

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

Report Number: 1412853
Date Submitted: 2014-06-26
Date Reported: 2014-07-24
Project: Alert
COC #: 169075
Temperature: 13

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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:

This is an amendment and supercedes all previous copies of this report. The metals results and MRL's have been adjusted.

APPROVAL: _____

Lorna Wilson
Laboratory Supervisor, Inorganics

APPROVAL: _____

Charlie (Long) Qu
Laboratory Supervisor, 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.

Exova (Mississauga) is certified and 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.	1115029 Surfacewater 2014-06-24 ALT 4	1115030 Surfacewater 2014-06-24 ALT 5	1115031 Surfacewater 2014-06-24 ALT 6	1115032 Surfacewater 2014-06-24 ALT 8
Group	Analyte	MRL	Units	Guideline					
Inorganics	Arsenic	0.1	ug/L			4.0	0.9	1.4	
	Cadmium	0.01	ug/L			0.12	0.02	0.13	
	Calcium	0.1	mg/L			55.8	9.0	10.8	
	Chromium Total	0.5	ug/L			1.7	0.7	1.3	
	Copper	0.5	ug/L			10.4	4.8	9.6	
	Hardness as CaCO3	1	mg/L			197	31	48	
	Iron	30	ug/L			1890	1070	1770	
	Lead	0.05	ug/L			6.56	2.68	9.74	0.12
	Magnesium	0.1	mg/L			14.0	2.1	5.1	
	Mercury	0.0001	mg/L			<0.0001	<0.0001	<0.0001	
	Nickel	0.5	ug/L			10.6	6.0	5.5	
	Potassium	0.01	mg/L			3.11	0.88	3.92	
	Sodium	0.05	mg/L			10.8	3.79	6.44	
Misc/Others	Alkalinity (CaCO3)	5	mg/L			113	<5	53	
	BOD5	1	mg/L			3	<1	2	
	CBOD5	1	mg/L			2	<1	2	
	COD	5	mg/L			23	<5	12	
	Conductivity	5	uS/cm			536	3840	227	
	Faecal Coliforms	0	ct/100mL			55	0	0	
	N-NH3	0.02	mg/L			0.06	<0.02	0.07	
	N-NO2	0.005	mg/L			0.012	<0.005	0.010	
	N-NO3	0.10	mg/L			0.59	<0.10	<0.10	
	Oil & Grease - Mineral	1	mg/L			<1	<1	<1	<1
	Oil & Grease - Non-mineral	1	mg/L			<1	<1	<1	<1
	Oil & Grease - Total	1	mg/L			<1	<1	<1	<1
	pH	1.00				8.02	2.14	8.04	

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Group	Analyte	MRL	Units	Guideline				
Misc/Others	Phenols	0.001	mg/L		<0.001	<0.001	<0.001	<0.001
	SO4	1	mg/L		88	791	25	
	Total Suspended Solids	2	mg/L		1390	15	1490	
Petroleum Hydrocarbons	Petroleum Hydrocarbons F1	100	ug/L		<100	<100	<100	
	Petroleum Hydrocarbons F1-BTEX	100	ug/L		<100	<100	<100	
	Petroleum Hydrocarbons F2	100	ug/L		<100	<100	<100	
	Petroleum Hydrocarbons F3	200	ug/L		<200	<200	<200	
	Petroleum Hydrocarbons F4	200	ug/L		<200	<200	<200	
Semi-Volatiles	Acenaphthene	0.1	ug/L		<0.1	<0.1	<0.1	
	Acenaphthylene	0.1	ug/L		<0.1	<0.1	<0.1	
	Anthracene	0.1	ug/L		<0.1	<0.1	<0.1	
	Benz[a]anthracene	0.1	ug/L		<0.1	<0.1	<0.1	
	Benzo[a]pyrene	0.01	ug/L		<0.01	<0.01	<0.01	
	Benzo[b]fluoranthene	0.05	ug/L		<0.05	<0.05	<0.05	
	Benzo[ghi]perylene	0.1	ug/L		<0.1	<0.1	<0.1	
	Benzo[k]fluoranthene	0.05	ug/L		<0.05	<0.05	<0.05	
	Chrysene	0.05	ug/L		<0.05	<0.05	<0.05	
	Dibenz[a h]anthracene	0.1	ug/L		<0.1	<0.1	<0.1	
	Fluoranthene	0.1	ug/L		<0.1	<0.1	<0.1	
	Fluorene	0.1	ug/L		<0.1	<0.1	<0.1	
	Indeno[1 2 3-cd]pyrene	0.1	ug/L		<0.1	<0.1	<0.1	
	Methlynaphthalene, 1-	0.1	ug/L		<0.1	<0.1	<0.1	
	Methlynaphthalene, 2-	0.1	ug/L		<0.1	<0.1	<0.1	
	Naphthalene	0.1	ug/L		<0.1	<0.1	<0.1	
	Phenanthrene	0.1	ug/L		<0.1	<0.1	<0.1	
	Pyrene	0.1	ug/L		<0.1	<0.1	<0.1	

