

Client: Defence Construction Canada (Trenton)
Box 1000 Bldg 155 CFB Trenton
Astra, ON
K0K 3W0
Attention: Cameron Chadwick
PO#: TR14ENV5
Invoice to: Defence Construction Canada

Report Number: 1512423
Date Submitted: 2015-07-04
Date Reported: 2015-07-16
Project:
COC #: 501777

Page 1 of 11

Dear Cameron Chadwick:

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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					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1185989 Water 2015-06-29 ALT-4	1185990 Water 2015-06-29 ALT-8	1185991 Water 2015-06-29 MISC (ALT-8.1)	1185992 Water 2015-06-29 ALT-9
Group	Analyte	MRL	Units	Guideline					
Calculations	Hardness as CaCO ₃	1	mg/L			86			
General Chemistry	Alkalinity as CaCO ₃	5	mg/L			60			
	Br	0.25	mg/L			<0.25			
	Cl	1	mg/L			11			
	COD	5	mg/L			<5			
	Conductivity	5	uS/cm			195			
	F	0.10	mg/L			<0.10			
	N-NO ₂	0.10	mg/L			<0.10			
	N-NO ₃	0.10	mg/L			0.11			
	pH	1.00				7.90			
	SO ₄	1	mg/L			23			
	Total Suspended Solids	1	mg/L			<1			
Mercury	Hg	0.0001	mg/L			<0.0001			
Metals	Ag	0.0001	mg/L			<0.0001			
	As	0.001	mg/L			0.001			
	B	0.01	mg/L			0.03			
	Ba	0.01	mg/L			<0.01			
	Be	0.0005	mg/L			<0.0005			
	Ca	1	mg/L			28			
	Cd	0.0001	mg/L			<0.0001			
	Co	0.0002	mg/L			0.0006			
	Cr	0.001	mg/L			<0.001			
	Cu	0.001	mg/L			0.002			
	Fe	0.03	mg/L			0.23			
	K	1	mg/L			2			
	Mg	1	mg/L			4			

Guideline = * = Guideline Exceedence

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Group	Analyte	MRL	Units	Guideline				
Metals	Mo	0.005	mg/L		<0.005			
	Na	2	mg/L		6			
	Ni	0.005	mg/L		<0.005			
	Pb	0.001	mg/L		<0.001	<0.001	<0.001	<0.001
	Sb	0.0005	mg/L		0.0011			
	Se	0.001	mg/L		<0.001			
	Tl	0.0001	mg/L		<0.0001			
	U	0.001	mg/L		<0.001			
	V	0.001	mg/L		<0.001			
	Zn	0.01	mg/L		<0.01			
Nutrients	N-NH3	0.05	mg/L		<0.05			
Oil & Grease	Oil & Grease - Mineral	1.0	mg/L		<1.0	<1.0		<1.0
	Oil & Grease - Non-mineral	1.0	mg/L		<1.0	<1.0		<1.0
	Oil & Grease - Total	1.0	mg/L		<1.0	<1.0		<1.0
PHC (Hydrocarbons)	F1 (C6-C10)	20	ug/L		<20			
	F1-BTEX (C6-C10)	20	ug/L		<20			
	F2 (C10-C16)	20	ug/L		<20			
	F3 (C16-C34)	50	ug/L		<50			
	F4 (C34-C50)	50	ug/L		<50			
Phenols-4AAP	Phenols	0.002	mg/L		<0.002	<0.002	<0.002	<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			

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Group	Analyte	MRL	Units	Guideline				
Semi-Volatiles	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		<1			
VOCs	Benzene	0.5	ug/L		<0.5	<0.5	<0.5	<0.5
	Ethylbenzene	0.5	ug/L		<0.5	<0.5	<0.5	<0.5
	m/p-xylene	0.4	ug/L		<0.4	<0.4	<0.4	<0.4
	o-xylene	0.4	ug/L		<0.4	<0.4	<0.4	<0.4
	Toluene	0.5	ug/L		<0.5	<0.5	<0.5	<0.5
VOCs Surrogates (%)	Toluene-d8	0	%		93	96	95	92

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 289898 Analysis/Extraction Date 2015-07-06 Analyst SKH			
Method M SM3120B-3500C			
Calcium	<1 mg/L	102	90-110
Potassium	<1 mg/L	100	87-113
Magnesium	<1 mg/L	98	76-124
Sodium	<2 mg/L	100	82-118
Run No 289925 Analysis/Extraction Date 2015-07-06 Analyst NP			
Method C SM4500-NO3-F			
N-NO2	<0.10 mg/L	103	80-120
N-NO3	<0.10 mg/L	90	80-120
Run No 289940 Analysis/Extraction Date 2015-07-07 Analyst K A			
Method EPA 200.8			
Lead	<0.001 mg/L	101	70-130
Run No 289944 Analysis/Extraction Date 2015-07-06 Analyst FWU			
Method P 8270			
Methlynaphthalene, 1-	<0.1 ug/L	60	50-140
Methlynaphthalene, 2-	<0.1 ug/L	60	50-140
Acenaphthene	<0.1 ug/L	68	50-140

