

CLIENT NAME: MISC AGAT CLIENT AB, AB

ATTENTION TO: Ryan Melrose

PROJECT: Summer Analysis 2019

AGAT WORK ORDER: 19C500766

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

WATER ANALYSIS REVIEWED BY: Krystyna Krauze, Senior Analyst

DATE REPORTED: Aug 22, 2019

PAGES (INCLUDING COVER): 34

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005

***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 (V1)

Member of: Association of Professional Engineers and Geoscientists of Alberta (APEGA)
Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

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*Results relate only to the items tested. Results apply to samples as received.
All reportable information as specified by ISO 17025:2017 is available from AGAT Laboratories upon request*



AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
<http://www.agatlabs.com>

CLIENT NAME: MISC AGAT CLIENT AB

SAMPLING SITE:

ATTENTION TO: Ryan Melrose

SAMPLED BY:

AGAT Western Canada - Carbamate Pesticides (Water)

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-22

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION:				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
Aldicarb	µg/L		0.7	<0.7
Bendiocarb	µg/L		2	<2
Carbofuran	µg/L		1.8	<1.8
Carbaryl	µg/L		0.2	<0.2
Diuron	µg/L		10	<10
Triallate	µg/L		0.24	<0.24
Temephos	µg/L		10	<10

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

405915 Results relate only to the items tested.

Analysis performed at AGAT Toronto (unless marked by *)

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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

AGAT Western Canada - OC Pesticides (Water)

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-19

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Analysis				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
Aldrin	µg/L		0.01	<0.01
Gamma-Hexachlorocyclohexane	µg/L		0.01	<0.01
alpha-BHC	µg/L		0.05	<0.05
Chlordane	µg/L		0.04	<0.04
DDD	µg/L		0.05	<0.05
DDE (Total)	µg/L		0.05	<0.05
DDT	µg/L		0.04	<0.04
Endosulfan	µg/L		0.003	<0.003
Dieldrin	µg/L		0.02	<0.02
Endrin	µg/L		0.05	<0.05
Heptachlor	µg/L		0.01	<0.01
Heptachlor Epoxide	µg/L		0.01	<0.01
Methoxychlor	µg/L		0.03	<0.03
Hexachlorobenzene	ug/L		0.01	<0.01
Surrogate	Unit	Acceptable Limits		
TCMX	%	50-140	76	
Decachlorobiphenyl	%	60-140	96	

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

405915

Results relate only to the items tested.

DDT total is a calculated parameter. The calculated value is the sum of op'DDT and pp'DDT.

DDD total is a calculated parameter. The calculated value is the sum of op'DDD and pp'DDD.

DDE total is a calculated parameter. The calculated value is the sum of op'DDE and pp'DDE.

Endosulfan total is a calculated parameter. The calculated value is the sum of Endosulfan I and Endosulfan II.

Chlordane total is a calculated parameter. The calculated value is the sum of Alpha-Chlordane and Gamma-Chlordane.

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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

AGAT Western Canada - OP Pesticides (Water)

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-12

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Water				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
Phorate	µg/L		0.5	<0.5
Dimethoate	µg/L		2.5	<2.5
Terbufos	µg/L		0.5	<0.5
Diazinon	µg/L		0.17	<0.17
Malathion	µg/L		0.1	<0.1
Chlorpyrifos	µg/L		0.002	<0.002
Parathion	µg/L		0.013	<0.013
Azinphos-methyl	µg/L		0.01	<0.01

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

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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

AGAT Western Canada - Phenoxy Acid Herbicides (Water)

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-19

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Analysis				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
2,4-D	µg/L		0.5	<0.5
2,4,5-T	µg/L		0.5	<0.5
2,4,5-TP	µg/L		0.5	<0.5
Dicamba	µg/L		0.008	<0.008
Dichlorprop	µg/L		0.5	<0.5
Dinoseb	µg/L		0.05	<0.05
Picloram	µg/L		0.5	<0.5
Diclofop-methyl	µg/L		0.24	<0.24
2,3,4,6-Tetrachlorophenol	µg/L		0.5	<0.5
2,4-Dichlorophenol	µg/L		0.2	<0.2
2,4,5-Trichlorophenol	µg/L		0.5	<0.5
2,4,6-Trichlorophenol	µg/L		0.5	<0.5
Bromoxynil	µg/L		0.44	<0.44
MCPA	ug/L		5.0	<5.0
MCPP	µg/L		5.0	<5.0
Pentachlorophenol	µg/L		0.1	<0.1
Surrogate	Unit	Acceptable Limits		
DCAA	%	50-130	66	

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

405915 Results relate only to the items tested.

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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

AGAT Western Canada - Triazine Pesticides (Water)

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-12

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION:				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
Trifluralin	µg/L		0.2	<0.2
Simazine	µg/L		0.5	<0.5
Atrazine	µg/L		0.5	<0.5
Metribuzin	µg/L		0.25	<0.25
Prometryne	µg/L		0.25	<0.25
Metolachlor	µg/L		0.11	<0.11
Alachlor	µg/L		0.5	<0.5
Cyanazine	µg/L		0.5	<0.5

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

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CLIENT NAME: MISC AGAT CLIENT AB

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SAMPLING SITE:

SAMPLED BY:

Benzo[a]pyrene Analysis in Water

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-15

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Water				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
RDL 405915				
Parameter	Unit	G / S	RDL	
Benzo[a]pyrene	mg/L		0.000007	<0.000007
Surrogate	Unit	Acceptable Limits		
2-Fluorobiphenyl (PAH)	%	50-150		112
p-Terphenyl-d14 (PAH)	%	50-150		92

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
405915 Based on GC/MS target ion analysis.
Isomers Benzo(b)fluoranthene and Benzo(j)fluoranthene have the same GC retention time and are reported as the sum based on the Benzo(b)fluoranthene response.
B[a]P TPE is a calculated parameter. It is calculated according to the Alberta Tier 1 Soil and Groundwater remediation Guidelines, May 23, 2014. Note that if the analysis returns non-detects for a parameter, ½ the detection limit is entered into the formulas.

