

Client: Defence Construction Canada
Box 1000 Bldg 155 CFB Trenton
Astra, ON
K0K 3W0
Attention: Mr. Chris McRae
PO#: TR14ENV5
Invoice to: Defence Construction Canada

Report Number: 1414910
Date Submitted: 2014-07-18
Date Reported: 2014-07-31
Project: Alert
COC #: 500995

Page 1 of 9

Dear Chris McRae:

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:

Revised Report - metals MRLs have been adjusted.

APPROVAL: _____

Lorna Wilson
Laboratory Supervisor, Inorganics

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.

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.	1120393 Surfacewater 2014-07-17 ALT - 4
Group	Analyte	MRL	Units	Guideline	
Calculations	Hardness as CaCO ₃	1	mg/L		64
General Chemistry	Alkalinity as CaCO ₃	5	mg/L		51
	Conductivity	5	uS/cm		178
	N-NO ₂	0.10	mg/L		<0.10
	N-NO ₃	0.10	mg/L		0.24
	pH	1.00			7.92
	SO ₄	1	mg/L		17
	Total Suspended Solids	2	mg/L		31
Hydrocarbons	F1 (C6-C10)	100	ug/L		<100
	F1-BTEX (C6-C10)	100	ug/L		<100
	F2 (C10-C16)	100	ug/L		<100
	F3 (C16-C34)	200	ug/L		<200
	F4 (C34-C50)	200	ug/L		<200
Mercury	Hg	0.0001	mg/L		<0.0001
Metals	As	0.1	ug/L		1.2
	Ca	0.1	mg/L		20.0
	Cd	0.01	ug/L		0.04
	Cr	0.5	ug/L		<0.5
	Cu	0.5	ug/L		3.4
	Fe	30	ug/L		270
	K	0.01	mg/L		1.11
	Mg	0.1	mg/L		3.4
	Na	0.05	mg/L		6.10
	Ni	0.5	ug/L		2.5
	Pb	0.05	ug/L		1.42
Microbiology	Faecal Coliforms	0	ct/100mL		0

Guideline = * = **Guideline Exceedence**

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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

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					1120393 Surfacewater 2014-07-17 ALT - 4
Group	Analyte	MRL	Units	Guideline	
Nutrients	BOD5	1	mg/L		3
	CBOD5	1	mg/L		3
	COD	5	mg/L		5
	N-NH3	0.02	mg/L		0.07
	Phenols	0.001	mg/L		<0.001
Oil & Grease	Oil & Grease - Mineral	1	mg/L		<1
	Oil & Grease - Non-mineral	1	mg/L		<1
	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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					1120393 Surfacewater 2014-07-17 ALT - 4
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
VOCs Surrogates (%)	Toluene-d8	0	%		95

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 0 Analysis Date 2014-07-28 Method C SM2340B			
Hardness as CaCO ₃			
Run No 272923 Analysis Date 2014-07-23 Method SM 5210B			
BOD ₅	<1 mg/L	89	75-125
Run No 272942 Analysis Date 2014-07-19 Method SM 9222B			
Faecal Coliforms			
Run No 272954 Analysis Date 2014-07-21 Method SM 4110			
SO ₄	<1 mg/L	105	90-110
Run No 272966 Analysis Date 2014-07-21 Method C SM4500-NH ₃ D			
N-NH ₃	<0.02 mg/L	94	85-115
Run No 273016 Analysis Date 2014-07-21 Method C SM4500-NO ₃ -F			
N-NO ₂	<0.10 mg/L	90	80-120
N-NO ₃	<0.10 mg/L	107	80-120
Run No 273018 Analysis Date 2014-07-21 Method M SM3112B-3500B			
Hg	<0.0001 mg/L	92	70-130

