

NWB Annual Report

Year being reported:

2015

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 ▼

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 off-site. Currently there is approximately 10,000 L of wastewater stored on-site separated between two tanks. A total of 36,690 L of PHC contaminated water/snow/ice was collected and treated, and 26,000 L were discharged in 2015 following test results submitted to INAC (formerly AANDC) and authorization obtained for discharge. All treated water was discharged at our facility at Kakivak Court at the discharge point identified as THI-1

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

SCP submitted and approved - no revision required or proposed



Additional Details:

A spill contingency plan was revised and submitted with the 2014 annual report. The revised spill contingency plan was approved. No updates were made in 2015

Revisions to the Abandonment and Restoration Plan



Additional Details:

No changes were made to operations in 2015 that required an update to the Abandonment and Restoration Plan

Progressive Reclamation Work Undertaken

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

The reclamation work to be undertaken in 2015 was not completed, as QE had decided to change the location of our operations to a new lot. It was agreed, in consultation with INAC, that the corrective measures would be implemented when setting up at the new lot. Unfortunately due to permitting delays, QE was unable to move to the new lot in 2015. The reclamation works have been included in the water licence amendment application, and will be done when setting up at the new location.

Results of the Monitoring Program including:

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



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 (e.g., used filtered material) 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

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

None

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

Additional Details: (Attached or provided below)

A total of 36,690 L of impacted water was treated at the facility in 2015, only 26,000 L of this volume was discharged.
The following waste was sent for off-site disposal:
- 1,000 kg of activated carbon
- Ultrasorption did not have enough volume to fill a waste receptacle, was not shipped in 2015

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

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

On September 1, 2015 INAC's Water Resources Division issued a letter ref CIDM#941498
Compliance Report by Mr. Justin Hack, Inspector on November 17, 2015.

Any additional comments or information for the Board to consider

Attached are the analytical results of all water samples collected from treated water in 2015. Three rounds of treatment were required from reservoir 1 to show that Lead (Pb) met the discharge criteria. Reservoir 2 was unable to respect discharge criteria and as such was not discharged, but half of the volume was transferred into reservoir 1 to allow for freezing expansion. A water licence amendment was submitted to the Nunavut Water Board on February 26th, 2016. This amendment was to request approval of a change of location of operations, and to include operations for the treatment of additional parameters in the water, the management of hazardous waste, and management of contaminated soil. NIRB is currently processing our file, and a response is expected shortly.

Date Submitted:

April 4, 2016

Submitted/Prepared by:

Olivier Simard / Eleni Mouriki

Contact Information:

Tel: 867-222-8194

Fax:

email: osimard@genv.ca

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

Report Number: 1516457
Date Submitted: 2015-08-20
Date Reported: 2015-08-31
Project: QE15-100-9
COC #: 800578

Page 1 of 10

Dear Olivier 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: _____

Shyla Monette
Team Leader, Inorganics

APPROVAL: _____

Charlie (Long) Qu
Laboratory Supervisor, Organics

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 Project: QE15-100-9
 COC #: 800578

				Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1196637 Water 2015-08-16 RES-1
Group	Analyte	MRL	Units	Guideline	
Calculations	Hardness as CaCO ₃	1	mg/L		132
General Chemistry	Conductivity	5	uS/cm		608
	NO ₂ + NO ₃ as N	0.10	mg/L		<0.10
	pH	1.00			7.39
	Total Suspended Solids	1	mg/L		28
Mercury	Hg	0.0001	mg/L		<0.0001
Metals	Al	0.01	mg/L		0.20
	As	0.001	mg/L		0.007
	Ca	1	mg/L		43
	Cd	0.0001	mg/L		0.0010
	Co	0.0002	mg/L		0.0022
	Cr	0.001	mg/L		<0.001
	Cu	0.001	mg/L		0.028
	Fe	0.03	mg/L		0.81
	K	1	mg/L		12
	Mg	1	mg/L		6
	Mn	0.01	mg/L		0.38
	Na	2	mg/L		50
	Ni	0.005	mg/L		0.027
	Pb	0.001	mg/L		0.007
	Zn	0.01	mg/L		0.28
Nutrients	N-NH ₃	0.05	mg/L		2.93
	Total P	0.05	mg/L		0.29
PHC (Hydrocarbons)	F1 (C6-C10)	20	ug/L		40
	F1-BTEX (C6-C10)	20	ug/L		40
	F2 (C10-C16)	20	ug/L		860