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CLIENT NAME: MISC AGAT CLIENT AB

SAMPLING SITE:

ATTENTION TO: Ryan Melrose

SAMPLED BY:

Glyphosate in Water

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-12

Treated Water -

Summer

SAMPLE DESCRIPTION: Analysis

SAMPLE TYPE: Water

DATE SAMPLED: 2019-07-31
09:30

405915

Parameter	Unit	G / S	RDL
Glyphosate	µg/L	20	<20

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
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CLIENT NAME: MISC AGAT CLIENT AB

SAMPLING SITE:

ATTENTION TO: Ryan Melrose

SAMPLED BY:

Haloacetic Acids in Water

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-20

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Water				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
Monobromoacetic Acid	ug/L		0.5	<0.5
Monochloroacetic Acid	ug/L		0.5	3.5
Dichloroacetic Acid	ug/L		0.5	28
Dibromoacetic Acid	ug/L		0.5	0.6
Trichloroacetic Acid	ug/L		0.5	15
Haloacetic Acids (HAA5)	ug/L		2.0	47
Bromochloroacetic Acid	ug/L		0.5	2.9
Surrogate	Unit	Acceptable Limits		
2-Bromopropionic Acid	%	70-130		71

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

405915 Haloacetic Acids (HAA5) is a calculated parameter. The calculated value is the sum of Monobromoacetic Acid, Monochloroacetic Acid, Dichloroacetic Acid, Dibromoacetic Acid and Trichloroacetic Acid.

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CLIENT NAME: MISC AGAT CLIENT AB

SAMPLING SITE:

ATTENTION TO: Ryan Melrose

SAMPLED BY:

Nitritotriacetic acid in water

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-09

Treated Water -

Summer

SAMPLE DESCRIPTION: Analysis

SAMPLE TYPE: Water

DATE SAMPLED: 2019-07-31
09:30

Parameter	Unit	G / S	RDL	405915
Nitritotriacetic Acid	mg/L		0.05	<0.05

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

Analysis performed at AGAT Calgary (unless marked by *)

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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Petroleum Hydrocarbons (F2) in Water

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-13

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Analysis				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
C10 - C16 (F2)	mg/L		0.1	<0.1
Surrogate	Unit	Acceptable Limits		
o-Terphenyl (F2)	%	50-150		91

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

405915

The F1 (C6 - C10) fraction is determined by integrating the FID chromatogram from the beginning of the nC6 peak to the apex of the last nC10 peak.

The C6 - C10 fraction is calculated from the FID toluene response factor.

The F2 (C10 - C16) fraction is determined by integrating the FID chromatogram from the apex of the nC10 peak to the apex of the nC16 peak.

The F2 (C10 - C16) fraction is calculated using the average response factor for nC10, nC16, and nC34.

Quality control for the calibration follows the guidelines set out in the CCME Contaminated Sites Method for Soils.

C6 - C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

C>10 - C16 (F2- Napthalene) is a calculated parameter. The calculated value is F2 - Napthalene (if requested). The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylenes + o-Xylene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Extraction and holding times were met for this sample.

Analysis performed at AGAT Calgary (unless marked by *)

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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Total Extractable Organic Halides - Water

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-14

Treated Water -

Summer

SAMPLE DESCRIPTION: Analysis

SAMPLE TYPE: Water

DATE SAMPLED: 2019-07-31
09:30

Parameter	Unit	G / S	RDL	405915
Extractable Organic Halides	mg/L		0.2	<0.2

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard
405915 Total extractable organic halides reported as chloride.

Non-accredited test. Inquire with lab for details.

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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-09

Treated Water -

Summer

SAMPLE DESCRIPTION: Analysis

SAMPLE TYPE: Water

DATE SAMPLED: 2019-07-31
09:30

405915

Parameter	Unit	G / S	RDL	
Chloromethane	mg/L		0.001	<0.001
Vinyl Chloride	mg/L		0.0008	<0.0008
Bromomethane	mg/L		0.001	<0.001
Chloroethane	mg/L		0.001	<0.001
Trichlorofluoromethane	mg/L		0.001	<0.001
Acetone	mg/L		0.01	<0.01
1,1-Dichloroethylene	mg/L		0.001	<0.001
Methylene Chloride	mg/L		0.001	<0.001
Methyl tert-Butyl Ether	mg/L		0.001	<0.001
Methyl Ethyl Ketone	mg/L		0.01	<0.01
trans-1,2-Dichloroethylene	mg/L		0.001	<0.001
1,1-Dichloroethane	mg/L		0.001	<0.001
cis-1,2-Dichloroethylene	mg/L		0.001	<0.001
Chloroform	mg/L		0.001	0.030
1,2-Dichloroethane	mg/L		0.001	<0.001
1,1,1-Trichloroethane	mg/L		0.001	<0.001
Carbon Tetrachloride	mg/L		0.0005	<0.0005
Benzene	mg/L		0.0005	<0.0005
1,2-Dichloropropane	mg/L		0.001	<0.001
Trichloroethylene	mg/L		0.001	<0.001
Bromodichloromethane	mg/L		0.001	0.005
trans-1,3-Dichloropropene	mg/L		0.001	<0.001
Methyl Isobutyl Ketone	mg/L		0.01	<0.01
cis-1,3-Dichloropropene	mg/L		0.001	<0.001
1,1,2-Trichloroethane	mg/L		0.001	<0.001
Toluene	mg/L		0.0003	<0.0003
2-Hexanone	mg/L		0.01	<0.01

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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-09

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Water				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
Dibromochloromethane	mg/L		0.001	<0.001
Ethylene Dibromide	mg/L		0.001	<0.001
Tetrachloroethene	mg/L		0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/L		0.001	<0.001
Chlorobenzene	mg/L		0.001	<0.001
Ethylbenzene	mg/L		0.0005	<0.0005
m,p-Xylenes	mg/L		0.0005	<0.0005
Bromoform	mg/L		0.001	<0.001
Styrene	mg/L		0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/L		0.001	<0.001
o-Xylene	mg/L		0.0005	<0.0005
1,3-Dichlorobenzene	mg/L		0.0005	<0.0005
1,4-Dichlorobenzene	mg/L		0.0005	<0.0005
1,2-Dichlorobenzene	mg/L		0.0005	<0.0005
1,2,4-Trichlorobenzene	mg/L		0.001	<0.001
Total Xylenes	mg/L		0.0005	<0.0005
Surrogate	Unit	Acceptable Limits		
Toluene-d8	%	50-150	82	

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

405915 1,1,2,2-Tetrachloroethane reported only for samples matrices which can be purged. Otherwise N/A.

Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylenes + o-Xylene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Calgary (unless marked by *)

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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Metals - Dissolved - CCME with Mercury

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-12

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Water				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
Dissolved Aluminum	mg/L	(VARIABLE	0.004	0.201
Dissolved Antimony	mg/L	0.006	0.001	<0.001
Dissolved Arsenic	mg/L	0.010	0.001	<0.001
Dissolved Barium	mg/L	1.0	0.05	0.08
Dissolved Beryllium	mg/L		0.001	<0.001
Dissolved Boron	mg/L	5	0.01	0.02
Dissolved Cadmium	mg/L	0.005	0.000016	<0.000016
Dissolved Chromium	mg/L	0.05	0.001	<0.001
Dissolved Copper	mg/L	(1.0)	0.0008	0.0014
Dissolved Iron	mg/L	(0.3)	0.1	<0.1
Dissolved Lead	mg/L	0.010	0.0005	<0.0005
Dissolved Manganese	mg/L	0.05	0.005	<0.005
Dissolved Mercury	mg/L	0.001	0.000025	<0.000025
Dissolved Molybdenum	mg/L		0.001	0.001
Dissolved Nickel	mg/L		0.003	<0.003
Dissolved Selenium	mg/L	0.05	0.0005	0.0009
Dissolved Silver	mg/L		0.00005	<0.00005
Dissolved Sodium	mg/L	(200)	0.6	17.4
Dissolved Thallium	mg/L		0.0001	<0.0001
Dissolved Titanium	mg/L		0.001	0.003
Dissolved Uranium	mg/L	0.02	0.001	<0.001
Dissolved Zinc	mg/L	(5.0)	0.005	<0.005

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2019 Canadian Drinking Water Quality MAC (AO)
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

405915 < - Values refer to Report Detection Limit.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:



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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Metals - Total - CCME with Mercury

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-12

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Water				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
Total Aluminum	mg/L	(VARIABLE	0.004	0.214
Total Antimony	mg/L	0.006	0.001	<0.001
Total Arsenic	mg/L	0.010	0.001	<0.001
Total Barium	mg/L	1.0	0.05	0.08
Total Beryllium	mg/L		0.0005	<0.0005
Total Boron	mg/L	5	0.01	0.02
Total Cadmium	mg/L	0.005	0.000016	<0.000016
Total Chromium	mg/L	0.05	0.0005	<0.0005
Total Cobalt	mg/L		0.0009	<0.0009
Total Copper	mg/L	(1.0)	0.0008	0.0016
Total Iron	mg/L	(0.3)	0.1	<0.1
Total Lead	mg/L	0.010	0.0001	<0.0001
Total Manganese	mg/L	(0.05)	0.005	<0.005
Total Mercury	mg/L	0.001	0.000025	<0.000025
Total Molybdenum	mg/L		0.001	0.001
Total Nickel	mg/L		0.003	<0.003
Total Selenium	mg/L	0.05	0.0005	0.0005
Total Silver	mg/L		0.00005	<0.00005
Total Sodium	mg/L	(200)	0.6	18.2
Total Thallium	mg/L		0.0005	<0.0005
Total Titanium	mg/L		0.001	0.002
Total Uranium	mg/L	0.02	0.001	<0.001
Total Zinc	mg/L	(5.0)	0.001	0.004

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2019 Canadian Drinking Water Quality MAC (AO)
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

405915 < - Values refer to Report Detection Limit.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:



AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
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CLIENT NAME: MISC AGAT CLIENT AB

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-12

Treated Water -

Summer

SAMPLE DESCRIPTION: Analysis

SAMPLE TYPE: Water

DATE SAMPLED: 2019-07-31
09:30

405915

Parameter	Unit	G / S	RDL	405915
pH	pH Units	7.0-10.5	N/A	8.07
p - Alkalinity (as CaCO ₃)	mg/L		5	<5
T - Alkalinity (as CaCO ₃)	mg/L		5	129
Bicarbonate	mg/L		5	158
Carbonate	mg/L		5	<5
Hydroxide	mg/L		5	<5
Electrical Conductivity	uS/cm		5	418
Chloride	mg/L	(250)	1	16
Fluoride	mg/L	1.5	0.01	0.11
Nitrate	mg/L	45	0.1	0.4
Nitrate-N	mg/L	10	0.02	0.09
Nitrite	mg/L	3	0.05	<0.05
Nitrite-N	mg/L	1	0.01	<0.01
Nitrate+Nitrite - Nitrogen	mg/L		0.02	0.09
Sulfate	mg/L	(500)	1	54
Dissolved Calcium	mg/L		0.3	42.1
Dissolved Magnesium	mg/L		0.2	15.9
Dissolved Sodium	mg/L	(200)	0.6	17.4
Dissolved Potassium	mg/L		0.6	1.9
Dissolved Iron	mg/L	(0.3)	0.1	<0.1
Dissolved Manganese	mg/L	0.05	0.005	<0.005
Sodium Adsorption Ratio				0.58
Calculated TDS	mg/L		0.6	225
Hardness	mg CaCO ₃ /L		1	171
Ion Balance	%		1	101

Certified By:



AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

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CLIENT NAME: MISC AGAT CLIENT AB

SAMPLING SITE:

ATTENTION TO: Ryan Melrose

SAMPLED BY:

Routine Chemistry Water Analysis

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-12

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2019 Canadian Drinking Water Quality MAC (AO)
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

405915 < - Values refer to Report Detection Limits.

If sodium results in mg/L are less than detection, SAR is non-calculable and is reported as 0.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:



AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

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<http://www.agatlabs.com>

CLIENT NAME: MISC AGAT CLIENT AB

SAMPLING SITE:

ATTENTION TO: Ryan Melrose

SAMPLED BY:

Water Analysis - Various Inorganics

DATE RECEIVED: 2019-08-01

DATE REPORTED: 2019-08-09

Treated Water - Summer Analysis				
SAMPLE DESCRIPTION: Water				
SAMPLE TYPE: Water				
DATE SAMPLED: 2019-07-31 09:30				
Parameter	Unit	G / S	RDL	405915
Bromate	mg/L		0.01	<0.01
Chlorate	mg/L		0.1	<0.1
Chlorite	mg/L		0.1	<0.1
Colour, True	Colour Units		5	6
Ammonia, Total (as N)	mg/L		0.05	<0.05
Total Cyanide	mg/L		0.002	<0.002
Orthophosphate	mg/L		0.15	<0.15
Total Dissolved Solids	mg/L		5	205
Total Organic Carbon	mg/L		1	3
Sulfide	mg/L		0.02	<0.02
Residual Chlorine (Total)	mg/L		0.2	1.86

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

Certified By:

Quality Assurance

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date:			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

Total Extractable Organic Halides - Water

Extractable Organic Halides	271	114	<0.2	<0.2	NA	< 0.2	110%	70%	130%	118%	70%	130%	118%	50%	150%
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Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
The sample spikes and dups are not from the same sample ID.