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Group	Analyte	MRL	Units	Guideline					
VOC Surrogates Rec	Toluene-d8	0	%			97	99	98	100
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	0.5	ug/L			<0.5	<0.5	<0.5	<0.5
	o-xylene	0.5	ug/L			<0.5	<0.5	<0.5	<0.5
	Toluene	0.5	ug/L			<0.5	<0.5	<0.5	<0.5
					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1115033 Surfacewater 2014-06-24 ALT 8.2	1115034 Surfacewater 2014-06-24 ALT 9	1115035 Surfacewater 2014-06-24 ALT 10	
Group	Analyte	MRL	Units	Guideline					
Inorganics	Lead	0.05	ug/L			1.72	0.31	0.82	
Misc/Others	Oil & Grease - Mineral	1	mg/L			<1	<1	<1	
	Oil & Grease - Non-mineral	1	mg/L			<1	<1	<1	
	Oil & Grease - Total	1	mg/L			<1	<1	<1	
	Phenols	0.001	mg/L			<0.001	<0.001	<0.001	
VOC Surrogates Rec	Toluene-d8	0	%			100	100	100	
VOCs	Benzene	0.5	ug/L			<0.5	<0.5	<0.5	
	Ethylbenzene	0.5	ug/L			<0.5	<0.5	<0.5	
	m/p-xylene	0.5	ug/L			<0.5	<0.5	<0.5	
	o-xylene	0.5	ug/L			<0.5	<0.5	<0.5	
	Toluene	0.5	ug/L			<0.5	<0.5	<0.5	

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 0 Analysis Date 2014-07-04 Method C SM2340B			
Hardness as CaCO ₃			
Run No 271764 Analysis Date 2014-07-02 Method SM 5210B			
BOD ₅	<1 mg/L	97	75-125
Run No 271769 Analysis Date 2014-06-28 Method SM 9222B			
Faecal Coliforms			
Run No 271774 Analysis Date 2014-06-28 Method SM 4110C			
SO ₄	<1 mg/L	106	90-110
Run No 271779 Analysis Date 2014-07-02 Method SM 5210B			
CBOD ₅	<1 mg/L	89	75-125
Run No 271789 Analysis Date 2014-06-28 Method C SM5220C			
COD	<5 mg/L	95	80-120
Run No 271798 Analysis Date 2014-06-30 Method C SM4500-NO ₂ -B			
N-NO ₂	<0.005 mg/L	94	
Run No 271886 Analysis Date 2014-06-30 Method C SM2540			

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Total Suspended Solids	<2 mg/L	101	90-110
Run No 271896 Analysis Date 2014-06-30 Method M SM3112B-3500B			
Mercury	<0.0001 mg/L	87	70-130
Run No 271923 Analysis Date 2014-06-30 Method SM 2320B			
Alkalinity (CaCO ₃)	<5 mg/L	98	95-105
Conductivity	<5 uS/cm	99	95-105
pH	6.00	100	90-110
Run No 271938 Analysis Date 2014-07-02 Method C SM4500-NH3D			
N-NH ₃	<0.02 mg/L	105	85-115
Run No 271939 Analysis Date 2014-06-30 Method C SM4500-NO ₃ -F			
N-NO ₃	<0.10 mg/L	100	80-120
Run No 271944 Analysis Date 2014-07-02 Method C SM5530D			
Phenols	<0.001 mg/L	101	73-127
Run No 271981 Analysis Date 2014-07-01 Method V 8260B			
Benzene	<0.5 ug/L	98	80-120
Ethylbenzene	<0.5 ug/L	90	80-120
m/p-xylene	<0.5 ug/L	91	80-120