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				Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1196637 Water 2015-08-16 RES-1
Group	Analyte	MRL	Units	Guideline	
PHC (Hydrocarbons)	F3 (C16-C34)	50	ug/L		280
	F4 (C34-C50)	50	ug/L		<50
PHC Surrogate	O-Terphenyl	0	%		84
Phenols-4AAP	Phenols	0.002	mg/L		<0.002
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
Subcontract	BOD5	1	mg/L		335
	Oil & Grease - Total	1	mg/L		<1
VOCs	Benzene	0.5	ug/L		<0.5
	Ethylbenzene	0.5	ug/L		<0.5

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					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1196637 Water 2015-08-16 RES-1
Group	Analyte	MRL	Units	Guideline	
VOCs	m/p-xylene	0.4	ug/L		0.5
	o-xylene	0.4	ug/L		<0.4
	Toluene	0.5	ug/L		1.1
	Xylene; total	0.5	ug/L		0.5
VOCs Surrogates (%)	Toluene-d8	0	%		101

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 290004 Analysis/Extraction Date 2015-08-27 Analyst TJB			
Method O CCME Reg 153			
Petroleum Hydrocarbons F1	<20 ug/L	102	60-140
Petroleum Hydrocarbons F1-BTEX			
Run No 292881 Analysis/Extraction Date 2015-08-21 Analyst SKH			
Method M SM3120B-3500C			
Calcium	<1 mg/L	100	90-110
Potassium	<1 mg/L	96	87-113
Magnesium	<1 mg/L	96	76-124
Sodium		92	82-118
Run No 292969 Analysis/Extraction Date 2015-08-24 Analyst FWU			
Method P 8270			
Methlynaphthalene, 1-	<0.1 ug/L	50	50-140
Methlynaphthalene, 2-	<0.1 ug/L	46	50-140
Acenaphthene	<0.1 ug/L	56	50-140
Acenaphthylene	<0.1 ug/L	54	50-140
Anthracene	<0.1 ug/L	68	50-140
Benz[a]anthracene	<0.1 ug/L	74	50-140

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Benzo[a]pyrene	<0.01 ug/L	79	50-140
Benzo[b]fluoranthene	<0.05 ug/L	86	50-140
Benzo[ghi]perylene	<0.1 ug/L	74	50-140
Benzo[k]fluoranthene	<0.05 ug/L	68	50-140
Chrysene	<0.05 ug/L	78	50-140
Dibenz[a h]anthracene	<0.1 ug/L	72	50-140
Fluoranthene	<0.1 ug/L	76	50-140
Fluorene	<0.1 ug/L	62	50-140
Indeno[1 2 3-cd]pyrene	<0.1 ug/L	74	50-140
Naphthalene	<0.1 ug/L	48	50-140
Phenanthrene	<0.1 ug/L	68	50-140
Pyrene	<0.1 ug/L	78	50-140
Run No 292980 Analysis/Extraction Date 2015-08-24 Analyst NP			
Method C SM4500-NO3-F			
NO2 + NO3 as N	<0.10 mg/L	100	80-120
Run No 293092 Analysis/Extraction Date 2015-08-24 Analyst AET			
Method C SM4500-H+B			
Conductivity	<5 uS/cm	101	90-110