Volatile Organic Compounds in Water

Chloromethane	2776	403216	<0.001	<0.001	0	< 0.001	61%	60%	140%	62%	60%	140%	64%	60%	140%
Vinyl Chloride	2776	403216	<0.0008	<0.0008	0	< 0.0008	79%	60%	140%	79%	60%	140%	81%	60%	140%
Bromomethane	2776	403216	<0.001	<0.001	0	< 0.001	67%	60%	140%	70%	60%	140%	70%	60%	140%
Chloroethane	2776	403216	<0.001	<0.001	0	< 0.001	66%	60%	140%	68%	60%	140%	69%	60%	140%
Trichlorofluoromethane	2776	403216	<0.001	<0.001	0	< 0.001	90%	60%	140%	87%	60%	140%	82%	60%	140%
Acetone	2776	403216	<0.01	<0.01	0	< 0.01	91%	60%	140%	100%	60%	140%	85%	60%	140%
1,1-Dichloroethylene	2776	403216	<0.001	<0.001	0	< 0.001	115%	60%	140%	114%	60%	140%	114%	60%	140%
Methylene Chloride	2776	403216	<0.001	<0.001	0	< 0.001	115%	60%	140%	112%	60%	140%	112%	60%	140%
Methyl tert-Butyl Ether	2776	403216	<0.001	<0.001	0	< 0.001	75%	60%	140%	75%	60%	140%	83%	60%	140%
Methyl Ethyl Ketone	2776	403216	<0.01	<0.01	0	< 0.01	77%	60%	140%	81%	60%	140%	77%	60%	140%
trans-1,2-Dichloroethylene	2776	403216	<0.001	<0.001	0	< 0.001	108%	60%	140%	108%	60%	140%	115%	60%	140%
1,1-Dichloroethane	2776	403216	<0.001	<0.001	0	< 0.001	131%	60%	140%	111%	60%	140%	129%	60%	140%
cis-1,2-Dichloroethylene	2776	403216	<0.001	<0.001	0	< 0.001	116%	60%	140%	119%	60%	140%	116%	60%	140%
Chloroform	2776	403216	0.011	0.011	0	< 0.001	115%	60%	140%	113%	60%	140%	111%	60%	140%
1,2-Dichloroethane	2776	403216	<0.001	<0.001	0	< 0.001	113%	60%	140%	109%	60%	140%	106%	60%	140%
1,1,1-Trichloroethane	2776	403216	<0.001	<0.001	0	< 0.001	105%	60%	140%	106%	60%	140%	103%	60%	140%
Carbon Tetrachloride	2776	403216	<0.0005	<0.0005	0	< 0.0005	102%	60%	140%	104%	60%	140%	99%	60%	140%
Benzene	2776	403216	<0.0005	<0.0005	0	< 0.0005	115%	60%	140%	114%	60%	140%	113%	60%	140%
1,2-Dichloropropane	2776	403216	<0.001	<0.001	0	< 0.001	118%	60%	140%	118%	60%	140%	119%	60%	140%
Trichloroethylene	2776	403216	<0.001	<0.001	0	< 0.001	103%	60%	140%	101%	60%	140%	101%	60%	140%
Bromodichloromethane	2776	403216	0.004	0.004	0	< 0.001	100%	60%	140%	101%	60%	140%	103%	60%	140%
trans-1,3-Dichloropropene	2776	403216	<0.001	<0.001	0	< 0.001	67%	60%	140%	66%	60%	140%	69%	60%	140%
Methyl Isobutyl Ketone	2776	403216	<0.01	<0.01	0	< 0.01	86%	60%	140%	75%	60%	140%	86%	60%	140%
cis-1,3-Dichloropropene	2776	403216	<0.001	<0.001	0	< 0.001	82%	60%	140%	75%	60%	140%	86%	60%	140%
1,1,2-Trichloroethane	2776	403216	<0.001	<0.001	0	< 0.001	97%	60%	140%	94%	60%	140%	97%	60%	140%
Toluene	2776	403216	<0.0003	<0.0003	0	< 0.0003	95%	60%	140%	97%	60%	140%	99%	60%	140%
2-Hexanone	2776	403216	<0.01	<0.01	0	< 0.01	64%	60%	140%	72%	60%	140%	72%	60%	140%
Dibromochloromethane	2776	403216	0.001	0.001	0	< 0.001	77%	60%	140%	83%	60%	140%	83%	60%	140%
Ethylene Dibromide	2776	403216	<0.001	<0.001	0	< 0.001	77%	60%	140%	79%	60%	140%	82%	60%	140%
Tetrachloroethene	2776	403216	<0.001	<0.001	0	< 0.001	87%	60%	140%	101%	60%	140%	97%	60%	140%
1,1,1,2-Tetrachloroethane	2776	403216	<0.001	<0.001	0	< 0.001	83%	60%	140%	85%	60%	140%	86%	60%	140%
Chlorobenzene	2776	403216	<0.001	<0.001	0	< 0.001	92%	60%	140%	94%	60%	140%	95%	60%	140%
Ethylbenzene	2776	403216	<0.0005	<0.0005	0	< 0.0005	76%	60%	140%	89%	60%	140%	91%	60%	140%
m,p-Xylenes	2776	403216	<0.0005	<0.0005	0	< 0.0005	117%	60%	140%	123%	60%	140%	124%	60%	140%

Quality Assurance

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date:			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
Bromoform	2776	403216	<0.001	<0.001	0	< 0.001	78%	60%	140%	81%	60%	140%	82%	60%	140%
Styrene	2776	403216	<0.001	<0.001	0	< 0.001	64%	60%	140%	83%	60%	140%	84%	60%	140%
1,1,2,2-Tetrachloroethane	2776	403216	<0.0005	<0.0005	0	< 0.001	103%	60%	140%	96%	60%	140%	97%	60%	140%
o-Xylene	2776	403216	<0.0005	<0.0005	0	< 0.0005	97%	60%	140%	99%	60%	140%	100%	60%	140%
1,3-Dichlorobenzene	2776	403216	<0.0005	<0.0005	0	< 0.0005	97%	60%	140%	95%	60%	140%	95%	60%	140%
1,4-Dichlorobenzene	2776	403216	<0.0005	<0.0005	0	< 0.0005	88%	60%	140%	90%	60%	140%	91%	60%	140%
1,2-Dichlorobenzene	2776	403216	<0.0005	<0.0005	0	< 0.0005	84%	60%	140%	89%	60%	140%	90%	60%	140%
1,2,4-Trichlorobenzene	2776	403216	<0.001	<0.001	0	< 0.001	55%	60%	140%	72%	60%	140%	75%	60%	140%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
The sample spikes and dups are not from the same sample ID.

