

License No: 1BR-THI1419 Issued Date: August 20, 2014  
Expiry Date: August 19, 2019

Project Name: Treatment of Hydrocarbon Impacted Water

Licensee: Qikiqtaaluk Environmental Inc.

Mailing Address: 9935 Catania Avenue, Entrance 1 - Suite 200  
Brossard, QC  
J4Z 3V4

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):

General Background Information on the Project (\*optional):

The licence pertains to a water treatment facility used for the treatment of hydrocarbon impacted water and snow/ice.

Licence Requirements: the licensee must provide the following information in accordance with

Part B ▼ Item 1 ▼

A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and greywater management; drill waste management; solid and hazardous waste management.

Water Source(s):	None - no water withdraw	
Water Quantity:	0	Quantity Allowable Domestic (cu.m)
	0	Actual Quantity Used Domestic (cu.m)
	0	Quantity Allowable Drilling (cu.m)
	0	Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- ☐ Solid Waste Disposal  
☐ Sewage  
☐ Drill Waste  
☐ Greywater  
☐ Hazardous  
☒ Other:

Hydrocarbon impacted water and free product

Additional Details:

All hydrocarbon impacted water is treated using filters. Excess free product is packaged in drums and disposed of offsite.

Currently there is approximately 4,500 litres of wastewater stored onsite and 23,000 litres stored at the airport. We are waiting on AANDC approval to discharge the water, test results have been provided

All treated water has been discharged on Lot 3.

A total of 56,590 L of PHC contaminated water/snow/ice was collected, treated and discharged in 2014.

**A list of unauthorized discharges and a summary of follow-up actions taken.**

Spill No.:  (as reported to the Spill Hot-line)  
 Date of Spill:   
 Date of Notification to an Inspector:   
 Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

No spills occurred

**Revisions to the Spill Contingency Plan**

Other: (see additional details) ▼

Additional Details:

The Spill Contingency Plan has been revised and submitted along with the 2014 Annual Report for approval as requested.

**Revisions to the Abandonment and Restoration Plan**

AR plan submitted and approved - no revision required or proposed ▼

Additional Details:

The reclamation cost estimate remains unchanged. The previous plan and cost estimate submitted remains valid.

**Progressive Reclamation Work Undertaken**

Additional Details (i.e., work completed and future works proposed)

None completed, work will be done at the start of 2015 to meet the requirements of the AANDC inspection report.

**Results of the Monitoring Program including:**

**The GPS Coordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;**

Not Applicable (N/A) ▼

Additional Details:

No water sources are used.

**The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the licence are deposited;**

Not Applicable (N/A) ▼

Additional Details:

Waste (used filter material etc.) is shipped south for disposal at an authorized facility in the designated province. Treated water is disposed of at 63°45'44" N, 68°32'37" W

**Results of any additional sampling and/or analysis that was requested by an Inspector**

No additional sampling requested by an Inspector or the Board ▼

Additional Details: (date of request, analysis of results, data attached, etc)

**Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.**

No additional sampling requested by an Inspector or the Board



Additional Details: (Attached or provided below)

A total of 56,590 L of impacted water was treated at the facility in 2014.  
The following was sent for off-site disposal:  
-500 kg activated carbon  
-410 L (2 drums) of waste petroleum product  
-1 m<sup>3</sup> of waste absorbents

**Any responses or follow-up actions on inspection/compliance reports**

No inspection and/or compliance report issued by INAC



Additional Details: (Dates of Report, Follow-up by the Licensee)

**Any additional comments or information for the Board to consider**

QE plans to connect the WTU to the City's electrical grid in 2015.

Figure 1 presented in the Operations and Management Plan provides a map of the treatment facility and associated infrastructure.

Analytical results for treated effluent samples (Sample ID: 1129636) showed concentrations below the maximum allowable criteria outlined in the Licence (1BR-TH11419) as specified in the Operations and Management Plan.

A soil sample (Sample ID: Cour1) was also collected at the point of discharge and the results show that the discharge of treated water has no adverse impact on the surrounding environment.

Analytical certificates are attached to the present report.

Monitoring will continue throughout the operation of the facility as outlined in the Operations and Management Plan.

