AGAT Laboratories

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CLIENT NAME: DEFENCE CONSTRUCTION CANADA
14 ALERT BLVD, 8 WING TRENTON
ASTRA, ON K0K3W0
(613) 392-2811

ATTENTION TO: Cameron Chadwick

PROJECT: Alert Eureka

AGAT WORK ORDER: 17P233494

MICROBIOLOGY ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

WATER ANALYSIS REVIEWED BY: Inesa Alizarchyk, Inorganic Lab Supervisor

DATE REPORTED: Jul 21, 2017

PAGES (INCLUDING COVER): 17

VERSION*: 3

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

NOTES

VERSION 3:Version 3 supersedes work order 17P233494, Version 2, issued July 18, 2017.
The units for Phenols results have been changed from mg/L to µg/L.

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

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Certificate of Analysis

AGAT WORK ORDER: 17P233494

PROJECT: Alert Eureka

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Cameron Chadwick

SAMPLING SITE:

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Microbiological Analysis (water)

DATE RECEIVED: 2017-07-04

DATE REPORTED: 2017-07-21

			SAMPLE DESCRIPTION:	ALT 4
			SAMPLE TYPE:	Water
			DATE SAMPLED:	2017-06-28
Parameter	Unit	G / S	RDL	8530576
Fecal Coliform	CFU/100mL		2	ND

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to SDWA - Microbiology

8530576 RDL >1 indicates dilutions of the sample.
ND - Not Detected.
The time from sample collection to initiation of analysis exceeded 48 hours.

Certified By: Vivine Basily

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SAMPLING SITE:

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BTEX - Water (P & T - GC/MS)

DATE RECEIVED: 2017-07-04

DATE REPORTED: 2017-07-21

		SAMPLE DESCRIPTION:		ALT 8	ALT 8.1	ALT 9	ALT 10
		SAMPLE TYPE:		Water	Water	Water	Water
		DATE SAMPLED:		2017-06-28	2017-06-28	2017-06-28	2017-06-28
Parameter	**Unit**	**G / S**	**RDL**	**8530585**	**8530591**	**8530597**	**8530608**
Benzene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	0.35	<0.20	<0.20
o-Xylene	µg/L		0.10	<0.10	0.23	<0.10	<0.10
Xylene Mixture (Total)	µg/L		0.20	<0.20	0.58	<0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**					
Toluene-d8	% Recovery	60-130		89	90	88	94
4-Bromofluorobenzene	% Recovery	70-130		95	73	97	94

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

Certified By:

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SAMPLED BY:CC

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

DATE RECEIVED: 2017-07-04

DATE REPORTED: 2017-07-21

		SAMPLE DESCRIPTION:		ALT 4
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2017-06-28
Parameter	**Unit**	**G / S**	**RDL**	**8530576**
Benzene	µg/L		0.20	<0.20
Toluene	µg/L		0.20	<0.20
Ethylbenzene	µg/L		0.10	<0.10
Xylene Mixture	µg/L		0.20	<0.20
F1 (C6 to C10)	µg/L		25	<25
F1 (C6 to C10) minus BTEX	µg/L		25	<25
F2 (C10 to C16)	µg/L		100	<100
F3 (C16 to C34)	µg/L		100	<100
F4 (C34 to C50)	µg/L		100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA
Surrogate	**Unit**	**Acceptable Limits**		
Terphenyl	%	60-140		100

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

8530576 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 nC34.
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.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6-C50 results are corrected for BTEX 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.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

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Oil and Grease (+Total) - water

DATE RECEIVED: 2017-07-04

DATE REPORTED: 2017-07-21

		SAMPLE DESCRIPTION:		ALT 4	ALT 8	ALT 8.1	ALT 9	ALT 10
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2017-06-28	2017-06-28	2017-06-28	2017-06-28	2017-06-28
Parameter	Unit	G / S	RDL	8530576	8530585	8530591	8530597	8530608
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:

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PROJECT: Alert Eureka

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Cameron Chadwick

SAMPLING SITE:

SAMPLED BY:CC

Polycyclic Aromatic Hydrocarbons in Water - (PAH)