Nitritotriacetic acid in water

Nitritotriacetic Acid	127	405915	<0.05	<0.05	NA	< 0.05	102%	80%	120%	98%	70%	130%	99%	50%	150%
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Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
The sample spikes and dups are not from the same sample ID.

Glyphosate in Water

Glyphosate	620	405915	< 20	< 20	NA	< 20	119%	80%	120%	122%	70%	130%	128%	60%	140%
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Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
The sample spikes and dups are not from the same sample ID.

Benzo[a]pyrene Analysis in Water

Benzo[a]pyrene	553	427844	< 0.000007	< 0.000007	NA	< 0.000007	121%	70%	130%	125%	70%	130%	117%	70%	130%
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Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
The sample spikes and dups are not from the same sample ID.

Petroleum Hydrocarbons (F2) in Water

C10 - C16 (F2)	287	410439	<0.1	<0.1	NA	< 0.1	100%	80%	120%	92%	80%	120%	97%	70%	130%
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Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
The sample spikes and dups are not from the same sample ID.

AGAT Western Canada - OC Pesticides (Water)

Aldrin	TW	< 0.01	< 0.01	NA	< 0.01	90%	50%	140%	91%	50%	140%	85%	50%	140%
Gamma-Hexachlorocyclohexane	TW	< 0.01	< 0.01	NA	< 0.01	90%	50%	140%	88%	50%	140%	90%	50%	140%
alpha-BHC	TW	< 0.05	< 0.05	NA	< 0.05	89%	60%	140%	91%	50%	140%	88%	60%	140%
Chlordane	TW	< 0.04	< 0.04	NA	< 0.04	91%	50%	140%	92%	50%	140%	92%	50%	140%
DDD	TW	< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	89%	50%	140%	80%	50%	140%
DDE (Total)	TW	< 0.05	< 0.05	NA	< 0.05	95%	60%	140%	87%	50%	140%	86%	60%	140%
DDT	TW	< 0.04	< 0.04	NA	< 0.04	104%	50%	140%	86%	50%	140%	82%	50%	140%
Endosulfan	TW	< 0.003	< 0.003	NA	< 0.003	98%	50%	140%	82%	50%	140%	86%	50%	140%
Dieldrin	TW	< 0.02	< 0.02	NA	< 0.02	94%	50%	140%	85%	50%	140%	87%	50%	140%

Quality Assurance

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date:			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
Endrin		TW	< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	92%	50%	140%	80%	50%	140%
Heptachlor		TW	< 0.01	< 0.01	NA	< 0.01	107%	50%	140%	95%	50%	140%	85%	50%	140%
Heptachlor Epoxide		TW	< 0.01	< 0.01	NA	< 0.01	98%	50%	140%	90%	50%	140%	83%	50%	140%
Methoxychlor		TW	< 0.03	< 0.03	NA	< 0.03	106%	50%	140%	97%	50%	140%	88%	50%	140%
Hexachlorobenzene		TW	< 0.01	< 0.01	NA	< 0.01	103%	50%	140%	100%	50%	140%	84%	50%	140%

AGAT Western Canada - Phenoxy Acid Herbicides (Water)

2,4-D		TW	< 0.5	< 0.5	NA	< 0.5	100%	60%	130%	98%	60%	130%	100%	60%	130%
2,4,5-T		TW	< 0.5	< 0.5	NA	< 0.5	90%	60%	140%	90%	60%	130%	92%	30%	150%
2,4,5-TP		TW	< 0.5	< 0.5	NA	< 0.5	92%	60%	130%	85%	60%	130%	70%	60%	130%
Dicamba		TW	< 0.008	< 0.008	NA	< 0.008	97%	60%	130%	86%	60%	130%	76%	60%	130%
Dichlorprop		TW	< 0.5	< 0.5	NA	< 0.5	102%	60%	130%	90%	60%	130%	80%	60%	130%
Dinoseb		TW	< 0.05	< 0.05	NA	< 0.05	75%	60%	130%	65%	60%	130%	63%	60%	130%
Picloram		TW	< 0.5	< 0.5	NA	< 0.5	103%	60%	130%	80%	60%	130%	64%	60%	130%
Diclofop-methyl		TW	< 0.24	< 0.24	NA	< 0.24	105%	60%	130%	101%	60%	130%	95%	60%	130%
2,3,4,6-Tetrachlorophenol		TW	< 0.5	< 0.5	NA	< 0.5	117%	60%	140%	101%	60%	140%	97%	60%	140%
2,4-Dichlorophenol		TW	< 0.2	< 0.2	NA	< 0.2	99%	50%	140%	90%	50%	140%	74%	50%	140%
2,4,5-Trichlorophenol		TW	< 0.5	< 0.5	NA	< 0.5	90%	50%	140%	85%	50%	140%	70%	50%	140%
2,4,6-Trichlorophenol		TW	< 0.5	< 0.5	NA	< 0.5	111%	60%	140%	101%	60%	140%	97%	60%	140%
Bromoxynil		TW	< 0.44	< 0.44	NA	< 0.44	98%	60%	130%	95%	60%	130%	94%	60%	130%
MCPA		TW	< 5.0	< 5.0	NA	< 5.0	NA	60%	140%	100%	60%	140%	80%	60%	140%
MCPP		TW	< 5.0	< 5.0	NA	< 5.0	NA	60%	140%	98%	60%	130%	90%	30%	140%
Pentachlorophenol		TW	< 0.1	< 0.1	NA	< 0.1	94%	60%	130%	90%	60%	130%	80%	60%	130%

AGAT Western Canada - Triazine Pesticides (Water)