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 273025 Analysis Date 2014-07-26 Method SM 5210B			
CBOD5	<1 mg/L	101	75-125
Run No 273046 Analysis Date 2014-07-22 Method C SM5530D			
Phenols	<0.001 mg/L	99	73-127
Run No 273047 Analysis Date 2014-07-21 Method EPA 200.8			
As	<0.1 ug/L	96	93-106
Cd	<0.01 ug/L	97	93-107
Cr	<0.5 ug/L	96	94-106
Cu	<0.5 ug/L	97	93-106
Fe	<30 ug/L	97	92-107
Ni	<0.5 ug/L	98	94-106
Pb	<0.05 ug/L	98	70-130
Run No 273048 Analysis Date 2014-07-21 Method SM 2320B			
Alkalinity as CaCO ₃	<5 mg/L	98	95-105
Conductivity	<5 uS/cm	99	95-105
pH	5.82	100	90-110
Run No 273055 Analysis Date 2014-07-22 Method C SM2540			

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Analyte	Blank	QC % Rec	QC Limits
Total Suspended Solids	<2 mg/L	102	90-110
Run No 273087 Analysis Date 2014-07-22 Method C SM5520B			
Oil & Grease - Mineral	<1 mg/L	98	60-120
Oil & Grease - Non-mineral			
Oil & Grease - Total	<1 mg/L	110	60-120
Run No 273131 Analysis Date 2014-07-23 Method P 8270			
1-methylnaphthalene	<0.1 ug/L	72	20-140
2-methylnaphthalene	<0.1 ug/L	70	20-140
Acenaphthene	<0.1 ug/L	74	20-140
Acenaphthylene	<0.1 ug/L	72	20-140
Anthracene	<0.1 ug/L	84	20-140
Benzo(a)anthracene	<0.1 ug/L	92	20-140
Benzo(a)pyrene	<0.01 ug/L	90	20-140
Benzo(b)fluoranthene	<0.05 ug/L	92	20-140
Benzo(g,h,i)perylene	<0.1 ug/L	88	20-140
Benzo(k)fluoranthene	<0.05 ug/L	109	20-140
Chrysene	<0.05 ug/L	86	20-140

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Analyte	Blank	QC % Rec	QC Limits
Dibenzo(a,h)anthracene	<0.1 ug/L	92	20-140
Fluoranthene	<0.1 ug/L	92	20-140
Fluorene	<0.1 ug/L	76	20-140
Indeno(1,2,3-c,d)pyrene	<0.1 ug/L	96	20-140
Naphthalene	<0.1 ug/L	66	20-140
Phenanthrene	<0.1 ug/L	82	20-140
Pyrene	<0.1 ug/L	92	20-140
Run No 273157 Analysis Date 2014-07-23 Method O CCME Reg 153			
F1 (C6-C10)			80-120
Run No 273159 Analysis Date 2014-07-21 Method V 8260B			
Benzene	<0.5 ug/L	84	80-120
Ethylbenzene	<0.5 ug/L	86	80-120
m/p-xylene	<0.5 ug/L	91	80-120
o-xylene	<0.5 ug/L	90	80-120
Toluene	<0.5 ug/L	87	80-120
Toluene-d8	105 %	112	80-120
Run No 273162 Analysis Date 2014-07-23 Method O CCME Reg 153			

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Analyte	Blank	QC % Rec	QC Limits
F1-BTEX (C6-C10)			
Run No 273177	Analysis Date 2014-07-24	Method O CCME Reg 153	
F2 (C10-C16)	<100 ug/L	87	50-120
F3 (C16-C34)	<200 ug/L	87	50-120
F4 (C34-C50)	<200 ug/L	87	50-120
Run No 273263	Analysis Date 2014-07-24	Method C SM5220C	
COD	<5 mg/L	100	80-120
Run No 273512	Analysis Date 2014-07-28	Method SM 3111B-3500B	
Ca	<0.1 mg/L	103	
K	<0.01 mg/L	85	
Mg	<0.1 mg/L	102	
Na	<0.05 mg/L	96	

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