

**CLIENT NAME: DEFENCE CONSTRUCTION CANADA
14 ALERT BLVD, 8 WING TRENTON
ASTRA, ON K0K3W0**

ATTENTION TO: Chris McRae

PROJECT NO: Alert

AGAT WORK ORDER: 11T523762

MICROBIOLOGY ANALYSIS REVIEWED BY: Elizabeth Polakowska, MSc (Animal Sci), PhD (Agri Sci), Inorganic Lab Supervisor

TRACE ORGANICS REVIEWED BY: Jacky Takeuchi, BScH (Chem Eng), BSc (Bio), C.Chem, Laboratory Manager

WATER ANALYSIS REVIEWED BY: Elizabeth Polakowska, MSc (Animal Sci), PhD (Agri Sci), Inorganic Lab Supervisor

DATE REPORTED: Sep 07, 2011

PAGES (INCLUDING COVER): 14

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712 5100, or at 1-800-856-6261

***NOTES**

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.



AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 11T523762

PROJECT NO: Alert

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

Microbiological Analysis (water)

DATE SAMPLED: Aug 22, 2011

DATE RECEIVED: Aug 30, 2011

DATE REPORTED: Sep 07, 2011

SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	ALT-4 2661009	ALT-5 2661229	LAB QC 2661246
Fecal Coliform	CFU/100mL		1	ND	ND	ND

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2661009 RDL >1 indicates dilutions of the sample.

ND = Not Detected.

2661229-2661246 ND = Not Detected.

Certified By:

Elizabeth Potokowska



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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

O. Reg. 153(511) - PAHs (Water)

DATE SAMPLED: Aug 22, 2011

DATE RECEIVED: Aug 30, 2011

DATE REPORTED: Sep 07, 2011

SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	ALT-4 2661009	ALT-5 2661229	LAB QC 2661246	Field Blank 2661264	Trip Blank 2661275
Naphthalene	µg/L	1.1	0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Acenaphthylene	µg/L		0.11	<0.11	<0.11	<0.11	<0.11	<0.11
Acenaphthene	µg/L	5.8	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Fluorene	µg/L	3.0	0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Phenanthrene	µg/L	0.4	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Anthracene	µg/L	0.012	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/L	0.04	0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Pyrene	µg/L	0.025	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/L	0.018	0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Chrysene	µg/L		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/L		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/L		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/L	0.015	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L		0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Dibenzo(a,h)anthracene	µg/L		0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Benzo(g,h,i)perylene	µg/L		0.06	<0.06	<0.06	<0.06	<0.06	<0.06
2-and 1-methyl Naphthalene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits						
Chrysene-d12	%	60-130	82	88	80	87	100	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME 2008-FWAL-TO

Certified By:

Judy Takewicki



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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)

DATE SAMPLED: Aug 22, 2011

DATE RECEIVED: Aug 30, 2011

DATE REPORTED: Sep 07, 2011

SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	ALT-4 2661009	ALT-5 2661229	LAB QC 2661246	Trip Blank 2661275
Benzene	µg/L	370	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	µg/L	2.0	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	µg/L	90	0.1	<0.1	<0.1	<0.1	<0.1
Xylene, Total	µg/L		0.2	<0.2	<0.2	<0.2	<0.2
F1 (C6 to C10)	µg/L		25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L		25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L		100	<100	<100	<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100	<100	<100	<100
(F1 + F2) C6 to C16	µg/L		100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L		100	<100	<100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L		100	<100	<100	<100	<100
(F3 + F4) C16 to C50	µg/L		100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	NA

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME 2008-FWAL-TO

2661009-2661275 The C6-C10 fraction is calculated using Toluene response factor.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
Total C6-C50 results are corrected for BTEX and PAH contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
n-C6 and n-C10 response factors are within 30% of Toluene response factor.
n-C10, n-C16 and n-C34 response factors are within 10% of their average.
C50 response factor is within 70% of n-C10 + n-C16 n-C34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Certified By:

Judy Takewicki



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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

O. Reg. 153(511) - PHCs F2 - F4 (with PAHs) (Water)

DATE SAMPLED: Aug 22, 2011

DATE RECEIVED: Aug 30, 2011

DATE REPORTED: Sep 07, 2011

SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	Field Blank
				2661264
F2 (C10 to C16)	µg/L		100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100
F3 (C16 to C34)	µg/L		100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100
F4 (C34 to C50)	µg/L		100	<100
(F3 + F4) C16 to C50	µg/L		100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

2661264

The C6-C10 fraction is calculated using Toluene response factor.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
Total C6-C50 results are corrected for BTEX and PAH contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