Trifluralin		TW	< 0.2	< 0.2	NA	< 0.2	93%	50%	130%	109%	50%	130%	89%	50%	130%
Simazine		TW	< 0.5	< 0.5	NA	< 0.5	111%	50%	130%	100%	50%	130%	89%	50%	130%
Atrazine		TW	< 0.5	< 0.5	NA	< 0.5	105%	50%	130%	105%	50%	130%	93%	50%	130%
Metribuzin		TW	< 0.25	< 0.25	NA	< 0.25	113%	50%	130%	103%	50%	130%	103%	50%	130%
Prometryne		TW	< 0.25	< 0.25	NA	< 0.25	106%	50%	130%	112%	50%	130%	105%	50%	130%
Metolachlor		TW	< 0.11	< 0.11	NA	< 0.11	112%	50%	130%	110%	50%	130%	103%	50%	130%
Alachlor		TW	< 0.5	< 0.5	NA	< 0.5	107%	50%	130%	111%	50%	130%	102%	50%	130%
Cyanazine		TW	< 0.5	< 0.5	NA	< 0.5	114%	50%	130%	118%	50%	130%	111%	50%	130%

AGAT Western Canada - OP Pesticides (Water)

Phorate		TW	< 0.5	< 0.5	NA	< 0.5	99%	60%	140%	112%	60%	140%	114%	60%	140%
Dimethoate		TW	< 2.5	< 2.5	NA	< 2.5	90%	60%	140%	103%	60%	140%	91%	60%	140%
Terbufos		TW	< 0.5	< 0.5	NA	< 0.5	92%	60%	140%	117%	60%	140%	119%	60%	140%
Diazinon		TW	< 0.17	< 0.17	NA	< 0.17	84%	60%	140%	118%	60%	140%	115%	60%	140%
Malathion		TW	< 0.1	< 0.1	NA	< 0.1	90%	60%	140%	118%	60%	140%	116%	60%	140%
Chlorpyrifos		TW	< 0.002	< 0.002	NA	< 0.002	95%	60%	140%	116%	60%	140%	114%	60%	140%

Quality Assurance

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date:			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
Parathion		TW	< 0.013	< 0.013	NA	< 0.013	115%	60%	140%	103%	60%	140%	111%	60%	140%
Azinphos-methyl		TW	< 0.01	< 0.01	NA	< 0.01	103%	60%	140%	86%	60%	140%	108%	60%	140%
AGAT Western Canada - Carbamate Pesticides (Water)															
Aldicarb		TW	< 0.7	< 0.7	NA	< 0.7	100%	60%	140%	95%	60%	140%	98%	60%	140%
Bendiocarb		TW	< 2	< 2	NA	< 2	93%	60%	140%	104%	60%	140%	104%	60%	140%
Carbofuran		TW	< 1.8	< 1.8	NA	< 1.8	93%	60%	140%	104%	60%	140%	104%	60%	140%
Carbaryl		TW	< 0.2	< 0.2	NA	< 0.2	90%	60%	140%	96%	60%	140%	98%	60%	140%
Diuron		TW	< 10	< 10	NA	< 10	105%	60%	140%	98%	60%	140%	101%	60%	140%
Triallate		TW	< 0.24	< 0.24	NA	< 0.24	108%	60%	140%	83%	60%	140%	82%	60%	140%
Temephos		TW	< 10	< 10	NA	< 10	101%	60%	140%	92%	60%	140%	92%	60%	140%
Haloacetic Acids in Water															
Monobromoacetic Acid	437155		< 0.5	< 0.5	NA	< 0.5	85%	70%	130%	79%	60%	130%	79%	70%	130%
Monochloroacetic Acid	437155		< 0.5	< 0.5	NA	< 0.5	102%	70%	130%	65%	60%	130%	70%	70%	130%
Dichloroacetic Acid	437155		30	30	0.0%	< 0.5	113%	70%	130%	102%	60%	130%	107%	70%	130%
Dibromoacetic Acid	437155		1.3	1.2	NA	< 0.5	91%	70%	130%	95%	60%	130%	77%	70%	130%
Trichloroacetic Acid	437155		14	14	0.0%	< 0.5	94%	70%	130%	96%	60%	130%	101%	70%	130%
Bromochloroacetic Acid	437155		3.3	3.7	11.4%	< 0.5	92%	90%	110%	101%	70%	130%	112%	70%	130%

Comments: 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).

Certified By:


Quality Assurance

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Water Analysis															
RPT Date:			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

Routine Chemistry Water Analysis

pH	400284		7.70	7.71	0.1%	N/A	100%	90%	110%						
T - Alkalinity (as CaCO ₃)	400284		738	752	1.9%	< 5	94%	80%	120%						
Electrical Conductivity	400284		2490	2480	0.4%	< 5	108%	80%	120%						
Chloride	403237		48	48	0.0%	< 1	96%	80%	120%	92%	80%	120%	NA	80%	120%
Fluoride	403237		<0.06	<0.06	NA	< 0.01	97%	80%	120%	103%	80%	120%	109%	80%	120%
Nitrate	403237		155	155	0.0%	< 0.1	100%	80%	120%	99%	80%	120%	NA	80%	120%
Nitrite	403237		<0.20	<0.20	NA	< 0.05	98%	80%	120%	96%	80%	120%	96%	80%	120%
Sulfate	403237		21	21	0.0%	< 1	98%	80%	120%	96%	80%	120%	97%	80%	120%
Dissolved Calcium	403425		<0.3	<0.3	NA	< 0.3	108%	80%	120%	104%	80%	120%	103%	80%	120%
Dissolved Magnesium	403425		<0.2	<0.2	NA	< 0.2	99%	80%	120%	102%	80%	120%	94%	80%	120%
Dissolved Sodium	403425		0.9	0.9	NA	< 0.6	98%	80%	120%	97%	80%	120%	94%	80%	120%
Dissolved Potassium	403425		<0.6	<0.6	NA	< 0.6	97%	80%	120%	97%	80%	120%	91%	80%	120%
Dissolved Iron	403425		<0.1	<0.1	NA	< 0.1	106%	80%	120%	103%	80%	120%	100%	80%	120%
Dissolved Manganese	403425		<0.005	<0.005	NA	< 0.005	104%	80%	120%	105%	80%	120%	100%	80%	120%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.

If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

pH has been analyzed past the recommended holding time of 15 minutes from sampling (field measurement ideal if more accurate data required)

Nitrate and Nitrite: The regulatory hold time for the analysis of nitrate and/or nitrite in water is 72 hours.