DATE RECEIVED: 2017-07-04

DATE REPORTED: 2017-07-21

		SAMPLE DESCRIPTION:		ALT 4
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2017-06-28
Parameter	**Unit**	**G / S**	**RDL**	**8530576**
1-Methylnaphthalene	ug/L		0.01	<0.01
2-Methylnaphthalene	ug/L		0.01	<0.01
Acenaphthene	ug/L		0.01	<0.01
Acenaphthylene	ug/L		0.01	<0.01
Acridine	ug/L		0.01	<0.01
Anthracene	ug/L		0.012	<0.012
Benzo(a)anthracene	ug/L		0.018	<0.018
Benzo(a)pyrene	ug/L		0.010	<0.010
Benzo(b)fluoranthene	ug/L		0.01	<0.01
Benzo(e)pyrene	ug/L		0.01	<0.01
Benzo(ghi)perylene	ug/L		0.01	<0.01
Benzo(k)fluoranthene	ug/L		0.01	<0.01
Chrysene	ug/L		0.01	<0.01
Dibenzo(a,h)anthracene	ug/L		0.01	<0.01
Fluoranthene	ug/L		0.01	<0.01
Fluorene	ug/L		0.01	<0.01
Indeno(1,2,3-cd)pyrene	ug/L		0.01	<0.01
Naphthalene	ug/L		0.01	<0.01
Perylene	ug/L		0.01	<0.01
Phenanthrene	ug/L		0.01	<0.01
Pyrene	ug/L		0.01	<0.01
Quinoline	ug/L		0.01	<0.01
Surrogate	**Unit**	**Acceptable Limits**		
Nitrobenzene-d5	%	50-140		84
2-Fluorobiphenyl	%	50-140		71
Terphenyl-d14	%	50-140		95

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

Certified By:

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ATTENTION TO: Cameron Chadwick

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Inorganic Chemistry (Water)

DATE RECEIVED: 2017-07-04

DATE REPORTED: 2017-07-21

		SAMPLE DESCRIPTION:		ALT 4
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2017-06-28
Parameter	Unit	G / S	RDL	8530576
BOD (5)	mg/L		5	<5
Electrical Conductivity	uS/cm		2	241
pH	pH Units		NA	7.76
Total Suspended Solids	mg/L		10	<10
Total Hardness (as CaCO3)	mg/L		0.5	88.7
Alkalinity (as CaCO3)	mg/L		5	84
Chloride	mg/L		0.10	11.8
Nitrate as N	mg/L		0.05	0.30
Nitrite as N	mg/L		0.05	<0.05
Sulphate	mg/L		0.10	16.8
Ammonia as N	mg/L		0.02	<0.02
Chemical Oxygen Demand	mg/L		5	<5
Phenols	ug/L		1	<1
Calcium	mg/L		0.05	28.8
Magnesium	mg/L		0.05	4.07
Sodium	mg/L		0.05	7.25
Potassium	mg/L		0.05	1.52
Total Arsenic	mg/L		0.015	<0.015
Total Cadmium	mg/L		0.010	<0.010
Total Chromium	mg/L		0.015	<0.015
Total Copper	mg/L		0.015	<0.015
Total Iron	mg/L		0.050	0.310
Total Lead	µg/L		0.5	0.5
Total Mercury	mg/L		0.0002	<0.0002
Total Nickel	mg/L		0.015	<0.015

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

8530576 July 18, 2017: This is a revision of a previous report issued on July 10, 2017. At client's request, the concentration units for Pb results have been changed from mg/L to µg/L. The RDL for Pb has been changed to reflect the lower dilution of the sample.
July 21, 2017: This is a revision of a previous report issued on July 18, 2017. At client's request, the concentration unit for Phenols has been changed from mg/L to µg/L.

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AGAT WORK ORDER: 17P233494

PROJECT: Alert Eureka

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

ATTENTION TO: Cameron Chadwick

SAMPLING SITE:

SAMPLED BY:CC

Phenols & Lead (Water)

DATE RECEIVED: 2017-07-04

DATE REPORTED: 2017-07-21

		SAMPLE DESCRIPTION:		ALT 8	ALT 8.1	ALT 9	ALT 10
		SAMPLE TYPE:		Water	Water	Water	Water
		DATE SAMPLED:		2017-06-28	2017-06-28	2017-06-28	2017-06-28
Parameter	Unit	G / S	RDL	8530585	8530591	8530597	8530608
Phenols	µg/L		1	<1	<1	<1	<1
Lead	µg/L		0.50	0.68	<0.50	<0.50	<0.50

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

8530585-8530608 July 18, 2017: This is a revision of a previous report issued on July 10, 2017. At client's request, the concentration units for Pb results have been changed from mg/L to µg/L. The RDL for Pb has been changed to reflect the lower dilution of the sample.
July 21, 2017: This is a revision of a previous report issued on July 18, 2017. At client's request, the concentration units for Phenols results have been changed from mg/L to µg/L.