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 293097 Analysis/Extraction Date 2015-08-24 Analyst JDT			
Method M SM3112B-3500B			
Mercury	<0.0001 mg/L	126	76-123
Run No 293258 Analysis/Extraction Date 2015-08-25 Analyst AET			
Method C SM4500-H+B			
pH	5.71	100	90-110
Run No 293289 Analysis/Extraction Date 2015-08-24 Analyst CON			
Method SUBCONTRACT-SU			
Oil & Grease - Total	<1 mg/L		
Run No 293335 Analysis/Extraction Date 2015-08-26 Analyst K_A			
Method EPA 200.8			
Aluminum	<0.01 mg/L	100	89-111
Arsenic	<0.001 mg/L	100	93-106
Cadmium	<0.0001 mg/L	99	93-107
Cobalt	<0.0002 mg/L	100	94-106
Chromium Total	<0.001 mg/L	100	94-106
Copper	<0.001 mg/L	99	93-106
Iron	<0.03 mg/L	98	92-107
Manganese	<0.01 mg/L	101	94-106

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Nickel	<0.005 mg/L	100	94-106
Lead	<0.001 mg/L	101	70-130
Zinc	<0.01 mg/L	96	94-106
Run No 293353 Analysis/Extraction Date 2015-08-25 Analyst CON			
Method Exova Edmonton-SM2540D			
Total Suspended Solids		96	
Run No 293354 Analysis/Extraction Date 2015-08-25 Analyst CON			
Method Exova Edmonton-SM4500-NH3-G			
N-NH3	<0.05 mg/L	98	
Run No 293361 Analysis/Extraction Date 2015-08-25 Analyst CON			
Method Exova Edmonton - SM4500-P F			
Total P	<0.05 mg/L	103	
Run No 293362 Analysis/Extraction Date 2015-08-24 Analyst CON			
Method Exova Edmonton-SM5530D			
Phenols	<0.002 mg/L	100	
Run No 293401 Analysis/Extraction Date 2015-08-22 Analyst TJB			
Method V 8260B			
Benzene	<0.5 ug/L	108	60-130
Ethylbenzene	<0.5 ug/L	104	60-130

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
m/p-xylene	<0.4 ug/L	109	60-130
o-xylene	<0.4 ug/L	101	60-130
Toluene	<0.5 ug/L	106	60-130
Run No 293402 Analysis/Extraction Date 2015-08-27 Analyst TJB			
Method V 8260B			
Xylene Mixture			
Run No 293523 Analysis/Extraction Date 2015-08-26 Analyst CON			
Method SUBCONTRACT-SA-INORG			
BOD5	<1 mg/L	83	
Run No 293526 Analysis/Extraction Date 2015-08-28 Analyst SCM			
Method C SM2340B			
Hardness as CaCO3			
Run No 293576 Analysis/Extraction Date 2015-08-31 Analyst JLD			
Method O CCME Reg 153			
Petroleum Hydrocarbons F2	<20 ug/L	80	60-140
Petroleum Hydrocarbons F3	<50 ug/L	80	60-140
Petroleum Hydrocarbons F4	<50 ug/L	80	60-140

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Sample Comment Summary

Sample ID: 1196637 RES-1 Holding time for NO2+NO3 analysis was exceeded. Analysis for P was done on unpreserved sample.

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146 Colonnade Rd. Unit 8, Ottawa, ON K2E 7Y1

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Attention: Mr. Greg Johnson
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Report Number: 1518230
Date Submitted: 2015-09-14
Date Reported: 2015-09-15
Project: QE15-100-9
COC #: 801316

Page 1 of 4

Dear Greg Johnson:

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 COC #: 801316

					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1201335 Water 2015-09-11 RES-1
Group	Analyte	MRL	Units	Guideline	
Metals	Pb	0.001	mg/L		0.005
PHC (Hydrocarbons)	F1 (C6-C10)	20	ug/L		61
	F2 (C10-C16)	20	ug/L		90
	F3 (C16-C34)	50	ug/L		80
	F4 (C34-C50)	50	ug/L		100
PHC Surrogate	O-Terphenyl	0	%		134

Guideline = * = Guideline Exceedence

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

Report Number: 1518230
 Date Submitted: 2015-09-14
 Date Reported: 2015-09-15
 Project: QE15-100-9
 COC #: 801316

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 290004 Analysis/Extraction Date 2015-09-15 Analyst TJB			
Method O CCME			
Petroleum Hydrocarbons F1	<20 ug/L	94	80-120
Run No 294641 Analysis/Extraction Date 2015-09-15 Analyst K_A			
Method EPA 200.8			
Lead	<0.001 mg/L	101	70-130
Run No 294709 Analysis/Extraction Date 2015-09-15 Analyst JLD			
Method O CCME Reg 153			
Petroleum Hydrocarbons F2	<20 ug/L	90	60-140
Petroleum Hydrocarbons F3	<50 ug/L	90	60-140
Petroleum Hydrocarbons F4	<50 ug/L	90	60-140

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Petroleum Hydrocarbons - CCME Checklist

Samples were analysed by Exova Ottawa Method AMCCME2, "Petroleum Hydrocarbons in Water and Soil, CCME/TPH" or Exova Mississauga Method 11-09-SP-2322, "Petroleum Hydrocarbons in Water and Soil, CCME/TPH". These methods comply with the reference method for the CCME CWS PHC and are validated for use in the laboratory. Exova Ottawa is accredited by CALA (ISO 17025) for all CCME F1-F4 fractions as listed in this report. Exova Mississauga is accredited by SCC (ISO 17025) for all CCME F1-F4 fractions as listed in this report. Data for QC samples (blank, duplicate, spike) are available on request

Holding/Analysis Times	Yes/No	If NO, then reasons
All fractions analyzed within recommended hold times/analysis times?	Yes	
F1		
nC6 and nC10 response factors within 30% of toluene	Yes	
BTEX was subtracted from F1 fraction		BTEX not requested/analyzed
If YES, was F1-BTEX (C6-C10) reported		
F2		
nC10, nC16 and nC34 response factors within 10% of their average (F2-F4)	Yes	
Linearity within 15% (F2-F4)	Yes	
Napthalene was subtracted from F2 fraction		Napthalene (PAH) not requested/analysed
If YES was F2-Napthalene reported		
F3		
PAH (selected compounds) subtracted from F3 fraction		PAH not requested/analysed
If YES was F3-PAH reported		
F4		
C50 response factor within 70% of nC10+nC16+nC34 average	Yes	
Chromatogram descended to baseline by retention time of C50	Yes	
if NO was F4 (C34-C50) gravimetric reported		

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Attention: Mr. Oliver Simard
PO#: RQ11-105
Invoice to: Qikiytaaluk Enviromental

Report Number: 1519274
Date Submitted: 2015-09-29
Date Reported: 2015-09-30
Project: QE15-100-9
COC #: 801929

Page 1 of 4

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: _____

Shyla Monette
Team Leader, Inorganics

All analysis is completed in Ottawa, Ontario (unless otherwise indicated).

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Exova (Mississauga) is accredited for specific parameters by SCC, Standards Council of Canada (to ISO 17025)

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Attention: Mr. Oliver Simard
PO#: RQ11-105
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Report Number: 1519274
Date Submitted: 2015-09-29
Date Reported: 2015-09-30
Project: QE15-100-9
COC #: 801929

					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1204295 Sewage 2015-09-20 Separateur	1204296 Sewage 2015-09-20 Res #1
Group	Analyte	MRL	Units	Guideline			
Metals	Pb	0.01	mg/L			0.06	<0.01

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Report Number: 1519274
Date Submitted: 2015-09-29
Date Reported: 2015-09-30
Project: QE15-100-9
COC #: 801929

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 295774 Analysis/Extraction Date 2015-09-30 Analyst SKH			
Method EPA 200.8			
Lead	<0.01 mg/L	97	70-130

Guideline = * = Guideline Exceedence

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Report Number: 1519274
Date Submitted: 2015-09-29
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Project: QE15-100-9
COC #: 801929

Sample Comment Summary

Sample ID: 1204295 Separateur Lead analysis for this report performed on aqua-regia digest of sample material.
--

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Attention: Mr. Greg Johnson
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Report Number: 1519325
Date Submitted: 2015-09-29
Date Reported: 2015-10-01
Project: QE15-110-5
COC #: 801933

Page 1 of 10

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: _____

Shyla Monette
Team Leader, Inorganics

APPROVAL: _____

Charlie (Long) Qu
Laboratory Supervisor, Organics

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Report Number: 1519325
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 Date Reported: 2015-10-01
 Project: QE15-110-5
 COC #: 801933

					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1204419 Water 2015-09-27 Res 2
Group	Analyte	MRL	Units	Guideline	
Calculations	Hardness as CaCO ₃	1	mg/L		199
General Chemistry	Alkalinity as CaCO ₃	5	mg/L		57
	Conductivity	5	uS/cm		607
	NO ₂ + NO ₃ as N	0.10	mg/L		52.7
	pH	1.00			7.81
	SO ₄	1	mg/L		26
	Total Suspended Solids	1	mg/L		13
Mercury	Hg	0.0001	mg/L		<0.0001
Metals	Ag	0.0001	mg/L		<0.0001
	As	0.001	mg/L		0.002
	Ba	0.01	mg/L		0.14
	Ca	1	mg/L		65
	Cd	0.0001	mg/L		<0.0001
	Co	0.0002	mg/L		0.0002
	Cr	0.001	mg/L		<0.001
	Cu	0.001	mg/L		0.002
	Mg	1	mg/L		9
	Mn	0.01	mg/L		0.13
	Mo	0.005	mg/L		<0.005
	Ni	0.005	mg/L		<0.005
	Pb	0.001	mg/L		0.002
	Se	0.001	mg/L		<0.001
	Sn	0.01	mg/L		<0.01
	Zn	0.01	mg/L		<0.01
Nutrients	N-NH ₃	0.025	mg/L		7.25
PHC (Hydrocarbons)	F1 (C6-C10)	20	ug/L		<20

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 COC #: 801933

					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1204419 Water 2015-09-27 Res 2
Group	Analyte	MRL	Units	Guideline	
PHC (Hydrocarbons)	F1-BTEX (C6-C10)	20	ug/L		<20
	F2 (C10-C16)	20	ug/L		280
	F3 (C16-C34)	50	ug/L		90
	F4 (C34-C50)	50	ug/L		<50
PHC Surrogate	O-Terphenyl	0	%		98
Phenols-4AAP	Phenols	0.001	mg/L		<0.001
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
Subcontract	Oil & Grease - Mineral	1	mg/L		<1
	Oil & Grease - Non-mineral	1	mg/L		<1

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Report Number: 1519325
 Date Submitted: 2015-09-29
 Date Reported: 2015-10-01
 Project: QE15-110-5
 COC #: 801933

				Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	
					1204419 Water 2015-09-27 Res 2
Group	Analyte	MRL	Units	Guideline	
Subcontract	Oil & Grease - Total	1	mg/L		<1
VOCs	Benzene	0.5	ug/L		<0.5
	Ethylbenzene	0.5	ug/L		<0.5
	m/p-xylene	0.4	ug/L		<0.4
	o-xylene	0.4	ug/L		<0.4
	Toluene	0.5	ug/L		<0.5
	Xylene; total	0.5	ug/L		<0.5
VOCs Surrogates (%)	Toluene-d8	0	%		106

