



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			
<input type="checkbox"/> Camp/Municipality	<input type="checkbox"/> Drilling	<input type="checkbox"/> Mining	<input type="checkbox"/> Construction
<input type="checkbox"/> Roads/Hauling	<input type="checkbox"/> Other:	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Fuel Storage
<input checked="" type="checkbox"/> 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
Intake/Screen		NA		Water Management Structures		A	
Flow Measure. Device		NA		Culverts / Bridges		NA	
Source:		NA		Drainage		A	
Water Use:		A		Erosion / Sediment		A	
Recirculation ( y /n)		NA		Mitigation Measures		A	
				Reclamation Activities		NA	
				Materials Storage		A	
Waste Disposal				Signage		A	
Waste Water		A					
Solid Waste		A		Monitoring			
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):				
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							

SECTION 1	<input checked="" type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
<b>Background</b>			
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.			
<b>Inspectors Statement</b>			
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.			
<b>Inspection</b>			
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<sup>3</sup> 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

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**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...

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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](mailto: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

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

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**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

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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 =  $\approx 12.00\text{m}^3$
- Tank on stand B =  $\approx 18.00\text{m}^3$
- Tank 1 =  $4.28\text{m}^3$
- Tank 2 =  $4.92\text{m}^3$
- Roll-Off Tank =  $\approx 10.00\text{m}^3$
- Water Truck =  $\approx 10.00\text{m}^3$

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



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

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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](mailto: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

## **Technical Review Memorandum**

To: Robin Ikkutisluuk – 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

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### **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 28<sup>th</sup> 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 x 5 x 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<sup>3</sup> 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<sup>3</sup> (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<sup>3</sup> 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.