Metals - Dissolved - CCME with Mercury

Dissolved Aluminum	405915	405915	0.201	0.200	0.5%	< 0.004	113%	80%	120%	107%	80%	120%	114%	80%	120%
Dissolved Antimony	405915	405915	<0.001	<0.001	NA	< 0.001	103%	80%	120%	99%	80%	120%	106%	80%	120%
Dissolved Arsenic	405915	405915	<0.001	<0.001	NA	< 0.001	98%	80%	120%	96%	80%	120%	103%	80%	120%
Dissolved Barium	405915	405915	0.08	0.08	NA	< 0.05	102%	80%	120%	97%	80%	120%	100%	80%	120%
Dissolved Beryllium	405915	405915	<0.001	<0.001	NA	< 0.001	94%	80%	120%	97%	80%	120%	86%	80%	120%
Dissolved Boron	405915	405915	0.02	0.02	NA	< 0.01	106%	80%	120%	94%	80%	120%	105%	80%	120%
Dissolved Cadmium	405915	405915	<0.	<0.	NA	< 0.000016	97%	80%	120%	98%	80%	120%	101%	80%	120%
Dissolved Chromium	405915	405915	<0.001	<0.001	NA	< 0.001	95%	80%	120%	97%	80%	120%	100%	80%	120%
Dissolved Copper	405915	405915	0.0014	0.0014	NA	< 0.0008	100%	80%	120%	96%	80%	120%	96%	80%	120%
Dissolved Iron	403425		<0.1	<0.1	NA	< 0.1	106%	80%	120%	103%	80%	120%	100%	80%	120%
Dissolved Lead	405915	405915	<0.0005	<0.0005	NA	< 0.0005	103%	80%	120%	103%	80%	120%	103%	80%	120%
Dissolved Manganese	403425		<0.005	<0.005	NA	< 0.005	104%	80%	120%	105%	80%	120%	100%	80%	120%
Dissolved Mercury	405915	405915	<0.	<0.	NA	< 0.000025	107%	90%	110%	105%	90%	110%	115%	80%	120%
Dissolved Molybdenum	405915	405915	0.001	0.001	NA	< 0.001	99%	80%	120%	101%	80%	120%	103%	80%	120%
Dissolved Nickel	405915	405915	<0.003	<0.003	NA	< 0.003	96%	80%	120%	96%	80%	120%	97%	80%	120%
Dissolved Selenium	405915	405915	0.0009	0.0008	NA	< 0.0005	94%	80%	120%	106%	80%	120%	100%	80%	120%
Dissolved Silver	405915	405915	0.00021	0.00011	NA	< 0.00005	88%	80%	120%	90%	80%	120%	88%	80%	120%
Dissolved Sodium	403425		0.9	0.9	NA	< 0.6	98%	80%	120%	97%	80%	120%	94%	80%	120%
Dissolved Thallium	405915	405915	<0.0001	<0.0001	NA	< 0.0001	98%	80%	120%	99%	80%	120%	98%	80%	120%

Quality Assurance

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

RPT Date:			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
Dissolved Titanium	405915	405915	0.003	0.003	NA	< 0.001	106%	80%	120%	102%	80%	120%	106%	80%	120%
Dissolved Uranium	405915	405915	<0.001	<0.001	NA	< 0.001	98%	80%	120%	101%	80%	120%	100%	80%	120%
Dissolved Zinc	405915	405915	<0.005	<0.005	NA	< 0.004	93%	80%	120%	93%	80%	120%	94%	80%	120%

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

Metals - Total - CCME with Mercury

Total Aluminum	360618		0.113	0.109	4.2%	< 0.004	113%	80%	120%	120%	80%	120%	NA	80%	120%
Total Antimony	360618		<0.001	<0.001	NA	< 0.001	103%	80%	120%	106%	80%	120%	108%	80%	120%
Total Arsenic	360618		<0.001	<0.001	NA	< 0.001	98%	80%	120%	98%	80%	120%	103%	80%	120%
Total Barium	360618		0.19	0.19	NA	< 0.05	102%	80%	120%	107%	80%	120%	97%	80%	120%
Total Beryllium	360618		<0.0005	<0.0005	NA	< 0.0005	94%	80%	120%	108%	80%	120%	104%	80%	120%
Total Boron	360618		0.04	0.04	NA	< 0.01	106%	80%	120%	118%	80%	120%	106%	80%	120%
Total Cadmium	360618		<0.	<0.	NA	< 0.000016	97%	80%	120%	100%	80%	120%	100%	80%	120%
Total Chromium	360618		<0.0005	<0.0005	NA	< 0.0005	95%	80%	120%	99%	80%	120%	101%	80%	120%
Total Cobalt	360618		<0.0009	<0.0009	NA	< 0.0009	96%	80%	120%	100%	80%	120%	102%	80%	120%
Total Copper	360618		<0.0008	<0.0008	NA	< 0.0008	100%	80%	120%	98%	80%	120%	98%	80%	120%
Total Iron	360618		<0.1	<0.1	NA	< 0.1	104%	80%	120%	108%	80%	120%	120%	80%	120%
Total Lead	360618		0.0003	<0.0001	NA	< 0.0001	103%	80%	120%	106%	80%	120%	107%	80%	120%
Total Manganese	360618		0.010	0.010	NA	< 0.005	107%	80%	120%	113%	80%	120%	119%	80%	120%
Total Mercury	405915	405915	<0.	<0.	NA	< 0.000025	98%	90%	110%	106%	90%	110%	118%	80%	120%
Total Molybdenum	360618		0.002	0.002	NA	< 0.001	99%	80%	120%	101%	80%	120%	104%	80%	120%
Total Nickel	360618		<0.003	<0.003	NA	< 0.003	96%	80%	120%	98%	80%	120%	101%	80%	120%
Total Selenium	360618		0.0008	0.0009	NA	< 0.0005	94%	80%	120%	98%	80%	120%	98%	80%	120%
Total Silver	360618		0.00022	0.00010	NA	< 0.00005	88%	80%	120%	82%	80%	120%	83%	80%	120%
Total Sodium	360618		40.3	40.7	1.0%	< 0.6	96%	80%	120%	102%	80%	120%	NA	80%	120%
Total Thallium	360618		<0.0005	<0.0005	NA	< 0.0005	98%	80%	120%	100%	80%	120%	102%	80%	120%
Total Titanium	360618		0.002	0.002	NA	< 0.001	106%	80%	120%	103%	80%	120%	104%	80%	120%
Total Uranium	360618		<0.001	<0.001	NA	< 0.001	98%	80%	120%	103%	80%	120%	103%	80%	120%
Total Zinc	360618		0.001	0.002	NA	< 0.001	93%	80%	120%	95%	80%	120%	94%	80%	120%