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ATTENTION TO: Chris McRae

Oil and Grease [water]

DATE SAMPLED: Aug 22, 2011

DATE RECEIVED: Aug 30, 2011

DATE REPORTED: Sep 07, 2011

SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	ALT-4 2661009	ALT-5 2661229	LAB QC 2661246	Field Blank 2661264	Trip Blank 2661275
Oil and Grease (animal/vegetable)	mg/L		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Oil and Grease (mineral) in water	mg/L		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Oil and Grease (Total) in water	mg/L		0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

Judy Takewicki



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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

Inorganic Chemistry (Water)

DATE SAMPLED: Aug 22, 2011

DATE RECEIVED: Aug 30, 2011

DATE REPORTED: Sep 07, 2011

SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	ALT-4 2661009	ALT-5 2661229	LAB QC 2661246	Trip Blank 2661275
BOD (5)	mg/L		5	<5	<5	<5	<5
Electrical Conductivity	uS/cm		2	1160	1610	1150	3
pH	pH Units	6.5-9	NA	8.11	9.59	8.05	6.37
Total Hardness (as CaCO ₃)	mg/L		10	399	50	418	<10
Total Suspended Solids	mg/L		10	115	912	176	<10
Alkalinity (as CaCO ₃)	mg/L		5	110	564	112	<5
Nitrate as N	mg/L	13000	0.05	12.5	0.22	13.0	<0.05
Nitrite as N	mg/L	60	0.05	<0.05	<0.05	<0.05	<0.05
Sulphate	mg/L		0.10	160	171	159	<0.10
Ammonia as N	mg/L		0.02	0.08	0.05	0.07	<0.02
Chemical Oxygen Demand	mg/L		5	15	30	21	<5
Phenols	mg/L		0.001	<0.001	<0.001	<0.001	<0.001
Calcium	mg/L		0.05	84.9	2.22	89.7	0.13
Magnesium	mg/L		0.05	45.3	10.8	47.2	<0.05
Sodium	mg/L		0.05	70.3	349	74.8	0.29
Potassium	mg/L		0.05	11.2	41.5	11.5	<0.05
Arsenic	mg/L	0.005	0.003	<0.003	0.021	0.004	<0.003
Cadmium	mg/L	0.000017	0.001	<0.001	<0.001	<0.001	<0.001
Chromium	mg/L		0.003	<0.003	0.004	<0.003	<0.003
Copper	mg/L	0. 002-0.004	0.003	0.007	0.008	0.011	<0.003
Iron	mg/L	0.300	0.010	0.625	0.612	1.47	<0.010
Lead	mg/L	0. 001-0.007	0.002	0.003	0.002	0.007	<0.002
Mercury	mg/L	0.000026	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel	mg/L	0. 025-0.150	0.003	0.012	0.007	0.017	<0.003

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME 2008-FWAL-TO

Certified By:

Elizabeth Potokowska



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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Chris McRae

Inorganic Chemistry (Water) (excl. BOD & TSS)

DATE SAMPLED: Aug 22, 2011

DATE RECEIVED: Aug 30, 2011

DATE REPORTED: Sep 07, 2011

SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	Field Blank
				2661264
Electrical Conductivity	uS/cm		2	4
pH	pH Units	6.5-9	NA	7.04
Total Hardness (as CaCO ₃)	mg/L		10	<10
Alkalinity (as CaCO ₃)	mg/L		5	<5
Nitrate as N	mg/L	13000	0.05	<0.05
Nitrite as N	mg/L	60	0.05	<0.05
Sulphate	mg/L		0.10	<0.10
Ammonia as N	mg/L		0.02	0.02
Chemical Oxygen Demand	mg/L		5	<5
Phenols	mg/L		0.001	<0.001
Calcium	mg/L		0.05	0.35
Magnesium	mg/L		0.05	<0.05
Sodium	mg/L		0.05	0.55
Potassium	mg/L		0.05	0.10
Arsenic	mg/L	0.005	0.003	<0.003
Cadmium	mg/L	0.000017	0.001	<0.001
Chromium	mg/L		0.003	<0.003
Copper	mg/L	0. 002-0.004	0.003	<0.003
Iron	mg/L	0.300	0.010	<0.010
Lead	mg/L	0. 001-0.007	0.002	<0.002
Mercury	mg/L	0.000026	0.0001	<0.0001
Nickel	mg/L	0. 025-0.150	0.003	<0.003

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME 2008-FWAL-TO

Certified By:

Elizabeth Potokowska



Guideline Violation

AGAT WORK ORDER: 11T523762

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SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	GUIDEVALUE	RESULT
2661009	ALT-4	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Copper	0.002-0.004	0.007
2661009	ALT-4	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Iron	0.300	0.625
2661009	ALT-4	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Nickel	0.025-0.150	0.012
2661229	ALT-5	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Arsenic	0.005	0.021
2661229	ALT-5	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Copper	0.002-0.004	0.008
2661229	ALT-5	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Iron	0.300	0.612
2661229	ALT-5	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Nickel	0.025-0.150	0.007
2661229	ALT-5	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	pH	6.5-9	9.59
2661246	LAB QC	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Copper	0.002-0.004	0.011
2661246	LAB QC	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Iron	0.300	1.47
2661246	LAB QC	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	Nickel	0.025-0.150	0.017
2661275	Trip Blank	CCME 2008-FWAL-TO	Inorganic Chemistry (Water)	pH	6.5-9	6.37

Quality Assurance

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 11T523762

PROJECT NO: Alert

ATTENTION TO: Chris McRae

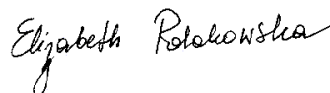
Microbiology Analysis

RPT Date: Sep 07, 2011			DUPLICATE			Method Blank	REFERENCE MATERIAL		METHOD BLANK SPIKE			MATRIX SPIKE			
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Microbiological Analysis (water)

Fecal Coliform	1	2661009	ND	ND	0.0%	< 1
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Comments: ND = Not Detected

Certified By:


Quality Assurance

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 11T523762

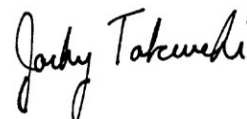
PROJECT NO: Alert

ATTENTION TO: Chris McRae

Trace Organics Analysis

RPT Date: Sep 07, 2011			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Oil and Grease [water]															
Oil and Grease (animal/vegetable)	1					< 0.5	70%	130%	104%	70%	130%		70%	130%	
Oil and Grease (mineral) in water	1					< 0.5	70%	130%	92%	70%	130%		70%	130%	
Oil and Grease (Total) in water	1					< 0.5	70%	130%	98%	70%	130%		70%	130%	
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	1					< 0.12	104%	60%	140%	98%	60%	140%		60%	140%
Acenaphthylene	1					< 0.11	98%	60%	140%	98%	60%	140%		60%	140%
Acenaphthene	1					< 0.10	103%	60%	140%	98%	60%	140%		60%	140%
Fluorene	1					< 0.09	105%	60%	140%	101%	60%	140%		60%	140%
Phenanthrene	1					< 0.10	105%	60%	140%	101%	60%	140%		60%	140%
Anthracene	1					< 0.05	104%	60%	140%	100%	60%	140%		60%	140%
Fluoranthene	1					< 0.12	105%	60%	140%	99%	60%	140%		60%	140%
Pyrene	1					< 0.05	104%	60%	140%	96%	60%	140%		60%	140%
Benz(a)anthracene	1					< 0.08	96%	60%	140%	92%	60%	140%		60%	140%
Chrysene	1					< 0.05	95%	60%	140%	95%	60%	140%		60%	140%
Benzo(b)fluoranthene	1					< 0.05	107%	60%	140%	88%	60%	140%		60%	140%
Benzo(k)fluoranthene	1					< 0.05	107%	60%	140%	95%	60%	140%		60%	140%
Benzo(a)pyrene	1					< 0.01	94%	60%	140%	91%	60%	140%		60%	140%
Indeno(1,2,3-cd)pyrene	1					< 0.06	101%	60%	140%	107%	60%	140%		60%	140%
Dibenzo(a,h)anthracene	1					< 0.09	101%	60%	140%	99%	60%	140%		60%	140%
Benzo(g,h,i)perylene	1					< 0.06	100%	60%	140%	99%	60%	140%		60%	140%
2-and 1-methyl Napthalene	1					< 0.20	103%	60%	140%	93%	90%	110%		60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)															
Benzene	1	2661246	< 0.2	< 0.2	0.0%	< 0.2	107%	70%	130%	112%	70%	130%	120%	70%	130%
Toluene	1	2661246	< 0.2	< 0.2	0.0%	< 0.2	115%	70%	130%	102%	70%	130%	101%	70%	130%
Ethylbenzene	1	2661246	< 0.1	< 0.1	0.0%	< 0.1	107%	70%	130%	96%	70%	130%	107%	70%	130%
Xylene, Total	1	2661246	< 0.2	< 0.2	0.0%	< 0.2	104%	70%	130%	108%	70%	130%	109%	70%	130%
F1 (C6 to C10)	1	2661246	< 25	< 25	0.0%	< 25	81%	70%	130%	74%	70%	130%	70%	70%	130%
F2 (C10 to C16)	1		< 100	< 100	0.0%	< 100	101%	70%	130%	45%	40%	130%	42%	40%	130%
F3 (C16 to C34)	1		< 100	< 100	0.0%	< 100	100%	70%	130%	88%	70%	130%	81%	70%	130%
F4 (C34 to C50)	1		< 100	< 100	0.0%	< 100	105%	70%	130%	88%	70%	130%	100%	70%	130%