**Date Submitted:**

March 27, 2015

**Submitted/Prepared by:**

Olivier Simard

**Contact Information:**

**Tel:** (867) 222-8194

**Fax:**

**email:** [osimard@qenv.ca](mailto:osimard@qenv.ca)

Client: Qikiytaaluk Enviromental  
9935 Av de Catania, Entrance 1 , Suite 200  
Brossard, QC  
J4X 3V4  
Attention: Mr. Oliver Simard  
PO#: RQ11-105  
Invoice to: Qikiytaaluk Enviromental

Report Number: 1416300  
Date Submitted: 2014-08-05  
Date Reported: 2014-08-13  
Project: QE14-200-3  
COC #: 788187

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**Dear Oliver Simard:**

**Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).**

Report Comments:

APPROVAL: \_\_\_\_\_

Lorna Wilson  
Laboratory Supervisor, Inorganics

APPROVAL: \_\_\_\_\_

Tanya Baillargeon  
Team Lead, Organics

Exova (Ottawa) is certified and accredited for specific parameters by:

CALA, Canadian Association for Laboratory Accreditation (to ISO 17025), OMAFRA, Ontario Ministry of Agriculture, Food and Rural Affairs (for farm soils), Licensed by Ontario MOE for specific tests in drinking water.

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Report Number: 1416300  
 Date Submitted: 2014-08-05  
 Date Reported: 2014-08-13  
 Project: QE14-200-3  
 COC #: 788187

					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1123936 Water - 2014-08-04 2014-01
Group	Analyte	MRL	Units	Guideline	
Calculations	Hardness as CaCO <sub>3</sub>	1	mg/L		321
General Chemistry	Alkalinity as CaCO <sub>3</sub>	5	mg/L		123
	Cl	1	mg/L		622
	Conductivity	5	uS/cm		2500
	NO <sub>2</sub> + NO <sub>3</sub> as N	0.10	mg/L		0.23
	pH	1.00			7.74
	SO <sub>4</sub>	1	mg/L		151
	Total Suspended Solids	2	mg/L		20
Hydrocarbons	F1 (C6-C10)	100	ug/L		<100
	F1-BTEX (C6-C10)	100	ug/L		<100
	F2 (C10-C16)	100	ug/L		200
	F3 (C16-C34)	200	ug/L		<200
	F4 (C34-C50)	200	ug/L		<200
	O-Terphenyl	0	%		139
Mercury	Hg	0.0001	mg/L		<0.0001
Metals	Al	0.01	mg/L		0.13
	As	0.001	mg/L		0.001
	Ca	1	mg/L		61
	Cd	0.0001	mg/L		0.0005
	Co	0.0002	mg/L		0.0024
	Cr	0.001	mg/L		<0.001
	Cu	0.001	mg/L		0.007
	Fe	0.03	mg/L		3.51
	K	1	mg/L		11
	Mg	1	mg/L		41
	Mn	0.01	mg/L		1.04

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					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1123936 Water - 2014-08-04 2014-01
Group	Analyte	MRL	Units	Guideline	
Metals	Na	2	mg/L		414
	Ni	0.005	mg/L		0.010
	Pb	0.001	mg/L		0.002
	Zn	0.01	mg/L		0.22
Nutrients	N-NH3	0.02	mg/L		5.17
	Phenols	0.001	mg/L		0.002
	Total P	0.01	mg/L		0.02
Oil & Grease	Oil & Grease - Total	1	mg/L		<1
Semi-Volatiles	1-methylnaphthalene	0.1	ug/L		<0.1
	2-methylnaphthalene	0.1	ug/L		<0.1
	Acenaphthene	0.1	ug/L		<0.1
	Acenaphthylene	0.1	ug/L		<0.1
	Anthracene	0.1	ug/L		<0.1
	Benzo(a)anthracene	0.1	ug/L		<0.1
	Benzo(a)pyrene	0.01	ug/L		<0.01
	Benzo(b)fluoranthene	0.05	ug/L		<0.05
	Benzo(g,h,i)perylene	0.1	ug/L		<0.1
	Benzo(k)fluoranthene	0.05	ug/L		<0.05
	Chrysene	0.05	ug/L		<0.05
	Dibenzo(a,h)anthracene	0.1	ug/L		<0.1
	Fluoranthene	0.1	ug/L		<0.1
	Fluorene	0.1	ug/L		<0.1
	Indeno(1,2,3-c,d)pyrene	0.1	ug/L		<0.1
	Naphthalene	0.1	ug/L		<0.1
	Phenanthrene	0.1	ug/L		<0.1
	Pyrene	0.1	ug/L		<0.1