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Analyte	Blank	QC % Rec	QC Limits
o-xylene	<0.5 ug/L	90	80-120
Toluene	<0.5 ug/L	91	80-120
Toluene-d8	110 %	96	80-120
Run No 271982 Analysis Date 2014-07-02 Method O CCME Reg 153			
Petroleum Hydrocarbons F1	<100 ug/L	94	80-120
Run No 271983 Analysis Date 2014-07-02 Method O CCME Reg 153			
Petroleum Hydrocarbons F1-BTEX			
Run No 271984 Analysis Date 2014-07-02 Method C SM5530D			
Phenols	<0.001 mg/L	105	73-127
Run No 272014 Analysis Date 2014-07-02 Method EPA 200.8			
Lead	<0.05 ug/L	94	70-130
Run No 272042 Analysis Date 2014-07-03 Method C SM5520B			
Oil & Grease - Mineral	<1 mg/L	89	60-120
Oil & Grease - Non-mineral	<1 mg/L		
Oil & Grease - Total	<1 mg/L	76	60-120
Run No 272120 Analysis Date 2014-07-04 Method P 8270			
Methlynaphthalene, 1-	<0.1 ug/L	82	20-140

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Analyte	Blank	QC % Rec	QC Limits
Methlynaphthalene, 2-	<0.1 ug/L	80	20-140
Acenaphthene	<0.1 ug/L	86	20-140
Acenaphthylene	<0.1 ug/L	82	20-140
Anthracene	<0.1 ug/L	92	20-140
Benz[a]anthracene	<0.1 ug/L	98	20-140
Benzo[a]pyrene	<0.01 ug/L	100	20-140
Benzo[b]fluoranthene	<0.05 ug/L	101	20-140
Benzo[ghi]perylene	<0.1 ug/L	96	20-140
Benzo[k]fluoranthene	<0.05 ug/L	103	20-140
Chrysene	<0.05 ug/L	96	20-140
Dibenz[a h]anthracene	<0.1 ug/L	86	20-140
Fluoranthene	<0.1 ug/L	102	20-140
Fluorene	<0.1 ug/L	86	20-140
Indeno[1 2 3-cd]pyrene	<0.1 ug/L	92	20-140
Naphthalene	<0.1 ug/L	80	20-140
Phenanthrene	<0.1 ug/L	94	20-140
Pyrene	<0.1 ug/L	102	20-140

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Analyte	Blank	QC % Rec	QC Limits
Run No 272130 Analysis Date 2014-07-04 Method C SM5520B			
Oil & Grease - Mineral	<1 mg/L	89	60-120
Oil & Grease - Non-mineral	<1 mg/L		
Oil & Grease - Total	<1 mg/L	76	60-120
Run No 272148 Analysis Date 2014-07-04 Method SM 3111B-3500B			
Calcium	<0.1 mg/L	100	
Potassium	<0.01 mg/L	86	
Magnesium	<0.1 mg/L	97	
Sodium	<0.05 mg/L	85	
Run No 272158 Analysis Date 2014-07-05 Method O CCME Reg 153			
Petroleum Hydrocarbons F2	<100 ug/L	84	50-120
Petroleum Hydrocarbons F3		84	50-120
Petroleum Hydrocarbons F4	<200 ug/L	84	50-120
Run No 272675 Analysis Date 2014-07-15 Method EPA 200.8			
Arsenic	<0.1 ug/L	98	93-106
Cadmium	<0.01 ug/L	97	93-107
Chromium Total	<0.5 ug/L	102	94-106

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Copper	<0.5 ug/L	97	93-106
Iron	<30 ug/L	98	92-107
Nickel	<0.5 ug/L	105	94-106
Lead	<0.05 ug/L	103	70-130

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Sample Comment Summary

Sample ID: 1115029	ALT 4	Sediment not included in metals analysis.
Sample ID: 1115030	ALT 5	Sediment not included in metals analysis.
Sample ID: 1115031	ALT 6	Sediment not included in metals analysis.

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