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Acenaphthylene	<0.1 ug/L	64	50-140
Anthracene	<0.1 ug/L	76	50-140
Benz[a]anthracene	<0.1 ug/L	84	50-140
Benzo[a]pyrene	<0.01 ug/L	84	50-140
Benzo[b]fluoranthene	<0.05 ug/L	100	50-140
Benzo[ghi]perylene	<0.1 ug/L	66	50-140
Benzo[k]fluoranthene	<0.05 ug/L	79	50-140
Chrysene	<0.05 ug/L	82	50-140
Dibenz[a h]anthracene	<0.1 ug/L	62	50-140
Fluoranthene	<0.1 ug/L	72	50-140
Fluorene	<0.1 ug/L	70	50-140
Indeno[1 2 3-cd]pyrene	<0.1 ug/L	66	50-140
Naphthalene	<0.1 ug/L	60	50-140
Phenanthrene	<0.1 ug/L	76	50-140
Pyrene	<0.1 ug/L	72	50-140
Run No 289959 Analysis/Extraction Date 2015-07-07 Analyst K_A			
Method EPA 200.8			
Silver	<0.0001 mg/L	98	94-106

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Arsenic	<0.001 mg/L	98	93-106
Boron (total)	<0.01 mg/L	98	88-112
Barium	<0.01 mg/L	101	91-109
Beryllium	<0.0005 mg/L	101	93-107
Cadmium	<0.0001 mg/L	97	93-107
Cobalt	<0.0002 mg/L	100	94-106
Chromium Total	<0.001 mg/L	99	94-106
Copper	<0.001 mg/L	101	93-106
Iron	<0.03 mg/L	95	92-107
Nickel	<0.005 mg/L	99	94-106
Lead	<0.001 mg/L	101	70-130
Antimony	<0.0005 mg/L	99	80-120
Selenium	<0.001 mg/L	102	91-108
Thallium	<0.0001 mg/L	98	95-105
Uranium	<0.001 mg/L	98	94-106
Vanadium	<0.001 mg/L	98	93-107
Zinc	<0.01 mg/L	101	94-106
Run No 289975 Analysis/Extraction Date 2015-07-07 Analyst AET			

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Method C SM4500-H+B			
Alkalinity (CaCO ₃)	<5 mg/L	104	90-110
Conductivity	<5 uS/cm	101	90-110
F	<0.10 mg/L	101	90-110
pH	6.46	100	90-110
Run No 289995 Analysis/Extraction Date 2015-07-08 Analyst NP			
Method SM 4110			
Br	<0.25 mg/L	98	90-110
Chloride	<1 mg/L	100	90-110
SO ₄	<1 mg/L	99	90-110
Run No 290004 Analysis/Extraction Date 2015-07-14 Analyst TJB			
Method Exova Surrey-BC Env. Lab Manual			
Oil & Grease - Mineral	<1.0 mg/L		
Oil & Grease - Non-mineral	<1.0 mg/L		
Oil & Grease - Total	<1.0 mg/L		
Method O CCME Reg 153			
Petroleum Hydrocarbons F1	<20 ug/L	111	60-140
Petroleum Hydrocarbons F1-BTEX			
Run No 290039 Analysis/Extraction Date 2015-07-08 Analyst K A			

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Method EPA 200.8			
Molybdenum	<0.005 mg/L	104	94-106
Run No 290171 Analysis/Extraction Date 2015-07-10 Analyst JLD			
Method O CCME Reg 153			
Petroleum Hydrocarbons F2	<20 ug/L	110	60-140
Petroleum Hydrocarbons F3	<50 ug/L	110	60-140
Petroleum Hydrocarbons F4	<50 ug/L	110	60-140
Run No 290266 Analysis/Extraction Date 2015-07-10 Analyst SCM			
Method M SM3112B-3500B			
Mercury	<0.0001 mg/L	92	76-123
Run No 290278 Analysis/Extraction Date 2015-07-07 Analyst TJB			
Method V 8260B			
Benzene	<0.5 ug/L	94	60-130
Ethylbenzene	<0.5 ug/L	93	60-130
m/p-xylene	<0.4 ug/L	88	60-130
o-xylene	<0.4 ug/L	92	60-130
Toluene	<0.5 ug/L	95	60-130
Run No 290366 Analysis/Extraction Date 2015-07-09 Analyst AET			
Method Exova Edmonton-SM5530D			

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Analyte	Blank	QC % Rec	QC Limits
Phenols	<0.002 mg/L	103	
Run No 290370 Analysis/Extraction Date 2015-07-09 Analyst AET Method Exova Edmonton-SM5220D			
COD	<5 mg/L	103	
Run No 290372 Analysis/Extraction Date 2015-07-09 Analyst AET Method Exova Edmonton-SM4500-NH3-G			
N-NH3	<0.05 mg/L	99	
Run No 290383 Analysis/Extraction Date 2015-07-10 Analyst AET Method Exova Edmonton-SM2540D			
Total Suspended Solids		95	
Run No 290430 Analysis/Extraction Date 2015-07-14 Analyst AET Method SUBCONTRACT-SA-INORG			
BOD5	<1 mg/L	92	

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Sample Comment Summary

Sample ID: 1185989 ALT-4 Holding time for NO2 and NO3 analysis was exceeded.
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