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					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1123936 Water - 2014-08-04 2014-01
Group	Analyte	MRL	Units	Guideline	
VOCs	Benzene	0.5	ug/L		<0.5
	Ethylbenzene	0.5	ug/L		<0.5
	m/p-xylene	0.5	ug/L		<0.5
	o-xylene	0.5	ug/L		<0.5
	Toluene	0.5	ug/L		<0.5
	Xylene; total	1.0	ug/L		<1.0
VOCs Surrogates (%)	Toluene-d8	0	%		98

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## QC Summary

Analyte	Blank	QC % Rec	QC Limits
<b>Run No</b> 0 <b>Analysis Date</b> 2014-08-07 <b>Method</b> C SM2340B			
Hardness as CaCO <sub>3</sub>			
<b>Run No</b> 274035 <b>Analysis Date</b> 2014-08-06 <b>Method</b> C SM4500-PF			
Total P	<0.01 mg/L	100	85-115
<b>Run No</b> 274047 <b>Analysis Date</b> 2014-08-06 <b>Method</b> C SM4500-NH3D			
N-NH <sub>3</sub>	<0.02 mg/L	98	85-115
<b>Run No</b> 274057 <b>Analysis Date</b> 2014-08-06 <b>Method</b> EPA 200.8			
Al	<0.01 mg/L	94	89-111
As	<0.001 mg/L	99	93-106
Cd	<0.0001 mg/L	99	93-107
Co	<0.0002 mg/L	101	94-106
Cr	<0.001 mg/L	101	94-106
Cu	<0.001 mg/L	100	93-106
Fe	<0.03 mg/L	95	92-107
Mn	<0.01 mg/L	102	94-106

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### QC Summary

Analyte	Blank	QC % Rec	QC Limits
Ni	<0.005 mg/L	101	94-106
Pb	<0.001 mg/L	106	70-130
Zn	<0.01 mg/L	100	94-106
Run No 274068 Analysis Date 2014-08-06 Method C SM5530D			
Phenols	<0.001 mg/L	96	73-127
Run No 274083 Analysis Date 2014-08-06 Method C SM4500-NO3-F			
NO2 + NO3 as N	<0.10 mg/L	100	80-120
Run No 274084 Analysis Date 2014-08-06 Method M SM3120B-3500C			
Ca	<1 mg/L	99	80-120
K	<1 mg/L	104	80-120
Mg	<1 mg/L	99	80-120
Na	<2 mg/L	103	80-120
Run No 274087 Analysis Date 2014-08-06 Method M SM3112B-3500B			
Hg	<0.0001 mg/L	107	70-130
Run No 274102 Analysis Date 2014-08-06 Method SM 2320B			
Alkalinity as CaCO3	<5 mg/L	97	95-105
Conductivity	<5 uS/cm	101	95-105

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## QC Summary

Analyte	Blank	QC % Rec	QC Limits
pH	5.93	100	90-110
<b>Run No</b> 274106 <b>Analysis Date</b> 2014-08-07 <b>Method</b> SM 4110C			
Cl	<1 mg/L	100	90-110
SO4	<1 mg/L	107	90-110
<b>Run No</b> 274139 <b>Analysis Date</b> 2014-08-07 <b>Method</b> C SM2540			
Total Suspended Solids	<2 mg/L	101	90-110
<b>Run No</b> 274207 <b>Analysis Date</b> 2014-08-08 <b>Method</b> O CCME Reg 153			
F1 (C6-C10)	<100 ug/L	103	80-120
<b>Run No</b> 274209 <b>Analysis Date</b> 2014-08-08 <b>Method</b> O CCME Reg 153			
F1-BTEX (C6-C10)			
<b>Run No</b> 274210 <b>Analysis Date</b> 2014-08-07 <b>Method</b> V 8260B			
Benzene	<0.5 ug/L	101	80-120
Ethylbenzene	<0.5 ug/L	102	80-120
m/p-xylene	<0.5 ug/L	107	80-120
o-xylene	<0.5 ug/L	105	80-120
Toluene	<0.5 ug/L	110	80-120
Toluene-d8	95 %	105	80-120

