will be discharged onto the land at a location to be determined in consultation with the city of Iqaluit.

A soil sample will be collected 2 meters down slope of the discharge location prior to first discharge, and prior to the first discharge of every season, to ensure that the discharge location has not been contaminated by the discharge of the treated water.

Location of the Undertaking

City of Iqaluit, Nunavut

Water Use

Water contaminated with petroleum hydrocarbons will be collected, treated and discharged once it meets criteria.

Quantity of Water Involved

At most our treatment unit can only generate 15 m^3 per 24 hour period if it is run continuously. Under normal operations QE will only operate the treatment unit 8 hours per day which will give a total volume of no more than 5 m^3 per day. Water will be collected into reservoirs and composite samples will be collected for analysis. QE anticipates that we will discharge no more than 30 m^3 within a 48 hour period when discharging water that meets criteria, as this is the maximum amount of water that we can store in our reservoirs at this time. Discharge will be done in such a way as to ensure that we are not having a negative impact on the discharge location and so that we will not cause any erosion to the land.

Waste

The waste generated by our activities will be:

- Petroleum Hydrocarbons from the contaminated water holding tanks and the oil/water separator, this material will be collected and disposed of according to regulations;
- Used filter media that will be shipped south for disposal; and,
- Treated water, which will be discharged at our discharge location.

Other Persons or Properties Affected by the Undertaking

The only parties that may be affected by this activity would be the land owners of the discharge location. Once a final discharge location is selected, written authorisation will be obtained from the landowner giving us approval for discharge. The city of Iqaluit has also been contacted to ensure that they are aware of our activities and that they have no objections. QE is not aware of any other parties that would be affected by our activities.

Predicted Environmental Impacts of the Undertaking and Proposed Mitigation Measures

Since QE is removing contaminated water from the environment, this will only have a positive impact.

The only impact to the environment will be at the discharge location where treated water may have an impact on the soil at the discharge location. As mentioned above, this soil will be monitored yearly to see if any impacts are observed. If an increase of any of the parameters measured is found that rise above the criteria for the land use, then the soil will be immediately excavated and disposed of according to regulations. Should any of the parameters rise above the criteria; our treatment system will also be evaluated to ensure that the parameters that no longer meet criteria are being addressed during the treatment process.

Water Rights

This water is collected from the properties of home owners, and or businesses who are owners or renters of the property. QE does not feel that the use of this water infringes on anyone's rights.

Proposed Time Schedule

QE would like to setup this treatment unit on a permanent basis in Iqaluit. Operation will start as soon as the water licence is obtained and will continue for many years. Should the treatment unit every be shut down then our abandonment and restoration plan will be put into place.

Please feel free to communicate with us if you have any questions.

Sincerely,

Greg Johnson, Director
Qikiqtaaluk Environmental Inc.
Tel: 514-940-3332
Fax: 514-940-3435

ᓯᑉᑎᒻᕙ 12, 2013

ᐅᕗᖓ: ᕕᓚᔅ ᕘᓚᐅ
ᓚᐃᓴᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑦᓯᔨ
ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ
ᑎᑎᖅᑲᖃᐅᑖ 119
ᐅᖅᓱᖅᑑᖅ, ᓄᓇᕗᑦ
X0B 1J0
ᐅᖄᓚᐅᑖ: 867-360-6338, ᐅᐃᒍᖓ: 26
ᓱᒃᑲᔪᒃᑰᕈᑖ: (867) 360-6369

ᐱᔾᔪᑖ: ᐃᒪᕐᒧᑦ ᓚᐃᓴ ᑐᓂᔭᐅᓂᖓ ᐊᐅᓚᑦᓯᔨᓄᑦ ᓇᐃᓈᕐᓯᒪᔪᖅ

ᕘᓚᐅᒧᑦ,

ᕿᑭᖅᑖᓗᖕᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐊᔪᙱᔾᔪᑎᑖᖅᑎᑕᐅᒍᒪᔪᑦ ᑯᕕᓯᖃᑦᑕᓂᕐᒥᒃ ᐅᐊᒃᑕᑯᓂᒃ ᑕᕝᕙᙶᕐᓯᒪᔪᒥᒃ ᐊᐅᓚᑕᐅᔪᒥᒃ ᓱᕈᓐᓇᖅᑐᓕᖕᒧᑦ ᓱᕐᕋᑦᑕᐅᓯᒪᔪᒥᒃ ᐅᐊᒃᑕᑯᓄᑦ ᑯᕕᖅᑕᕐᕕᖓᓂ ᐃᖃᓗᓐᓂ. ᑐᒃᓯᕋᐅᑎᓕᐅᕈᑕᐅᔪᖅ ᑕᕝᕙᙵᑦ ᐊᑐᖅᑕᐅᔭᓇᐊᓕᖕᒥᒃ ᓴᖅᑭᕐᓯᒪᔪᖅ ᐃᑲᔪᖅᑕᐅᕙᑦᑐᓂᒃ ᐊᐅᓚᑦᓯᔭᓇᐊᓕᖕᓂᒃ ᓱᕐᕋᑦᑕᐅᓯᒪᔪᒥᒃ ᐃᒥᕐᒥᒃ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᐊᐳᒻᒥᒃ ᑕᕝᕙᙶᕐᓯᒪᔪᒥᒃ ᑯᕕᓯᒪᔪᓂᒃ ᐃᒪᖃᐅᑎᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐅᐊᒃᑕᑯᒥᒃ ᐃᒪᖃᐅᑦ ᐅᐊᓴᖅᑕᐅᓂᖓᓂᒃ.

ᓇᓗᓇᐃᖅᑐᕐᓯᒪᓂᖓ ᐱᓕᕆᐊᖑᒋᐊᓕᒃ

ᓱᕐᕋᑦᑕᐅᓯᒪᔪᖅ ᐃᒥᖅ ᓄᐊᑕᐅᓂᐊᖅᑐᖅ ᑯᕕᕕᐅᓯᒪᔪᒥᒃ ᒥᑦᓗᐊᖅᑕᐅᓗᓂ ᐃᒻᒥᕐᓱᐃᕕᖕᒧᑦ ᐊᒻᒪᓗ ᐊᒃᑕᑰᕐᕕᑎᓐᓄᑦ ᑲᓕᑕᐅᓕᕐᓗᓂ ᐃᖃᓗᓐᓂ. ᐃᒥᖅ ᓴᓗᒻᒪᓴᖅᑕᐅᓕᕐᓗᓂ ᐅᖅᓱᐊᓗᒃ/ᐃᒥᖅ ᐊᕕᑦᓯᒪᒍᑎᖓᒍᑦ ᐊᒻᒪᓗ ᑖᒃᑯᓅᖓ ᓴᓐᓂᒌᒃᑯᑎᖏᑎᒍᑦ ᐲᔭᖅᑕᐅᓗᓂ ᓱᕐᕋᑦᓯᒪᙱᓐᓂᖓ ᐊᒻᒪᓗ ᕿᒻᒪᑯᓂᒃ. ᐃᒥᖅ ᑕᕝᕘᓇᓕᕐᓗᓂ ᐊᐅᓚᑦᓯᔾᔪᑎᖓᒍᑦ ᓯᕈᓐᓇᖅᑐᓄᑦ ᓴᓐᓂᒌᒃᑯᑎᒃᑯᑦ ᐊᒻᒪᓗ ᓴᓗᒻᒪᓴᐃᔾᔪᑎᒋᔭᑦᑎᒍᑦ ᒪᓴᕿᒍᑎᖓᒍᑦ ᓴᓐᓂᒌᒃᑯᑏᑦ ᐲᔭᖅᑕᐅᒍᑎᖓ ᓱᕈᓐᓇᖅᑑᑦ ᐃᒫᓂᑦᑐᑦ. ᐊᓯᐃᓛᒃ ᓴᓗᒻᒪᓴᐅᑎᒃᑰᕐᓯᒪᔪᖅ ᐃᒥ ᑐᖅᑯᖅᑕᐅᓕᕐᓗᓂ ᓴᓗᒪᔪᖃᐅᑎᓄᑦ ᐃᒻᒥᕐᑐᐃᕕᖕᓄᑦ. ᓴᓗᒻᒪᓴᐅᑎᒃᑰᕐᓯᒪᔪᖅ ᐃᒥᖅ ᐃᒻᒥᖅᑐᐃᕕᖕᓂ ᐲᖅᓯᕕᐅᓗᓂ ᖃᐅᔨᓴᕐᓴᑦᓴᕐᑕᐅᓕᕐᓗᓂ CALA ᓇᓗᓇᐃᒃᑯᑕᓖᑦ ᖃᐅᔨᓴᕐᕕᖕᒥ ᖃᐅᔨᓴᕈᑏᑦ ᓱᖅᑯᐃᖅᑕᐅᓇᓱᐊᕐᓗᓂ ᓈᖕᒪᓈᕐᓯᒪᒻᒪᖔᖅ ᑯᕕᖅᑕᕕᖕᒧᑦ ᒪᓕᒐᑦᓴᓕᐊᖑᓯᒪᔪᓂᒃ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂᒃ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ.

ᖃᐅᔨᓴᕈᑎᒥᓂᕐᓂ ᑕᑯᑦᓴᐅᑉᐸᑦ ᓴᓗᒻᒪᓴᐃᔾᔪᑎᒃᑰᕐᓯᒪᔪᖅ ᐃᒥᖅ ᓈᖕᒪᓈᕐᓯᒪᒋᐊᖓ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔾᔪᑎᒃᓴᖓᓄᑦ ᑎᑎᕋᕐᓯᒪᔪᒧᑦ ᖁᓛᓂ, ᐃᒥᖅ ᑯᕕᔭᐅᓂᐊᖅᑐᖅ ᓄᓇᒧᑦ ᓇᓗᓇᐃᖅᑕᐅᓂᐊᖅᑐᒧᑦ ᓇᒨᓂᐊᕐᒪᖔᖅ ᑐᓴᓇᐊᓚᐅᕐᓗᑎᒃ ᐃᖃᓗᐃᑦ ᓄᓇᓕᐸᐅᔭᒃᑯᖏᓐᓂᒃ.

ᐃᔾᔭᒥᒃ ᖃᐅᔨᓴᕐᓴᑦᓴᒥᒃ ᓄᐊᑦᓯᓂᐊᖅᑐᑦ 2 ᒦᑕ ᓄᓇᐅᑉ ᐃᑭᐊᖓᓄᑦ ᓯᕕᖓᔭᕐᑐᓂ ᑯᕕᓯᕕᐅᓂᐊᖅᑐᒥᒃ ᓯᕗᓂᐊᒍᑦ ᓯᕗᓪᓕᕐᐹᒥ ᑯᕕᔭᐅᓚᐅᙱᓐᓂᖓᓂ, ᐊᒻᒪᓗ ᓯᕗᓂᐊᒍᑦ ᓯᕗᓪᓕᕐᐹᖅ ᑯᕕᔭᐅᓚᖓᓕᕐᓴᐃᑉᐸᑦ ᑯᕕᓯᔭᓇᐊᖃᓕᕐᓴᐃᑉᐸᑕ ᐊᕐᕌᒍᒥ, ᑯᕕᓯᕕᐅᓯᒪᔪᖅ ᓱᕈᓐᓇᖅᑐᑖᕐᓯᒪᙱᒃᑲᓗᐊᕐᒪᖔᖅ ᖃᐅᔨᓇᓱᐊᕐᓗᑎᒃ ᑯᕕᓯᓂᒃᑯᑦ ᓴᓗᒻᒪᓴᐃᔾᔪᑎᒃᑰᕐᓯᒪᔪᒥᒃ ᐃᒥᕐᒥᒃ.