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CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 17P233494

PROJECT: Alert Eureka

ATTENTION TO: Cameron Chadwick

SAMPLING SITE:

SAMPLED BY:CC

Microbiology Analysis

RPT Date: Jul 21, 2017			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Microbiological Analysis (water)															
Fecal Coliform	8530576	8530576	ND	ND	NA	< 1									

Comments: ND - Not Detected, NA - % RPD Not Applicable

Certified By:

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Trace Organics Analysis

RPT Date: Jul 21, 2017

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
BTEX - Water (P & T - GC/MS)															
Benzene	8529635		< 0.20	< 0.20	NA	< 0.20	83%	60%	130%	93%	60%	130%	84%	60%	130%
Toluene	8529635		< 0.20	< 0.20	NA	< 0.20	92%	60%	130%	100%	60%	130%	91%	60%	130%
Ethylbenzene	8529635		< 0.10	< 0.10	NA	< 0.10	91%	60%	130%	97%	60%	130%	91%	60%	130%
m & p-Xylene	8529635		< 0.20	< 0.20	NA	< 0.20	93%	60%	130%	98%	60%	130%	92%	60%	130%
o-Xylene	8529635		< 0.10	< 0.10	NA	< 0.10	99%	60%	130%	102%	60%	130%	100%	60%	130%
O. Reg. 153(511) - PHCs F1 - F4 (Water)															
Benzene	8528975		< 0.20	< 0.20	NA	< 0.20	85%	50%	140%	96%	60%	130%	110%	50%	140%
Toluene	8528975		< 0.20	< 0.20	NA	< 0.20	88%	50%	140%	89%	60%	130%	102%	50%	140%
Ethylbenzene	8528975		< 0.10	< 0.10	NA	< 0.10	89%	50%	140%	87%	60%	130%	97%	50%	140%
Xylene Mixture	8528975		< 0.20	< 0.20	NA	< 0.20	89%	50%	140%	99%	60%	130%	107%	50%	140%
F1 (C6 to C10)	8528975		< 25	< 25	NA	< 25	97%	60%	140%	81%	60%	140%	88%	60%	140%
F2 (C10 to C16)		TW	< 100	< 100	NA	< 100	109%	60%	140%	85%	60%	140%	61%	60%	140%
F3 (C16 to C34)		TW	< 100	< 100	NA	< 100	110%	60%	140%	80%	60%	140%	76%	60%	140%
F4 (C34 to C50)		TW	< 100	< 100	NA	< 100	92%	60%	140%	92%	60%	140%	88%	60%	140%
Oil and Grease (+Total) - water															
Oil and Grease (animal/vegetable)		TW	< 0.5	< 0.5	NA	< 0.5	NA	70%	130%	108%	70%	130%	110%	70%	130%
Oil and Grease (mineral) in water		TW	< 0.5	< 0.5	NA	< 0.5	NA	70%	130%	75%	70%	130%	78%	70%	130%
Oil and Grease (Total) in water		TW	< 0.5	< 0.5	NA	< 0.5	NA	70%	130%	92%	70%	130%	94%	70%	130%

Comments: Tap water analysis has been performed as QC sample testing for duplicate and matrix spike due to insufficient sample volume.
When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Polycyclic Aromatic Hydrocarbons in Water - (PAH)															
1-Methylnaphthalene	1	8503977	2.53	3.57	34	< 0.01	99%	50%	140%	81%	50%	140%	-23%	50%	140%
2-Methylnaphthalene	1	8503977	0.67	0.73	9	< 0.01	103%	50%	140%	80%	50%	140%	320%	50%	140%
Acenaphthene	1	8503977	0.07	0.07	0	< 0.01	105%	50%	140%	78%	50%	140%	60%	50%	140%
Acenaphthylene	1	8503977	<0.01	<0.01	0	< 0.01	97%	50%	140%	76%	50%	140%	60%	50%	140%
Acridine	1	8503977	<0.01	<0.01	0	< 0.01	70%	50%	140%	69%	50%	140%	66%	50%	140%
Anthracene	1	8503977	<0.012	<0.012	0	< 0.012	85%	50%	140%	77%	50%	140%	61%	50%	140%
Benzo(a)anthracene	1	8503977	<0.018	<0.018	0	< 0.018	85%	50%	140%	74%	50%	140%	78%	50%	140%
Benzo(a)pyrene	1	8503977	<0.015	<0.015	0	< 0.010	77%	50%	140%	75%	50%	140%	87%	50%	140%
Benzo(b)fluoranthene	1	8503977	<0.01	<0.01	0	< 0.01	93%	50%	140%	70%	50%	140%	72%	50%	140%
Benzo(e)pyrene	1	8503977	<0.01	<0.01	0	< 0.01	93%	50%	140%	66%	50%	140%	78%	50%	140%
Benzo(ghi)perylene	1	8503977	<0.01	<0.01	0	< 0.01	83%	50%	140%	87%	50%	140%	98%	50%	140%
Benzo(k)fluoranthene	1	8503977	<0.01	<0.01	0	< 0.01	112%	50%	140%	85%	50%	140%	100%	50%	140%
Chrysene	1	8503977	<0.01	<0.01	0	< 0.01	118%	50%	140%	80%	50%	140%	80%	50%	140%
Dibenzo(a,h)anthracene	1	8503977	<0.01	<0.01	0	< 0.01	69%	50%	140%	80%	50%	140%	89%	50%	140%
Fluoranthene	1	8503977	<0.01	<0.01	0	< 0.01	103%	50%	140%	82%	50%	140%	61%	50%	140%
Fluorene	1	8503977	0.05	0.07	33	< 0.01	96%	50%	140%	80%	50%	140%	64%	50%	140%
Indeno(1,2,3-cd)pyrene	1	8503977	<0.01	<0.01	0	< 0.01	95%	50%	140%	72%	50%	140%	82%	50%	140%

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Quality Assurance

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ATTENTION TO: Cameron Chadwick

SAMPLING SITE:

SAMPLED BY:CC

Trace Organics Analysis (Continued)

RPT Date: Jul 21, 2017			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Naphthalene	1	8503977	7.60	9.95	27	< 0.01	105%	50%	140%	77%	50%	140%	-173%	50%	140%
Perylene	1	8503977	<0.01	<0.01	0	< 0.01	79%	50%	140%	77%	50%	140%	70%	50%	140%
Phenanthrene	1	8503977	<0.01	<0.01	0	< 0.01	91%	50%	140%	75%	50%	140%	59%	50%	140%
Pyrene	1	8503977	<0.01	<0.01	0	< 0.01	104%	50%	140%	82%	50%	140%	64%	50%	140%
Quinoline	1	8503977	<0.01	<0.01	0	< 0.01	70%	50%	140%	64%	50%	140%	70%	50%	140%
Nitrobenzene-d5	1	8503977	61	<0	0	<									
2-Fluorobiphenyl	1	8503977	77	<0	0	<									
Terphenyl-d14	1	8503977	86	<0	0	<									

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:

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Quality Assurance

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 17P233494

PROJECT: Alert Eureka

ATTENTION TO: Cameron Chadwick

SAMPLING SITE:

SAMPLED BY:CC

Water Analysis

RPT Date: Jul 21, 2017			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Inorganic Chemistry (Water)															
BOD (5)	8527856		1100	1010	8.1%	< 5	100%	75%	125%	NA			NA		
Electrical Conductivity	8527426		62	60	3.3%	< 2	104%	80%	120%						
pH	8527426		7.27	7.34	1.0%	NA	107%	90%	110%						
Total Suspended Solids	8526966		23	24	NA	< 10	102%	80%	120%	NA			NA		
Alkalinity (as CaCO3)	8527426		25	24	NA	< 5	99%	80%	120%						
Chloride	8526376		1.69	1.76	4.1%	< 0.10	90%	90%	110%	103%	90%	110%	102%	80%	120%
Nitrate as N	8526376		1.41	1.42	0.7%	< 0.05	95%	90%	110%	101%	90%	110%	104%	80%	120%
Nitrite as N	8526376		<0.05	<0.05	NA	< 0.05	NA	90%	110%	99%	90%	110%	100%	80%	120%
Sulphate	8526376		8.36	8.41	0.6%	< 0.10	94%	90%	110%	99%	90%	110%	102%	80%	120%
Ammonia as N	8526283		1230	1230	0.0%	< 0.02	101%	90%	110%	110%	90%	110%	114%	80%	120%
Chemical Oxygen Demand	8531518		7	7	NA	< 5	92%	80%	120%	95%	90%	110%	103%	70%	130%
Phenols	8530576	8530576	<1	<1	NA	< 1	104%	90%	110%	103%	90%	110%	100%	80%	120%
Calcium	8512944		21.1	21.0	0.5%	< 0.05	97%	90%	110%	96%	90%	110%	95%	70%	130%
Magnesium	8512944		3.70	3.71	0.3%	< 0.05	94%	90%	110%	93%	90%	110%	91%	70%	130%
Sodium	8512944		11.0	11.0	0.0%	< 0.05	97%	90%	110%	98%	90%	110%	95%	70%	130%
Potassium	8512944		3.51	3.49	0.6%	< 0.05	99%	90%	110%	98%	90%	110%	96%	70%	130%
Total Arsenic	8530576	8530576	<0.015	<0.015	NA	< 0.015	101%	90%	110%	104%	80%	120%	104%	70%	130%
Total Cadmium	8530576	8530576	<0.010	<0.010	NA	< 0.010	102%	90%	110%	105%	80%	120%	104%	70%	130%
Total Chromium	8530576	8530576	<0.015	<0.015	NA	< 0.015	101%	90%	110%	105%	80%	120%	101%	70%	130%
Total Copper	8530576	8530576	<0.015	<0.015	NA	< 0.015	98%	90%	110%	101%	80%	120%	105%	70%	130%
Total Iron	8530576	8530576	0.310	0.302	2.6%	< 0.050	101%	90%	110%	120%	80%	120%	105%	70%	130%
Total Lead	8530576	8530576	0.5	0.5	NA	< 0.5	101%	90%	110%	104%	80%	120%	105%	70%	130%
Total Mercury	8530296		<0.0002	<0.0002	NA	< 0.0002	103%	90%	110%	102%	90%	110%	103%	80%	120%
Total Nickel	8530576	8530576	<0.015	<0.015	NA	< 0.015	97%	90%	110%	105%	80%	120%	103%	70%	130%
Phenols & Lead (Water)															
Phenols	8530576	8530576	<1	<1	0.0%	<1	104%	90%	110%	103%	90%	110%	100%	80%	120%
Lead	8530585	8530585	0.68	0.79	NA	< 0.50	103%	90%	110%	102%	90%	110%	100%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate Qualifier: As the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
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CANADA L4Z 1Y2
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FAX (905)712-5122
http://www.agatlabs.com

QA Violation

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 17P233494

PROJECT: Alert Eureka

ATTENTION TO: Cameron Chadwick

RPT Date: Jul 21, 2017

PARAMETER	Sample Id	Sample Description	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
				Lower	Upper		Lower	Upper		Lower	Upper
Polycyclic Aromatic Hydrocarbons in Water - (PAH)											
1-Methylnaphthalene	8503977	ALT 4	99%	50%	140%	81%	50%	140%	-23%	50%	140%
2-Methylnaphthalene	8503977	ALT 4	103%	50%	140%	80%	50%	140%	320%	50%	140%
Naphthalene	8503977	ALT 4	105%	50%	140%	77%	50%	140%	-173%	50%	140%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

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Method Summary

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 17P233494

PROJECT: Alert Eureka

ATTENTION TO: Cameron Chadwick

SAMPLING SITE:

SAMPLED BY:CC

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Microbiology Analysis			
Fecal Coliform	MIC-93-7000	SM 9222 D	Membrane Filtration

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Method Summary

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 17P233494

PROJECT: Alert Eureka

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SAMPLING SITE:

SAMPLED BY:CC

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Toluene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
o-Xylene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Xylene Mixture (Total)	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Toluene-d8	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Benzene	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
Toluene	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
Ethylbenzene	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
Xylene Mixture	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
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
F3 (C16 to C34)	VOL-91-5010	MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010		GC/FID
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
1-Methylnaphthalene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
2-Methylnaphthalene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Acenaphthene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Acenaphthylene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Acridine	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Anthracene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Benzo(a)anthracene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Benzo(a)pyrene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Benzo(b)fluoranthene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Benzo(e)pyrene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Benzo(ghi)perylene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Benzo(k)fluoranthene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Chrysene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Dibenzo(a,h)anthracene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Fluoranthene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Fluorene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Naphthalene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Perylene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Phenanthrene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Pyrene	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Quinoline	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Nitrobenzene-d5	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
2-Fluorobiphenyl	ORG-120-5104	EPA SW846/3510/8270C	GC/MS
Terphenyl-d14	ORG-120-5104	EPA SW846/3510/8270C	GC/MS

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Method Summary

CLIENT NAME: DEFENCE CONSTRUCTION CANADA

AGAT WORK ORDER: 17P233494

PROJECT: Alert Eureka

ATTENTION TO: Cameron Chadwick

SAMPLING SITE:

SAMPLED BY:CC

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;SM 2310 B	PC TITRATE
Total Suspended Solids	INOR-93-6028	SM 2540 D	BALANCE
Total Hardness (as CaCO3)	MET-93-6105	EPA SW-846 6010C & 200.7 & SM 2340 B	ICP/OES
Alkalinity (as CaCO3)	INOR-93-6000	SM 2320 B	PC TITRATE
Chloride	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
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-93-6059	QuikChem 10-107-06-1-J & SM 4500 NH3-F	LACHAT FIA
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
Total Arsenic	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Cadmium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Chromium	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Copper	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Iron	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Total Lead	MET-93-6003	EPA SW-846 3010A & 6020A	ICP/MS
Total Mercury	MET-93-6100	EPA SW-846 7470 & 245.1	CVAAS
Total Nickel	MET-93-6103	EPA SW-846 3010A & 6020A	ICP-MS
Lead	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS

AGAT Laboratories

3Lq

Short Holding Time NH3 / BOD

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
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Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: DCC
Contact: Cameron Chadwick
Address: 29 A Fleet Ave
Astra ON
Phone: 613-392-2811 Fax: x5491
Reports to be sent to:
1. Email: Cameron.chadwick@dcc-ddge.ca
2. Email: Kelsey.davidson@dcc-ddge.ca

Regulatory Requirements: ☐ No Regulatory Requirement

(Please check all applicable boxes)

☐ Regulation 153/04
Table ____ *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region ____ *Indicate One*
☐ MISA

☐ Regulation 558
☒ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
Indicate One

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Project Information:

Project: AREKT EUREKA
Site Location: BATLC ORDER 36491
Sampled By: C. Chadwick
AGAT Quote #: ____ PO: ____
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐
Company:
Contact:
Address:
Email:

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Laboratory Use Only

Work Order #: 17P233494
Cooler Quantity:
Arrival Temperatures: 9.7 8.9 9.2 / 9.1 8.7 8.4 / 8.3 8.4 9.2
Custody Seal Intact: ☐Yes ☐No ☐N/A
Notes:

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI (Y/N)	Metals and Inorganics: ☐ All Metals ☐ 153 Metals (excl. Hydrides) ☐ Hydride Metals ☐ 153 Metals (incl. Hydrides)	O. Reg 153: ORPs: ☐ B-HWS ☐ Cl⁻ ☐ CN ☐ Cr⁶⁺ ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2	Volatiles: ☐ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use	xPhenols	O/G Grease	pH, TSS, BOD5, COD	FC	Conductivity alk hardness
ALT 4	28Jun	15:00	14																				
~~ALT 5~~																							
~~ALT 6~~																							
ALT 8	28Jun		7																				
~~ALT 8.1~~	28Jun		7																				
ALT 9	28Jun		7																				
ALT 10	28Jun		7																				
	Client knows expired, please run anyways																						

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
C. Chadwick			Kelly M	7.4.17	8:25
			Simon	17/7/5	1138

Page 1 of 1
Nº: T 051687

Document ID: DIV 78 1511.014

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT

Date Revised: June 22, 2017