

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

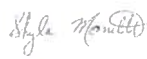
Report Number: 1513096
Date Submitted: 2015-07-10
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Project: Alert
COC #: 174543


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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
2015.07.23 10:37:17
-04'00'
Shyla Monette
Team Leader, Inorganics

APPROVAL:  Tanya Baillargeon
2015.07.23
11:07:48 -04'00'
Tanya Baillargeon
Team Lead, Organics

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.

EXOVA ENVIRONMENTAL ONTARIO
Certificate of Analysis


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				Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1187686 Surfacewater 2015-07-08 ALT 4
Group	Analyte	MRL	Units	Guideline	
Calculations	Hardness as CaCO ₃	1	mg/L		86
General Chemistry	Alkalinity as CaCO ₃	5	mg/L		65
	BOD ₅	4	mg/L		<4
	COD	5	mg/L		10
	Conductivity	5	uS/cm		213
	N-NO ₂	0.10	mg/L		<0.10
	N-NO ₃	0.10	mg/L		0.22
	pH	1.00			8.01
	SO ₄	1	mg/L		17
	Total Suspended Solids	1	mg/L		34
Mercury	Hg	0.0001	mg/L		<0.0001
Metals	As	0.001	mg/L		0.002
	Ca	1	mg/L		28
	Cd	0.0001	mg/L		<0.0001
	Cr	0.001	mg/L		<0.001
	Cu	0.001	mg/L		0.004
	Fe	0.03	mg/L		0.35
	K	1	mg/L		2
	Mg	1	mg/L		4
	Na	2	mg/L		8
	Ni	0.005	mg/L		<0.005
	Pb	0.05	ug/L		1.56
Microbiology	Faecal Coliforms	0	ct/100mL		4
Nutrients	N-NH ₃	0.05	mg/L		0.21
Oil & Grease	Oil & Grease - Mineral	1.0	mg/L		<1.0
	Oil & Grease - Non-mineral	1.0	mg/L		2.0

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Group	Analyte	MRL	Units	Guideline	
Oil & Grease	Oil & Grease - Total	1.0	mg/L		2.0
PHC (Hydrocarbons)	F1 (C6-C10)	20	ug/L		<20
	F1-BTEX (C6-C10)	0.1	mg/L		<0.1
	F2 (C10-C16)	20	ug/L		<20
	F3 (C16-C34)	50	ug/L		70
	F4 (C34-C50)	50	ug/L		<50
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
VOCs	Benzene	0.5	ug/L		<0.5

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

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					1187686 Surfacewater 2015-07-08 ALT 4
Group	Analyte	MRL	Units	Guideline	
VOCs	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
VOCs Surrogates (%)	Toluene-d8	0	%		94

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 290004 Analysis/Extraction Date 2015-07-20 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			
Petroleum Hydrocarbons F1-BTEX			
Method O CCME Reg 153			
Petroleum Hydrocarbons F1	<20 ug/L	90	60-140
Run No 290246 Analysis/Extraction Date 2015-07-12 Analyst SMI			
Method SM 9222B			
Faecal Coliforms			
Run No 290315 Analysis/Extraction Date 2015-07-13 Analyst SCM			
Method M SM3112B-3500B			
Mercury	<0.0001 mg/L	100	76-123
Run No 290322 Analysis/Extraction Date 2015-07-13 Analyst FWU			
Method P 8270			
Methylnaphthalene, 1-	<0.1 ug/L	58	50-140
Methylnaphthalene, 2-	<0.1 ug/L	58	50-140

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Analyte	Blank	QC % Rec	QC Limits
Acenaphthene	<0.1 ug/L	62	50-140
Acenaphthylene	<0.1 ug/L	58	50-140
Anthracene	<0.1 ug/L	70	50-140
Benz[a]anthracene	<0.1 ug/L	78	50-140
Benzo[a]pyrene	<0.01 ug/L	80	50-140
Benzo[b]fluoranthene	<0.05 ug/L	85	50-140
Benzo[ghi]perylene	<0.1 ug/L	82	50-140
Benzo[k]fluoranthene	<0.05 ug/L	91	50-140
Chrysene	<0.05 ug/L	76	50-140
Dibenz[a,h]anthracene	<0.1 ug/L	80	50-140
Fluoranthene	<0.1 ug/L	72	50-140
Fluorene	<0.1 ug/L	68	50-140
Indeno[1,2,3-cd]pyrene	<0.1 ug/L	80	50-140
Naphthalene	<0.1 ug/L	56	50-140
Phenanthrene	<0.1 ug/L	70	50-140
Pyrene	<0.1 ug/L	70	50-140
Run No 290342 Analysis/Extraction Date 2015-07-14 Analyst AET			
Method C SM4500-H+B			

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Analyte	Blank	QC % Rec	QC Limits
Alkalinity (CaCO ₃)	<5 mg/L	104	90-110
Conductivity	<5 uS/cm	100	90-110
pH	6.03	100	90-110
Run No 290439 Analysis/Extraction Date 2015-07-14 Analyst K A			
Method EPA 200.8			
Arsenic	<0.001 mg/L	97	93-106
Cadmium	<0.0001 mg/L	97	93-107
Chromium Total	<0.001 mg/L	100	94-108
Copper	<0.001 mg/L	97	93-106
Iron	<0.03 mg/L	94	92-107
Nickel	<0.005 mg/L	99	94-108
Lead	<0.05 ug/L	101	70-130
Run No 290505 Analysis/Extraction Date 2015-07-15 Analyst NP			
Method C SM4500-NO3-F			
N-NO2	<0.10 mg/L	103	80-120
N-NO3	<0.10 mg/L	93	80-120
Run No 290550 Analysis/Extraction Date 2015-07-13 Analyst TJB			
Method V 8260B			
Benzene	<0.5 ug/L	94	80-130

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Analyte	Blank	QC % Rec	QC Limits
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 290561 Analysis/Extraction Date 2015-07-16 Analyst SKH			
Method M SM3120B-3500C			
Calcium	<1 mg/L	102	90-110
Potassium	<1 mg/L	104	87-113
Magnesium	<1 mg/L	99	76-124
Sodium	<2 mg/L	99	82-118
Run No 290567 Analysis/Extraction Date 2015-07-16 Analyst NP			
Method SM 4110			
SO4	<1 mg/L	103	90-110
Run No 290657 Analysis/Extraction Date 2015-07-18 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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Analyte	Blank	QC % Rec	QC Limits
Run No 290681 Analysis/Extraction Date 2015-07-14 Analyst AET			
Method Exova Edmonton-SM5220D			
COD	<5 mg/L	103	
Run No 290686 Analysis/Extraction Date 2015-07-15 Analyst AET			
Method Exova Edmonton-SM5530D			
Phenols	<0.002 mg/L	100	
Run No 290691 Analysis/Extraction Date 2015-07-16 Analyst AET			
Method Exova Edmonton-SM2540D			
Total Suspended Solids		99	
Run No 290697 Analysis/Extraction Date 2015-07-16 Analyst AET			
Method Exova Edmonton-SM4500-NH3-G			
N-NH3	<0.05 mg/L	99	
Run No 290702 Analysis/Extraction Date 2015-07-18 Analyst AET			
Method Exova Edmonton-SM5210B			
BOD5	<4 mg/L	105	

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