ᓇᓃᓐᓂᖓᕐᓂᖓ ᑲᒪᒋᔭᐅᔪᖅ

ᐃᖃᓗᐃᑦ ᓄᓇᓕᐸᐅᔭᖓ, ᓄᓇᕗᑦ

ᐃᒥᕐᒥᒃ ᐊᑐᕐᓂᖅ

ᐃᒥᖅ ᓱᑭᓐᓇᖅᑐᓕᒃ ᐅᖅᓱᐊᓗᓐᓃᓐᖔᖅᑐᓂᒃ ᓱᑭᓐᓇᖅᑐᓂᒃ ᓄᐊᑕᐅᓂᐊᖅᑐᖅ, ᓴᓗᒻᒪᓴᐃᔾᔪᑎᒃᑰᖅᑕᐅᓗᓂ ᐊᒻᒪᓗ ᑯᕕᔭᐅᓗᓂ ᒪᓕᒋᐊᓕᖕᓂᒃ ᓈᖕᒪᓈᕆᓯᒪᓕᑐᐊᕐᐸᑦ.

ᐊᖏᓂᖓ ᐃᒥᖅ ᑲᒪᒋᔭᐅᔪᖅ

ᐊᖏᓂᕐᐹᖑᒍᓐᓇᖅᑐᖅ ᓴᓗᒻᒪᓴᐃᔾᔪᑎᑦᑎᒎᑭᓐᓇᖅᑐᖅ 15 m^3 24-ᓂᒃ ᐃᑲᕐᕋᓂᒃ ᐊᐅᓚᐃᓐᓇᕐᐸᑦ ᓄᖅᑲᓚᐅᓐᖏᓪᓗᓂ. ᐊᐅᓚᓂᐅᖃᑦᑕᓲᒃᑯᑦ ᕿᑭᖅᑖᓗᖕᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐊᐅᓚᓂᐊᖅᑕᑐᐊᖏᑦ ᓴᓗᒻᒪᕐᓴᐃᔾᔪᑎᒃᑯᑦ 8-ᓂᒃ ᐃᑲᕐᕋᓂᒃ ᐅᓪᓗᖅ ᑲᑎᓪᓗᒋᑦ ᐊᖏᓂᖃᕐᓂᐊᖅᑐᖅ ᐅᖓᑖᓅᓐᖏᑦᑐᖅ 5m^3 ᐅᓪᓗᖅ. ᐃᒥᖅ ᓄᐊᑕᐅᓂᐊᖅᑐᖅ ᐃᒻᒥᕐᓱᐃᕙᖕᓄᑦ ᐅᖓᑖᓅᓐᖏᑦᑐᖅ 30 m^3 ᐃᑲᕐᕋᓂᒃ 48-ᓂᒃ ᑯᕕᔭᐅᓂᖓᓂ ᐃᒥᖅ ᐊᑐᖅᑕᐅᔭᕆᐊᖃᖅᑎᑕᐅᔪᒃᑯᑦ ᓈᖕᒪᓈᕐᓯᒪᓗᓂ, ᑖᓐᓇ ᐊᖏᓂᕐᐹᖑᒍᓐᓇᖅᑐᖅ ᐊᖏᓂᖓ ᐃᒥᖅ ᑐᖅᑯᕐᓯᒪᒍᓐᓇᖅᑕᕗᑦ ᐃᒻᒥᕐᓱᐃᕙᑦᑎᓐᓂ ᒫᓐᓇᐅᓂᖓᓂ. ᑯᕕᔭᐅᔪᖅ ᑲᒪᒋᔭᐅᖃᑦᑕᓂᐊᖅᑐᖅ ᐱᐅᓐᖏᑦᑐᒥᒃ ᓱᕐᕋᒍᑕᐅᑦᑕᐃᓕᒪᔪᒃᑯᑦ ᑯᕕᔭᐅᔪᒧᑦ ᐊᒻᒪᓗ ᐃᓕᖅᑮᓪᓕᕚᓪᓕᐊᒍᑕᐅᓐᖏᓪᓗᓂ ᓄᓇᒧᑦ.

ᐊᒃᑕᑯ

ᐊᒃᑕᑯᑦ ᐊᐅᓚᑕᑦᑎᓃᓐᖔᖅᑐᑦ ᐃᒪᐃᑕᐅᓂᐊᖅᑐᑦ:

- ᐅᖅᓱᐊᓗᓐᓃᓐᖔᖅᑐᑦ ᓱᑭᓐᓇᖅᑐᑦ ᑖᒃᑯᓇᓐᖔᖅᑐᑦ ᓱᑭᓐᓇᖅᑐᓕᖕᓂᒃ ᐃᒥᕐᒥᒃ ᐃᒪᖃᐅᑎᑦᑎᓐᓃᑦᑐᑦ ᐊᒻᒪᓗ ᐅᖅᓱᐊᓗᒻᒧᑦ/ᐃᒥᕐᒧᑦ ᐊᕙᑦᓯᒪᒍᑎ, ᑖᒃᑯᐊ ᓄᐊᑕᐅᓂᐊᖅᑐᑦ ᐊᒻᒪᓗ ᑯᕕᔭᐅᓗᑎᒃ ᒪᓕᓪᓗᒋᑦ ᐊᐅᓚᑦᓯᔾᔪᑏᑦ;
- ᐊᑦᑐᑯᐃᑦ ᓴᓐᓂᑮᒃᑯᑏᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᓕᕐᓗᑎᒃ ᖃᓪᓗᓈᓄᑦ ᐊᒃᑕᑯᖃᕐᕕᖕᒧᑦ; ᐊᒻᒪᓗ,
- ᓴᓗᒻᒪᕐᓴᐃᔾᔪᑎᒃᑰᕐᓯᒪᔪᖅ ᐃᒥ, ᑯᕕᔭᐅᓗᓂ ᑯᕕᓯᕕᓕᐊᕆᓂᐊᖅᑕᑎᓐᓄᑦ.

ᐊᓯᖏᑦ ᑭᒃᑯᑐᐃᓐᓇᐃᑦ ᓇᖕᒥᓂᖁᑏᓪᓗ ᓱᕐᕋᑦᑕᐅᔪᑦ ᑲᒪᒋᔭᐅᔪᒧᑦ

ᐊᓯᖏᑦ ᐱᓕᕆᖅᑕᐅᔪᑦ ᓱᕐᕋᖅᑕᐅᔪᑑᓗᔭᖕᖑᐊᖅᑐᑦ ᐊᐅᓚᑕᐅᔪᒧᑦ ᓄᓇᒥᒃ ᓇᖕᒥᓂᖁᑎᓖᑦ ᑯᕕᓯᕕᒃᓴᓕᐊᖑᔪᒥᒃ. ᐋᖅᑭᑕᐅᑉᐸᑦ ᑯᕕᖅᑕᖅᕕᓕᐊᖑᓂᐊᖅᑐᖅ ᓇᓗᓇᐃᖅᑕᐅᓗᓂ, ᑎᑎᕋᕐᓯᒪᒧᒃ ᐊᖏᖅᑕᐅᓂᖓ ᐱᔭᐅᓂᐊᖅᑐᖅ ᓄᓇᒥᒃ ᓇᖕᒥᓂᖁᑎᓕᖕᒥᒃ ᑲᔪᓯᒍᑎᒃᓴᑎᓐᓂᒃ ᐊᖏᕈᑕᐅᓂᖓᒍᑦ ᑯᕕᓯᓂᕐᒥᒃ. ᐃᖅᑲᓗᐃᑦ ᓄᓇᓕᐸᐅᔭᖓ ᖃᐅᔨᒃᑲᖅᑕᐅᓯᒪᒻᒥᔪᑦ ᖃᐅᔨᒪᖁᑦᑐᒋᑦ ᑲᒪᒋᔭᑦᑎᓐᓂᒃ ᐊᒻᒪᓗ ᐱᔭᕆᐊᖃᖏᑎᓯᒍᑎᒃᓴᖃᖏᒃᑲᓗᐊᕐᒪᖔᑕ. ᕿᑭᖅᑖᓗᖕᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᖃᐅᔨᓯᒪᓐᖏᑦᑐᑦ ᐊᓯᓕᒫᖏᓐᓂᒃ ᐱᓕᕆᖅᑕᐅᔪᓂᒃ ᓱᕐᕋᑦᑕᐅᖅᑕᐅᓇᔭᖅᑐᓂᒃ ᐊᐅᓚᑕᑦᑎᓐᓄᑦ.

ᐊᕙᑎᒥᒃ ᓱᕐᕋᒍᑕᐅᓈᕋᓱᒋᔭᐅᔪᑦ ᑲᒪᒋᔭᐅᔪᒥᒃ ᐊᒻᒪᓗ ᐃᑯᓪᓚᐅᒥᑎᕐᓯᒍᑎᒃᓴᐅᓇᔭᖅᑐᓂᒃ ᐱᓇᓱᐊᕈᒪᔾᔪᑏᑦ;

ᕿᑭᖅᑖᓗᖕᒥ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐲᔭᐃᓂᐊᕐᓂᖏᓐᓄᑦ ᓱᑭᓐᓇᖅᑐᒥᒃ ᐃᒥᕐᒥᒃ ᐊᕙᑎᑦᑎᓐᓂᒃ, ᐱᐅᔪᐃᓐᓇᐅᓇᔭᖅᑐᑦ ᑕᕝᕙᖕᖓᑦ ᓴᖅᑭᖅᑐᑦ.

ᓱᕐᕋᒍᑎᑑᓂᐊᖅᑐᖅ ᐊᕙᑎᑦᑎᓐᓄᑦ ᑯᕕᓯᕕᓕᐊᖑᓯᒪᓂᐊᖅᑐᖅ ᓴᓗᒻᒪᓴᐃᔾᔪᑎᒃᑰᕐᓯᒪᔪᖅ ᐃᒥᖅ ᓱᕐᕋᐃᑐᐃᓐᓇᕆᐊᓕᒃ ᐃᔾᔪᒥᒃ ᑯᕕᖅᑕᖅᕕᒋᓂᐊᖅᑕᑎᓐᓂ. ᑖᒃᑯᓇᓃᑦᑐᖅ ᑎᑎᕋᕐᓯᒪᔪᓂ ᖁᓛᓂ, ᐃᔾᔪ ᖃᐅᔨᒋᐊᖅᑕᐅᖏᓐᓇᖃᑦᑕᓂᐊᖅᑐᖅ ᐊᕐᕌᒍᑕᒫᑦ ᖃᐅᔨᔭᐅᓇᓱᐊᕐᑐᓂ ᓱᕐᕋᐃᓯᒪᒻᒪᖔᖅ. ᐱᕙᓪᓕᐊᓂᖃᑐᐃᓐᓇᕐᐸᑦ ᓇᓕᑐᐃᓐᓇᖏᓐᓂᒃ ᐊᕙᑎᓕᒫᖓᓂ ᖃᐅᔨᓴᖅᑕᐅᓂᖓᒍᑦ ᖃᐅᔨᔭᐅᑉᐸᑦ ᖁᕝᕙᕐᓯᒪᓂᖓᓂᒃ ᓱᕐᕋᐃᔪᒥᓂᐅᒋᐊᖓ ᒪᓕᒐᑦᓴᓕᐊᖑᓯᒪᔪᓂ ᖃᓄᐃᓐᓂᖓᓄᑦ ᓄᓇᒥᒃ ᐊᑐᕐᓂᕐᒧᑦ, ᐃᔾᔪ ᐲᔭᖅᑕᐅᑦᓴᐅᑎᒋᓂᐊᖅᑐᖅ ᓴᒡᒐᖅᑕᐅᓗᓂ ᐊᒻᒪᓗ ᐃᒋᑕᐅᓗᓂ ᐊᐅᓚᑦᓯᔾᔪᑏᑦ ᒪᓕᓪᓗᒋᑦ. ᐊᕙᑖᓃᑦᑐᑦ ᖁᕝᕙᓗᐊᓕᕐᓂᕐᐸᑕ ᖃᓄᐃᒋᐊᖃᕐᓂᖏᑦ ᒪᓕᒋᐊᓕᖕᓄᑦ; ᓴᓗᒻᒪᕐᓴᐃᔾᔪᑎᕗᑦᑕᐅᖅ ᖃᐅᔨᓴᖅᑕᐅᓂᐊᕐᒥᔪᖅ

ᓯᖏᐻᐃᖏᓱᐊᑕᐅᓂᐊᖅᓗᓂ ᐊᐢᒃ ᒪᓕᕆᐊᓕᖓᓄᑦ ᑎᑭᐅᑎᓯᒪᔪᖅᑭᑦᑐᑦ ᑲᒪᕆᐅᑦᓯᐊᖅᑯᓗᑎᑦ ᓴᓗᓱᖏᖅᑕᐅᓂᖅᑎᓂᔪᓂ.

ᐃᒥᖅᒧᑦ ᐱᓵᔪᐅᑎᑦ

ᒎᓪᓗ ᐃᒥᖅ ᓄᐊᑕᐅᖅᑲᑕᖅᑐᖅ ᓇᖕᒥᓂᖅᐸᑎᓕᓪᓚᖅᑐᓂᓪᓚᖅ, ᐊᓱᒪᓗ ᓇᖕᒥᓂᖅᐸᑎᑎᕆᐅᕆᔨᓂᖅ ᓇᖕᒥᓂᓕᓂᖅ ᐅᕐᐳᓗᓪᓂᑦ ᐊᑐᖅᑐᐊᖅᑐᓂᖅ ᓇᖕᒥᓂᖅᐸᑎᑎᕆᐅᕆᔨᓂᖅ. ᖁᑭᖅᒎᓗᖕᒥ ᐊᐳᑎᓕᓪᓚᖅᐸᑦ ᓯᕐᐃᓂᓯᒪᔪᓇᖕᑦᑐᑦ ᐊᑐᖅᑎᓂᒥᒃ ᐃᒥᖅᒥᒃ ᑭᓇᐃᓇᖅᐳᑎᓕᕐᓂᖅᐳᑦ ᐱᓵᔪᐅᑎᖕᑦᑐᓂᖅᓂᖅ.

ᑲᒪᑎᐅᓇᓴᖅᓂᖓᓄᓕᒃ ᐋᖅᑭᓯᖅᑕᐅᓯᒪᔪᒃ

ᖁᑭᖅᒎᓗᖕᒥ ᐊᐳᑎᓕᓪᓚᖅᐸᑦ ᐋᖅᑭᒋᒪᔪᒃ ᒎᓪᓗ ᓴᓗᓱᒪᐃᔨᐊᑎ ᑕᒪᓂᖕᑦᑐᓇᖅᐸᑦᓯᓗᒍ ᐃᖅᓗᓪᓂ. ᐊᐅᓂᓪᓂᐊᖅᑕᖕᓄ ᐱᑎᐊᖅᓴᖅᑐᖅ ᐃᒥᖅᒧᑦ ᓪᐃᓴᒎᐊᖅᐸᑦᑕ ᐊᒪᓗᓗ ᐅᑭᐅᖅᑎᖅᑐᓂᖅ ᐊᐅᓪᓂᖅᑎᖅᑐᓂ. ᓴᓗᓱᒪᐃᔨᐊᑎ ᒪᑐᓴᐅᓂᖅᐸᑦ ᐊᑐᖅᑕᐅᔪᓂᓂᖅᑐᓗᓂᑦ ᐊᒪᓗᓗ ᓴᓇᓴᐅᑎᐊᑎᓂᓴᒃᓴᓂᑦ ᐸᖅᓇᐅᑎᓪᓂᐊᓂᔪᓚᖅᑐᓂ ᐊᐅᓪᓚᕐᓂᖅᐳᓪᓗᑎᒃ.

ᐅᖅᑲᖅᑎᑎᕆᐅᔪᓂᓇᓂᐊᖅᑐᑐᓂ ᐊᐱᖅᑯᑎᓂᖅᑲᕐᓂᔪᓪᓗᑎᒃ.

ᑎᑎᕆᖅᑐᖅ,

ᔪᓚᑲ ᐄᓐᓴᓐ, ᑐᑭᒧᐊᓂᑎᓕᓴ
ᖁᑭᖅᒎᓗᖕᒥ ᐊᐳᑎᓕᓪᓚᖅᑯᓂ ᑎᒥᖏᑲ
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SPILL CONTINGENCY PLAN

HYDROCARBON IMPACTED WATER TREATMENT

Document presented to

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September 2013

O/Ref.: RQ11-114-2

1. SPILL CONTINGENCY PLAN

1.1 General

The spill emergency plan was developed to assist Qikiqtaaluk Environmental Inc. (QE) in implementing measures to protect the environment and minimize impacts from spill events. It provides precise instructions that all personnel shall be familiarized with during emergency situations. This plan outlines procedures for responding to spills in a way to minimize potential health and safety hazards, environmental damage, and clean-up costs.