Certified By:



Quality Assurance

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

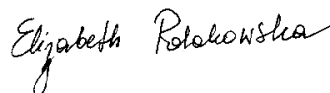
AGAT WORK ORDER: 11T523762

PROJECT NO: Alert

ATTENTION TO: Chris McRae

Water Analysis															
RPT Date: Sep 07, 2011			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Inorganic Chemistry (Water)															
BOD (5)	1		< 5	< 5	0.0%	< 5	95%	75%	125%						
Electrical Conductivity	1		812	809	0.4%	< 2	103%	80%	120%						
pH	1		7.96	7.98	0.3%		100%	90%	110%						
Total Suspended Solids	1		< 10	< 10	0.0%	< 10	104%	80%	120%						
Alkalinity (as CaCO3)	1		289	279	3.5%	< 5	101%	80%	120%						
Nitrate as N	1	2661009	12.5	12.3	1.6%	< 0.05	91%	90%	110%	102%	90%	110%	105%	80%	120%
Nitrite as N	1	2661009	< 0.05	< 0.05	0.0%	< 0.05	NA	90%	110%	95%	90%	110%	112%	80%	120%
Sulphate	1	2661009	160	158	1.3%	< 0.10	101%	90%	110%	103%	90%	110%	104%	80%	120%
Ammonia as N	1		0.03	0.03	0.0%	< 0.02	98%	90%	110%	104%	90%	110%	108%	80%	120%
Chemical Oxygen Demand	1		39	37	5.3%	< 5	102%	90%	110%	100%	90%	110%	97%	70%	130%
Phenols	1	2661009	< 0.001	< 0.001	0.0%	< 0.001	102%	90%	110%	101%	90%	110%	101%	80%	120%
Calcium	1	2661229	2.22	2.10	5.6%	< 0.05	99%	90%	110%	100%	90%	110%	102%	70%	130%
Magnesium	1	2661229	10.8	10.7	0.9%	< 0.05	100%	90%	110%	101%	90%	110%	104%	70%	130%
Sodium	1	2661229	349	344	1.4%	< 0.05	97%	90%	110%	98%	90%	110%	99%	70%	130%
Potassium	1	2661229	41.5	41.7	0.5%	< 0.05	102%	90%	110%	101%	90%	110%	107%	70%	130%
Arsenic	1		< 0.003	< 0.003	0.0%	< 0.003	97%	90%	110%	107%	90%	110%	106%	70%	130%
Cadmium	1		< 0.001	< 0.001	0.0%	< 0.001	98%	90%	110%	110%	90%	110%	111%	70%	130%
Chromium	1		< 0.003	< 0.003	0.0%	< 0.003	101%	90%	110%	110%	90%	110%	107%	70%	130%
Copper	1		0.004	0.004	0.0%	< 0.003	102%	90%	110%	110%	90%	110%	107%	70%	130%
Iron	1		< 0.010	< 0.010	0.0%	< 0.010	105%	90%	110%	104%	90%	110%	104%	70%	130%
Lead	1		< 0.002	< 0.002	0.0%	< 0.002	104%	90%	110%	102%	90%	110%	114%	70%	130%
Mercury	1	2661246	< 0.0001	< 0.0001	0.0%	< 0.0001	98%	90%	110%	99%	70%	130%	107%	70%	130%
Nickel	1		< 0.003	< 0.003	0.0%	< 0.003	99%	90%	110%	110%	90%	110%	103%	70%	130%

Certified By:



Method Summary

CLIENT NAME: DEFENCE CONSTRUCTION CANADA
AGAT WORK ORDER: 11T523762
PROJECT NO: Alert
ATTENTION TO: Chris McRae

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Microbiology Analysis			
Fecal Coliform	MIC-93-7000	SM 9222 D	MF/INCUBATOR
Trace Organics Analysis			
Naphthalene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Acenaphthylene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Acenaphthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Fluorene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Phenanthrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benz(a)anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Chrysene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(a)pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Dibenzo(a,h)anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Chrysene-d12	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzene	VOL-91-5010	MOE PHC E3421	(P&T)GC/MS
Toluene	VOL-91-5010	MOE PHC E3421	(P&T)GC/MS
Ethylbenzene	VOL-91-5010	MOE PHC E3421	(P&T)GC/MS
Xylene, Total	VOL-91-5010	MOE PHC E3421	(P&T)GC/MS
F1 (C6 to C10)	VOL-91-5010	MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	MOE PHC E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	MOE PHC E3421	GC/FID
(F1 + F2) C6 to C16	VOL - 5010	MOE PHC E3421	(P&T)GC/FID & GC/FID
F3 (C16 to C34)	VOL-91-5010	MOE PHC E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	MOE PHC E3421	GC/FID
F4 (C34 to C50)	VOL -91- 5010	MOE PHC- E3421	GC/FID
(F3 + F4) C16 to C50	VOL-91-5010	MOE E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	MOE PHC E3421	BALANCE
F2 (C10 to C16)	VOL-91-5010	MOE PHC E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	MOE PHC E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	MOE PHC E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	MOE PHC E3421	GC/FID
F4 (C34 to C50)	VOL -91- 5010	MOE PHC- E3421	GC/FID
(F3 + F4) C16 to C50	VOL-91-5010	MOE E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	MOE PHC E3421	BALANCE
Oil and Grease (animal/vegetable)	VOL-91- 5011	SM 5520 & EPA SW846 3510C & EPA 1664	GRAVIMETRIC
Oil and Grease (mineral) in water	VOL-91- 5011	SM 5520 & EPA SW846 3510C & EPA 1664	GRAVIMETRIC
Oil and Grease (Total) in water	VOL-91- 5011	SM 5520 & EPA SW846 3510C & EPA 1664	GRAVIMETRIC

Method Summary

CLIENT NAME: DEFENCE CONSTRUCTION CANADA
AGAT WORK ORDER: 11T523762
PROJECT NO: Alert
ATTENTION TO: Chris McRae

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
BOD (5)	INOR-93-6006	SM 5210 B	DO METER
Electrical Conductivity	INOR-93-6000	SM 2510 B	PC TITRATE
pH	INOR-93-6000	SM 4500-H+ B	PC TITRATE
Total Hardness (as CaCO ₃)	MET-93-6105	EPA SW-846 6010C & 200.7 & SM 2340 B	ICP/OES
Total Suspended Solids	INOR-93-6028	SM 2540 D	BALANCE
Alkalinity (as CaCO ₃)	INOR-93-6000	SM 2320 B	PC TITRATE
Nitrate as N	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Nitrite as N	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Sulphate	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Ammonia as N	INOR-93-6002	AQ2 EPA-103A & SM 4500 NH ₃ -F	AQ-2 DISCRETE ANALYZER
Chemical Oxygen Demand	INOR-93-6042	SM 5220 D	SPECTROPHOTOMETER
Phenols	INOR-93-6050	MOE ROPHEN-E 3179 & SM 5530 D	TECHNICON AUTO ANALYZER
Calcium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Magnesium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Sodium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Potassium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Arsenic	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Cadmium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Chromium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Copper	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Iron	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Lead	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Mercury	MET-93-6100	EPA SW 846 7470 & 245.1	CVAAS
Nickel	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Electrical Conductivity	INOR-93-6000	SM 2510 B	PC TITRATE
pH	INOR-93-6000	SM 4500-H+ B	PC TITRATE
Total Hardness (as CaCO ₃)	MET-93-6105	EPA SW-846 6010C & 200.7 & SM 2340 B	ICP/OES
Alkalinity (as CaCO ₃)	INOR-93-6000	SM 2320 B	PC TITRATE
Nitrate as N	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Nitrite as N	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Sulphate	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Ammonia as N	INOR-93-6002	AQ2 EPA-103A & SM 4500 NH ₃ -F	AQ-2 DISCRETE ANALYZER
Chemical Oxygen Demand	INOR-93-6042	SM 5220 D	SPECTROPHOTOMETER
Phenols	INOR-93-6050	MOE ROPHEN-E 3179 & SM 5530 D	TECHNICON AUTO ANALYZER
Calcium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Magnesium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Sodium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Potassium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Arsenic	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Cadmium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Chromium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Copper	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Iron	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Lead	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Mercury	MET-93-6100	EPA SW 846 7470 & 245.1	CVAAS
Nickel	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS