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### QC Summary

Analyte	Blank	QC % Rec	QC Limits
<b>Run No</b> 274212 <b>Analysis Date</b> 2014-08-08 <b>Method</b> V 8260B			
Xylene; total			
<b>Run No</b> 274233 <b>Analysis Date</b> 2014-08-08 <b>Method</b> C SM5520B			
Oil & Grease - Total	<1 mg/L	95	60-120
<b>Run No</b> 274282 <b>Analysis Date</b> 2014-08-08 <b>Method</b> P 8270			
1-methylnaphthalene	<0.1 ug/L	64	20-140
2-methylnaphthalene	<0.1 ug/L	64	20-140
Acenaphthene	<0.1 ug/L	66	20-140
Acenaphthylene	<0.1 ug/L	64	20-140
Anthracene	<0.1 ug/L	72	20-140
Benzo(a)anthracene	<0.1 ug/L	78	20-140
Benzo(a)pyrene	<0.01 ug/L	73	20-140
Benzo(b)fluoranthene	<0.05 ug/L	67	20-140
Benzo(g,h,i)perylene	<0.1 ug/L	76	20-140
Benzo(k)fluoranthene	<0.05 ug/L	76	20-140
Chrysene	<0.05 ug/L	77	20-140
Dibenzo(a,h)anthracene	<0.1 ug/L	76	20-140

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### QC Summary

Analyte	Blank	QC % Rec	QC Limits
Fluoranthene	<0.1 ug/L	78	20-140
Fluorene	<0.1 ug/L	70	20-140
Indeno(1,2,3-c,d)pyrene	<0.1 ug/L	76	20-140
Naphthalene	<0.1 ug/L	62	20-140
Phenanthrene	<0.1 ug/L	72	20-140
Pyrene	<0.1 ug/L	80	20-140
<b>Run No 274366 Analysis Date 2014-08-12 Method O CCME</b>			
O-Terphenyl	71 %		60-140
<b>Run No 274386 Analysis Date 2014-08-12 Method O CCME Reg 153</b>			
F4 (C34-C50)	<200 ug/L	119	50-120
<b>Run No 274389 Analysis Date 2014-08-12 Method O CCME Reg 153</b>			
F2 (C10-C16)	<100 ug/L	119	50-120
F3 (C16-C34)	<200 ug/L	119	50-120

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J4X 3V4  
Attention: Mr. Greg Johnson  
PO#: RQ11-105  
Invoice to: Qikiytaaluk Enviromental

Report Number: 1418970  
Date Submitted: 2014-09-03  
Date Reported: 2014-09-10  
Project: QE14-200-3  
COC #: 789334

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**Dear Greg Johnson:**

**Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).**

Report Comments:

APPROVAL: \_\_\_\_\_

Lorna Wilson  
Laboratory Supervisor, Inorganics

APPROVAL: \_\_\_\_\_

Charlie (Long) Qu  
Laboratory Supervisor, Organics

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Report Number: 1418970  
 Date Submitted: 2014-09-03  
 Date Reported: 2014-09-10  
 Project: QE14-200-3  
 COC #: 789334