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 COC #: 801933

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 290004 Analysis/Extraction Date 2015-09-30 Analyst TJB			
Method O CCME Reg 153			
Petroleum Hydrocarbons F1	<20 ug/L	98	60-140
Petroleum Hydrocarbons F1-BTEX			
Run No 295716 Analysis/Extraction Date 2015-09-30 Analyst JDT			
Method M SM3112B-3500B			
Mercury	<0.0001 mg/L	111	76-123
Run No 295737 Analysis/Extraction Date 2015-09-30 Analyst NP			
Method SM 4110			
SO4	<1 mg/L	106	90-110
Run No 295741 Analysis/Extraction Date 2015-09-30 Analyst TJB			
Method V 8260B			
Benzene	<0.5 ug/L	106	60-130
Ethylbenzene	<0.5 ug/L	86	60-130
m/p-xylene	<0.4 ug/L	107	60-130
o-xylene	<0.4 ug/L	100	60-130
Toluene	<0.5 ug/L	101	60-130
Run No 295743 Analysis/Extraction Date 2015-09-30 Analyst TJB			

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Method V 8260B			
Xylene Mixture			
Run No 295746	Analysis/Extraction Date 2015-09-30	Analyst SKH	
Method M SM3120B-3500C			
Calcium	<1 mg/L	98	90-110
Magnesium	<1 mg/L	97	76-124
Run No 295747	Analysis/Extraction Date 2015-09-30	Analyst K_A	
Method EPA 200.8			
Silver	<0.0001 mg/L	97	94-106
Arsenic	<0.001 mg/L	101	93-106
Barium	<0.01 mg/L	100	91-109
Cadmium	<0.0001 mg/L	101	93-107
Cobalt	<0.0002 mg/L	97	94-106
Chromium Total	<0.001 mg/L	97	94-106
Copper	<0.001 mg/L	95	93-106
Manganese	<0.01 mg/L	103	94-106
Molybdenum	<0.005 mg/L	100	94-106
Nickel	<0.005 mg/L	97	94-106
Lead	<0.001 mg/L	101	70-130

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Selenium	<0.001 mg/L	106	91-108
Sn	<0.01 mg/L	105	76-124
Zinc	<0.01 mg/L	101	94-106
Run No 295758 Analysis/Extraction Date 2015-09-30 Analyst AET			
Method C SM4500-H+B			
pH	5.44	99	90-110
Run No 295759 Analysis/Extraction Date 2015-09-30 Analyst AET			
Method SM 2320B			
Alkalinity (CaCO ₃)	<5 mg/L	100	95-105
Run No 295760 Analysis/Extraction Date 2015-09-30 Analyst AET			
Method C SM2510B			
Conductivity	<5 uS/cm	100	95-105
Run No 295785 Analysis/Extraction Date 2015-09-30 Analyst FWU			
Method P 8270			
Methlynaphthalene, 1-	<0.1 ug/L	60	50-140
Methlynaphthalene, 2-	<0.1 ug/L	58	50-140
Acenaphthene	<0.1 ug/L	68	50-140
Acenaphthylene	<0.1 ug/L	66	50-140
Anthracene	<0.1 ug/L	84	50-140

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Benz[a]anthracene	<0.1 ug/L	88	50-140
Benzo[a]pyrene	<0.01 ug/L	87	50-140
Benzo[b]fluoranthene	<0.05 ug/L	101	50-140
Benzo[ghi]perylene	<0.1 ug/L	98	50-140
Benzo[k]fluoranthene	<0.05 ug/L	80	50-140
Chrysene	<0.05 ug/L	88	50-140
Dibenz[a h]anthracene	<0.1 ug/L	96	50-140
Fluoranthene	<0.1 ug/L	92	50-140
Fluorene	<0.1 ug/L	76	50-140
Indeno[1 2 3-cd]pyrene	<0.1 ug/L	92	50-140
Naphthalene	<0.1 ug/L	62	50-140
Phenanthrene	<0.1 ug/L	84	50-140
Pyrene	<0.1 ug/L	86	50-140
Run No 295798 Analysis/Extraction Date 2015-09-30 Analyst NP			
Method C SM4500-NO3-F			
NO2 + NO3 as N	<0.10 mg/L	98	80-120
Run No 295800 Analysis/Extraction Date 2015-09-30 Analyst JLD			
Method O CCME Reg 153			