The spill emergency plan ensures that QE will respect all applicable laws, regulations and requirements of federal and/or territorial authorities. QE will hold and comply with all required permits, approvals and authorizations required for the project. QE will work in close collaboration with all regulatory authorities to ensure full compliance according to applicable federal or territorial laws, regulations and/or guidelines. The following documents shall be used as spill containment guidelines:

- The Canadian Environmental Protection Act controls hazardous substances from their production and/or import, their consumption, storage and/or disposal;
- The Transportation of Dangerous Goods Act and Regulations describe safety measures in the transportation of dangerous goods. The act applies to all handling of dangerous goods by any means of transport whether or not the goods originate from or are destined for any place(s) in Canada;
- The Guidelines for Preparation of Hazardous Material Spill Contingency Plans describe parameters that should be considered in the development of hazardous material spill emergency plans. It also defines the information that should be incorporated into a comprehensive contingency plan;
- The Code of Practice for Used Oil Management defines appropriate environmental options for handling, storage, collection, recycling, transportation, reuse and/or disposal of used oils in Canada. It provides standard procedures to handle used oil generators. It also helps regulatory authorities to formulate provincial and/or regional strategies for used oil management;
- The Nunavut Environmental Protection Act governs the protection of the environment from contaminants. The act defines offenses and penalties as well as the powers of environmental inspectors;
- The Code of Practice for Used Oil Management defines appropriate environmental options for handling, storage, collection, recycling, transportation, reuse and/or disposal of used oils in Canada. It provides standard procedures to handle used oil generators. It also helps regulatory authorities to formulate provincial and/or regional strategies for used oil management;

- The Nunavut Environmental Protection Act governs the protection of the environment from contaminants. The act defines offenses and penalties as well as the powers of environmental inspectors;

- The Nunavut Spill Contingency Planning and Reporting Regulations describe requirements for spill reporting and emergency planning;
- The Environmental Guideline for Industrial Waste Discharges, from the Government of Nunavut's Department of Sustainable Development provides water discharge criteria for many parameters.

1.2 Hazardous Liquids found Onsite And Storage Capacity

No fuel or any other hazardous liquids are used during the operation of the hydrocarbon impacted water system. Hydrocarbons may be recovered from the oil/water separator, and such waste oil will either be used with a waste oil furnace, or containerized for off-site disposal. The volume of waste oil to be managed from the treated system is variable and difficult to predict as it is dependent on the degree of impacted snow/water.

The industrial area in Iqaluit where the hydrocarbon impacted water treatment is installed has a permit from the Government of Nunavut to be an authorized hazardous waste transfer station. Therefore, QE already has spill response material, additional containers including tote tanks and overpack drums in stock, and can thus easily manage any waste oil generated by the treatment system.

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. Large fuel caches in excess of 20 drums will be inspected daily. QE will manage the hazardous waste transfer station in Iqaluit and each fall will coordinate for the retrograde shipment through sealift of properly packaged and labelled hazardous waste to authorized disposal facilities located in the Montreal area.

12 Volt fuel pumps (and hand pumps) are to be used for fuel transfer operations with drums of waste oil.

1.3 Duties and Responsibilities

As part of the spill emergency response, QE is responsible for implementing, through its manager or its authorized representative, the following procedures.

1.3.1 Waste Oil or Impacted Water Spill

- To communicate the spill event immediately to the GN official (immediately shall mean upon discovery);
- To authorize the use of personnel and applicable equipment to contain the spill using the most reliable method;
- To eliminate all fire hazards and potential ignition sources near the spill area;
- To implement all required safety and security procedures at the site of the spill;

- To eliminate the source of the spill or reduce the rate of discharge, if such procedures can be implemented with respect to health and safety requirements;
- To contain the spill using the most appropriate methods for the situation (dykes, ditches, sorbent materials, containment booms and other barriers);
- To evaluate the possibilities of recovering spilled chemicals;
- To mobilize all available personnel, equipment and tools, as required;
- To obtain assistance from GN (through its official), from the Hamlet and/or from Environment Canada, if required. To consult and, if required, request assistance from the Canadian Coast Guard and/or and Fisheries and Oceans Canada if the spill affects water;
- To obtain additional assistance by hiring northern residents from Iqaluit and/or specialized spill response firms, if required;
- To comply with all applicable guidelines and regulations;
- To assess, on a preliminary basis, environmental impacts on marine, freshwater and terrestrial wildlife and on the general ecosystem, to be communicated to relevant authorities;
- To provide documentation for all events and actions;
- To report the event to the GN Spill Report Line and to prepare and submit a written spill report using the appropriate form (see below for the list of information required for such submittals).

1.3.2 Other Duties and Responsibilities

As part of the spill emergency response, the Manager is responsible for the implementation of the following procedures:

- To ensure that appropriate resources required to respond and clean the spill are made available;
- To supervise containment, cleanup and remediation operations;
- To provide documentation for all events and actions, using the Spill Report Form found at the end of this section;
- To notify relevant government authorities.

Otherwise, QE will ensure that each selected shipment company has prepared the contingency plans (emergency response plans {ERP}) required to face spill events, and that they comply with all applicable regulations. The shipping company will be responsible to register their ERP, if required, with the Director General of the Transport of Dangerous Goods Directorate if materials identified for transport exceed volumes listed in Schedule XII of the TDG regulations. The ERP shall contain information on the nature of risks from dangerous goods and contact names and numbers for emergency assistance.

If a spill of hazardous materials exceeds the volumes listed in Part 9, Table I of the TDG regulations during transport, the shipment company authorities must immediately notify the relevant authorities using the contact lists defined in Table II of the same regulations. The shipment authority must also inform his/her employer, the owner of the transport vehicle, and the dangerous goods owner. The shipment authority's employer will then be required to submit a written report to the TDG Director General within 30 days following the spill event.