					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1131280 Soil 2014-09-02 Cour 1
Group	Analyte	MRL	Units	Guideline	
General Chemistry	Moisture	0.1	%		4.6
Hydrocarbons	F1 (C6-C10)	10	ug/g		<10
	F1-BTEX (C6-C10)	10	ug/g		<10
	F2 (C10-C16)	10	ug/g		<10
	F3 (C16-C34)	20	ug/g		<20
	F4 (C34-C50)	20	ug/g		<20
	O-Terphenyl	0	%		60
Mercury	Hg	0.1	ug/g		<0.1
Metals	Ag	0.2	ug/g		<0.2
	As	1	ug/g		3
	Ba	1	ug/g		41
	Cd	0.5	ug/g		<0.5
	Co	1	ug/g		9
	Cr	1	ug/g		56
	Cu	1	ug/g		22
	Mn	1	ug/g		325
	Mo	1	ug/g		1
	Ni	1	ug/g		26
	Pb	1	ug/g		8
	Se	1	ug/g		<1
	Sn	5	ug/g		<5
	Zn	2	ug/g		65
VOCs	Benzene	0.02	ug/g		<0.02
	Ethylbenzene	0.05	ug/g		<0.05
	m/p-xylene	0.05	ug/g		<0.05
	o-xylene	0.05	ug/g		<0.05

**Guideline =** \* = **Guideline Exceedence**

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 MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable  
 Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO  
 = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

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J4X 3V4  
Attention: Mr. Greg Johnson  
PO#: RQ11-105  
Invoice to: Qikiytaaluk Enviromental

Report Number: 1418970  
Date Submitted: 2014-09-03  
Date Reported: 2014-09-10  
Project: QE14-200-3  
COC #: 789334

Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.					1131280 Soil  2014-09-02 Cour 1
Group	Analyte	MRL	Units	Guideline	
VOCs	Toluene	0.20	ug/g		<0.20
	Xylene; total	0.05	ug/g		<0.05
VOCs Surrogates (%)	Toluene-d8	0	%		95

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## QC Summary

Analyte	Blank	QC % Rec	QC Limits
<b>Run No</b> 275894 <b>Analysis Date</b> 2014-09-10 <b>Method</b> CCME			
F2 (C10-C16)	<10 ug/g	92	50-120
F3 (C16-C34)	<20 ug/g	92	50-120
F4 (C34-C50)	<20 ug/g	92	50-120
<b>Run No</b> 275899 <b>Analysis Date</b> 2014-09-10 <b>Method</b> C SM2540B			
Moisture	<0.1 %	99	80-120
<b>Run No</b> 275906 <b>Analysis Date</b> 2014-09-10 <b>Method</b> CCME			
O-Terphenyl	60 %	106	60-140
<b>Run No</b> 275942 <b>Analysis Date</b> 2014-09-09 <b>Method</b> V 8260B			
Benzene	<0.02 ug/g	92	80-120
Ethylbenzene	<0.05 ug/g	91	80-120
m/p-xylene	<0.05 ug/g	95	80-120
o-xylene	<0.05 ug/g	95	80-120
Toluene	<0.20 ug/g	95	80-120
Toluene-d8	98 %	100	

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## QC Summary

Analyte	Blank	QC % Rec	QC Limits
<b>Run No</b> 275943 <b>Analysis Date</b> 2014-09-10 <b>Method</b> CCME			
F1 (C6-C10)	<10 ug/g	95	80-120
<b>Run No</b> 275944 <b>Analysis Date</b> 2014-09-10 <b>Method</b> CCME			
F1-BTEX (C6-C10)			
<b>Run No</b> 275945 <b>Analysis Date</b> 2014-09-10 <b>Method</b> V 8260B			
Xylene; total			
<b>Run No</b> 275948 <b>Analysis Date</b> 2014-09-10 <b>Method</b> M SM3112B-3500B			
Hg	<0.1 ug/g	87	70-130
<b>Run No</b> 275958 <b>Analysis Date</b> 2014-09-10 <b>Method</b> EPA 200.8			
Ag	<0.2 ug/g	92	70-130
As	<1 ug/g	100	70-130
Ba	<1 ug/g	94	70-130
Cd	<0.5 ug/g	91	70-130
Co	<1 ug/g	98	70-130
Cr	<1 ug/g	101	70-130
Cu	<1 ug/g	99	70-130
Mn	<1 ug/g	101	70-130

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**QC Summary**

Analyte	Blank	QC % Rec	QC Limits
Mo	<1 ug/g	98	70-130
Ni	<1 ug/g	100	70-130
Pb	<1 ug/g	95	70-130
Se	<1 ug/g	100	70-130
Sn	<5 ug/g	91	70-130
Zn	<2 ug/g	98	70-130

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