Guideline = * = **Guideline Exceedence**

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Petroleum Hydrocarbons F2	<20 ug/L	80	60-140
Petroleum Hydrocarbons F3	<50 ug/L	80	60-140
Petroleum Hydrocarbons F4	<50 ug/L	80	60-140
Run No 295836 Analysis/Extraction Date 2015-09-30 Analyst CON			
Method SUBCONTRACT-SU			
Oil & Grease - Total	<1 mg/L		
Run No 295837 Analysis/Extraction Date 2015-09-30 Analyst CON			
Method SUBCONTRACT-SU			
Oil & Grease - Mineral	<1 mg/L		
Run No 295838 Analysis/Extraction Date 2015-09-30 Analyst CON			
Method SUBCONTRACT-SU			
Oil & Grease - Non-mineral	<1 mg/L		
Run No 295845 Analysis/Extraction Date 2015-09-30 Analyst CON			
Method Exova Edmonton-SM5530D			
Phenols	<0.001 mg/L		
Run No 295857 Analysis/Extraction Date 2015-09-30 Analyst CON			
Method Exova Edmonton-SM4500-NH3-G			
N-NH3	<0.025 mg/L	99	
Run No 295870 Analysis/Extraction Date 2015-09-30 Analyst CON			

Guideline =

* = Guideline Exceedence

All analysis completed in Ottawa, Ontario (unless otherwise indicated by ** which indicates analysis was completed in Mississauga, Ontario).
 Results relate only to the parameters tested on the samples submitted.
 Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, 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

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

Report Number: 1520232
Date Submitted: 2015-10-08
Date Reported: 2015-10-13
Project: QE15-100-9
COC #: 802278

Page 1 of 3

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: _____

Shyla Monette
Team Leader, Inorganics

All analysis is completed in Ottawa, Ontario (unless otherwise indicated).

Exova Ottawa is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on our CALA scope of accreditation. It can be found at <http://www.cala.ca/scopes/2602.pdf>.

Exova (Ottawa) is certified and accredited for specific parameters by OMAFRA, Ontario Ministry of Agriculture, Food and Rural Affairs (for farm soils). Licensed by Ontario MOE for specific tests in drinking water.

Exova (Mississauga) is accredited for specific parameters by SCC, Standards Council of Canada (to ISO 17025)

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline values listed on this report are provided for ease of use (informational purposes) only. Exova recommends consulting the official provincial or federal guideline as required.

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9935 Av de Catania, Entrance 1 , Suite 200
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Attention: Mr. Greg Johnson
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Invoice to: Qikiytaaluk Enviromental

Report Number: 1520232
Date Submitted: 2015-10-08
Date Reported: 2015-10-13
Project: QE15-100-9
COC #: 802278

					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
Group	Analyte	MRL	Units	Guideline	
Metals	Pb	0.001	mg/L		1206913 Water 2015-10-06 Res 2
					0.001

Guideline = * = **Guideline Exceedence**

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

Report Number: 1520232
Date Submitted: 2015-10-08
Date Reported: 2015-10-13
Project: QE15-100-9
COC #: 802278

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 296492 Analysis/Extraction Date 2015-10-09 Analyst SKH			
Method EPA 200.8			
Lead	<0.001 mg/L	98	70-130

Guideline = *** = Guideline Exceedence**

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

Report Number: 1519325
 Date Submitted: 2015-09-29
 Date Reported: 2015-10-01
 Project: QE15-110-5
 COC #: 801933

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Method Exova Edmonton-SM2540D			
Total Suspended Solids	<1 mg/L	99	
Run No 295886	Analysis/Extraction Date 2015-10-01	Analyst SCM	
Method C SM2340B			
Hardness as CaCO ₃			

Guideline = * = Guideline Exceedence

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Methods references and/or additional QA/QC information available on request.

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