The Contractor will ensure that the selected shipment company reports all spill events using the appropriate spill response line. Quantities of substances which represent "a spill" are listed in Schedule B of the NWT Spill Contingency and Reporting Regulation.

If a spill occurs on water during shipment of material, the shipment company will be responsible to deploy containment booms and recover as much fuel as possible with required and available equipment.

1.4 Training and Drills

All personnel onsite shall be informed that any spill of fuel and/or hazardous liquids or solids, whatever the extent, must be reported immediately to the manager or his authorized representative.

These persons shall also be aware that defensive actions and techniques employed will depend on a variety of factors. These include, but are not limited to:

- Type of pollutant;
- Degree of loss;
- Topography of the nearby area;
- Proximity to water.

Also, they should be aware that the most common pollution incident potentially occurring for this project will probably be caused by fuel, oil or other hazardous fluid spills onto land or water resulting from:

- Human error during transfer operations of fuel from the oil/water separator to the container;
- Leaks from fittings or valves;
- Collapse of a hydrocarbon impacted water container.

Finally, the spill containment team shall be aware that, if a spill occurs, the protection of human health and safety shall be a priority. Even if emergency procedures are attempted to rapidly clean, contain and dispose of released contaminants to minimize further environmental impact, human exposure during a spill event is to be considered as a real concern and be prevented.

1.5 Material and Equipment

In order to prevent spills and provide an appropriate response in case of spill events, QE maintains appropriate equipment and material required onsite. A list of spill prevention and spill containment equipment including protective clothing is presented below. Spill kits have a capacity of 630 L (see www.quatrex.ca - item Spill kit Q Ultra 75)

1.5.1 Spill Prevention

The materials and equipment used for spill prevention are essentially related to temporary fuel tank inspection, and temporary containment basin construction:

Quantity	Description
1	Roll of HDPE geomembrane for lining bermed areas and fuel transfer areas;

1.5.2 Spill Containment

The material and equipment available onsite to be used for spill containment and emergency response including protective clothing are:

Quantity	Description
5	Containerized spill kits having 10 sorbent booms, 2 safety glasses. 2 Nitrile gloves, bails of 100 sorbent sheets
10	38" x 144' Rolls of sorbent sheets
5	100 metre long / 8 inch diameter oil sorbent booms
1	Vacuum suction hose/tank installed on a trailer
2	1 ½" x 25 ft oil hose c/w cam lock fittings
2	2" x 25 ft oil hose c/w cam lock fittings
10	Emergency eye wash station c/w saline solution
1	Caterpillar bulldozer (D6)
1	Caterpillar excavators (320CL)
1	Caterpillar excavator (322BL)
1	Caterpillar integrated tool carrier (IT38G) c/w snow/gravel bucket, 4 ft adjustable forks, material handling arm
1	Caterpillar Wheeled Loader (950G) c/w snow/gravel bucket, 4 ft fixed forks
8	spade nose shovels
1	Electric fuel pump - stationary 115 V, approx. 15 USGAL/min, explosion proof switch, water sediment filter – is it still on site?
100	Saranek & Tyvek suits

1.6 Spill Response Procedures

Following a spill event, specific procedures shall be implemented by the person who first noticed the emergency situation. These procedures are as follows:

- Immediately warn other personnel working near the spill area;
- Evacuate the area if health and safety are judged to be threatened;
- If not, take appropriate measures to stop, contain and identify the nature of the spill;
- Report all relevant information concerning the spill event to QE's manager, such as the type and volume of contaminant, the location and approximate size of the spill, the actions already taken to stop and contain the spill and all other observations including the presence of wildlife and meteorological conditions.

The spill cleanup approaches shall be discussed with the GN. The GN will communicate with Environment Canada. The selected methods shall be based on criteria where the impacts on human health and safety, wildlife, land, water and other environmental parameters are minimized.

To manage a spill incident, some emergency clean-up guidelines shall be followed by the Contractor when applicable. These incorporate some of the material previously described and include:

- Sorbent materials will be used to contain waste oil spills and/or to minimize its movement;
- Appropriate protective clothing and other safety devices will be used to handle spilled materials;
- When the spill occurs on land, dykes may be constructed to limit the spill movement providing granular material is sufficiently available. Snow dikes covered with an impermeable liner may also be used if snow still remains. Otherwise, containment booms will be installed in front of the plume and secured to make sure these sorbent barriers do not become saturated;
- Any free product settled in ditches, trenches or any other ground cavities will be removed using equipment such as pumps, buckets or skimmers. Recovered fluids will be temporarily stored in appropriate containers;
- Any spill areas will be cleaned to an extent where land, water and other disturbed environmental systems are remediated and the site is left as close as possible to its original state.

1.7 Reporting Requirements

Spills will immediately be reported using the 24 Hour Spill Report Line (867) 920-8130 (NWT). Immediately shall mean upon discovery. Failure to report spills can lead to fines. A written spill report will then be prepared by the Contractor with the assistance of the Engineer and submitted to the GN and the Spill Report Line supervisor (see end of this section). This report will include:

- Date and time of the incident;
- Location or map coordinates and direction of spill movement if not at steady-state;
- Party responsible for the spill;
- Type and estimated quantities of spilled contaminant(s);
- Specific cause of the incident;
- Status of the spill indicating if spilled materials are still moving or now at steady-state;
- Approximate surface of contaminated area;
- Factors affecting spill or recovery such as temperature, wind, etc.;
- Status on containment actions indicating whether:
  - naturally;
  - booms, dykes or other, or
  - no containment has been implemented;
- Corrective action taken or proposed to clean, contain or dispose of spilled material;
- Whether assistance is required and in what form;
- Whether the spill poses a hazard to persons or property (i.e., fire, drinking water);
- Comments and recommendations;
- Name, position and employer of the person reporting the spill;
- Name, position department of the person to whom the spill is reported.

Apart from reporting requirements, QE, through its manager, may require special assistance. These could be implemented for the following reasons:

1. If assistance and coordination are required for spill response, Environment Canada (Nunavut Office) and the Department of Environment of the Government of Nunavut can be contacted at:

a.	Environment Canada	(867) 975-4644
b.	Environment Canada (24-hour emergencies)	(867) 920-5131
c.	INAC Water Resources Inspector	(867) 975-4289
d.	GN Department of Environment	(867) 975-7700
e.	GN DOE, Manager of Pollution Control	(867) 975-7748

2. If medical assistance and coordination are required when injuries occur during spill incident/spill response and/or critical incident stress is observed after an event, the Baffin Regional Hospital (general enquiries) shall be contacted at:

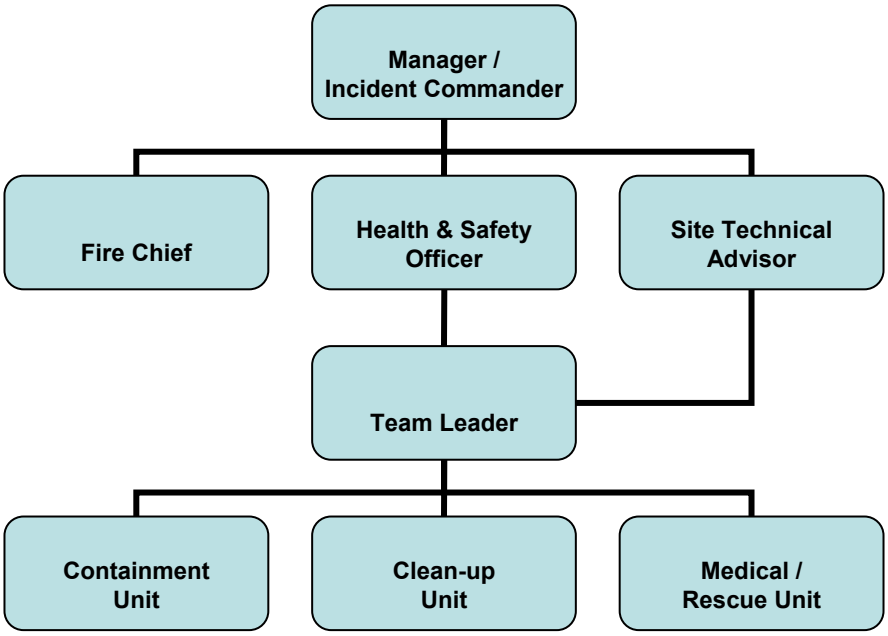
a.	Baffin Regional Hospital	(867) 979-7300

3. QE's manager and/or project managers can be reached at:

a.	Greg Johnson(Manager)	1-866-634-6367 514-717-7604 (24 hr)
b.	Olivier Simard (resident Manager in Iqaluit as of April 14th, 2014)	1-866-634-6367 (before April 14th, 2014) (867) 222-8194 (after April 14th, 2014)

1.8 Spill Report Form

The Nunavut Spill Report Form is found hereafter.


Manager / Incident Commander
Fire Chief
Health & Safety Officer
Site Technical Advisor
Team Leader
Containment Unit
Clean-up Unit
Medical / Rescue Unit

ABANDONMENT AND REMEDIATION PLAN

HYDROCARBON IMPACTED WATER TREATMENT

Document presented to

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@nunavutwaterboard.org

September 2013

O/Ref.: RQ11-114-2

2. INTRODUCTION

Qikiqtaaluk wishes to obtain a Water Licence to operate a treatment system in Iqaluit to manage and treat hydrocarbon impacted water encountered during spill cleanup and fuel tank cleanup. When spills occur while snow is still present, impacted snow and ice has to be containerized, properly stored until the impacted snow has melted and only then it can be treated prior to discharge. Snow and water during spills must be properly managed and removed from the environment to minimize additional impacts to the soils.

3. ABANDONMENT AND REMEDIATION PLAN OBJECTIVES

The general abandonment and remediation goals of this A&R Plan are to:

- Ensure the long-term physical and chemical stability of the project area(s) so as to protect the public's health and safety;
- Enhance natural recovery of the disturbed area(s) to a state that is compatible with original conditions to allow for future use by people and wildlife;
- Ensure that the requirement for long-term maintenance and monitoring is minimized.

This A&R Plan is written to address all project-related activities.

4. PROJECT DESCRIPTION

An application for the Water Licence was submitted for activities to be implemented as soon as the License is granted considering the treatment system is already functional in Iqaluit. The system is operated by electricity; petroleum products that will be recovered are either recovered to be burnt in a waste oil furnace or placed in drums, labelled and shipped to an authorized disposal facility down south, near the Montreal area. The treated water will be tested, and once it meets the discharge parameters, the water will be transported and discharged into a specific and pre-approved discharge location.

5. FINAL ABANDONMENT

Should QE's treatment system no longer be functional or should QE decide to cease those activities and/or to withdraw from this market, the system will be dismantled and disposed of. Any treatment filters that may be impacted by hydrocarbons will be containerized and shipped down south for disposal in authorized facilities. If any untreated water remains once the activities are ceased, it will be transferred into drums, and shipped down south for disposal in authorized facilities. For final abandonment, the soils at the treated water discharge point location will be sampled and if any contaminated soils are present, they will be excavated, containerized and shipped down south for disposal to an authorized facility.

6. MONITORING

Once activities conducted under the requested Water Licence are abandoned, water will no longer be managed or handled and therefore monitoring shall also cease.