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

Water Analysis - Various Inorganics

Bromate	393213		<0.01	<0.01	NA	< 0.01	97%	80%	120%	99%	80%	120%	86%	80%	120%
Chlorate	393213		<0.1	<0.1	NA	< 0.1	96%	80%	120%	100%	80%	120%	114%	80%	120%
Chlorite	393213		<0.1	<0.1	NA	< 0.1	103%	80%	120%	104%	80%	120%	103%	80%	120%
Colour, True	394	405915	6	5	NA	< 5									

Quality Assurance

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

RPT Date:			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
Ammonia, Total (as N)	398667		0.26	0.26	3.5%	< 0.05	106%	80%	120%	107%	80%	120%	NA	80%	120%
Total Cyanide	407552		<0.002	<0.002	NA	< 0.002	91%	80%	120%	101%	80%	120%	NA	80%	120%
Orthophosphate	405915	405915	<0.15	<0.15	NA	< 0.15	103%	80%	120%	94%	80%	120%	97%	80%	120%
Total Dissolved Solids	405915	405915	205	205	0.0%	< 5	105%	80%	120%						
Total Organic Carbon	403426		<1	<1	NA	< 1	116%	80%	120%	100%	80%	120%	106%	80%	120%
Sulfide	405915	405915	<0.02	<0.02	NA	< 0.02	90%	80%	120%	102%	80%	120%	98%	80%	120%
Residual Chlorine (Total)	863	915	1.86	1.82	2.2%	< 0.2	97%	80%	120%	109%	80%	120%	94%	80%	120%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Certified By:


QA Violation

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

RPT Date:				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE	
PARAMETER	Sample Id	Sample Description	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
				Lower	Upper		Lower	Upper		Lower	Upper
Volatile Organic Compounds in Water											
1,2,4-Trichlorobenzene	403216	Treated Water - Summer Analysis	55%	60%	140%	72%	60%	140%	75%	60%	140%

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.
The sample spikes and dups are not from the same sample ID.

Method Summary

CLIENT NAME: MISC AGAT CLIENT AB

PROJECT: Summer Analysis 2019

SAMPLING SITE:
AGAT WORK ORDER: 19C500766

ATTENTION TO: Ryan Melrose

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Aldicarb	ORG-91-5101	EPA 632 531.1 & MOE E3158	HPLC
Bendiocarb	ORG-91-5101	EPA 632 531.1 & MOE E3158	HPLC
Carbofuran	ORG-91-5101	EPA 632 531.1 & MOE E3158	HPLC
Carbaryl	ORG-91-5101	EPA 632 531.1 & MOE E3158	HPLC
Diuron	ORG-91-5101	EPA 632 531.1 & MOE E3158	HPLC
Triallate	ORG-91-5101	EPA 632 531.1 & MOE E3158	HPLC
Temephos	ORG-91-5101	EPA 632 531.1 & MOE E3158	HPLC
Aldrin	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Gamma-Hexachlorocyclohexane	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
alpha-BHC	ORG 5007	EPA SW-846 8081A & 8082	GC/ECD
Chlordane	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
DDD	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
DDE (Total)	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
DDT	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Endosulfan	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Dieldrin	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Endrin	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Heptachlor	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Heptachlor Epoxide	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Methoxychlor	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Hexachlorobenzene	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
TCMX	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Decachlorobiphenyl	ORG-91-5112	EPA SW-846 3510 & 8081	GC/ECD
Phorate	ORG-91-5103	EPA SW-846 3510C & 8270 & 8141A	GC/MS
Dimethoate	ORG-91-5103	EPA SW-846 3510C & 8270 & 8141A	GC/MS
Terbufos	ORG-91-5103	EPA SW-846 3510C & 8270 & 8141A	GC/MS
Diazinon	ORG-91-5103	EPA SW-846 3510C & 8270 & 8141A	GC/MS
Malathion	ORG-91-5103	EPA SW-846 3510C & 8270 & 8141A	GC/MS
Chlorpyrifos	ORG-91-5103	EPA SW-846 3510C & 8270 & 8141A	GC/MS
Parathion	ORG-91-5103	EPA SW-846 3510C & 8270 & 8141A	GC/MS
Azinphos-methyl	ORG-91-5103	EPA SW-846 3510C & 8270 & 8141A	GC/MS
2,4-D	ORG-91-5110	EPA SW-846 8151A	GC/ECD
2,4,5-T	ORG-91-5110	EPA SW-846 8151A	GC/ECD
2,4,5-TP	ORG-91-5110	EPA SW-846 8151A	GC/ECD
Dicamba	ORG-91-5110	EPA SW-846 8151A	GC/ECD
Dichlorprop	ORG-91-5110	EPA SW-846 8151A	GC/ECD
Dinoseb	ORG-91-5110	EPA SW-846 8151A	GC/ECD
Picloram	ORG-91-5110	EPA SW-846 8151A	GC/ECD
Diclofop-methyl	ORG-91-5110	EPA SW-846 8151A	GC/ECD
2,3,4,6-Tetrachlorophenol	ORG-91-5110	EPA SW-846 8151A	GC/ECD
2,4-Dichlorophenol	ORG-91-5110	EPA SW-846 8151A	GC/ECD
2,4,5-Trichlorophenol	ORG-91-5100	EPA SW-846 8151A	GC/ECD
2,4,6-Trichlorophenol	ORG-91-5110	EPA SW-846 8151A	GC/ECD
Bromoxynil	ORG-91-5110	EPA SW-846 8151A	GC/ECD
MCPA	ORG-91-5110	EPA SW-846 8151A	GC/ECD
MCPP	ORG-91-5110	EPA SW-846 8151A	GC/ECD
Pentachlorophenol	ORG-91-5110	EPA SW-846 8151A	GC/ECD
DCAA	ORG-91-5110	EPA SW-846 8151	GC/ECD

Method Summary

CLIENT NAME: MISC AGAT CLIENT AB

PROJECT: Summer Analysis 2019

SAMPLING SITE:
AGAT WORK ORDER: 19C500766

ATTENTION TO: Ryan Melrose

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trifluralin	ORG-91-5104	EPA SW-846 3510 & 8270 & MOE E3121	GC/MS
Simazine	ORG-91-5104	EPA SW-846 3510 & 8270 & MOE E3121	GC/MS
Atrazine	ORG-91-5104	EPA SW-846 3510 & 8270 & MOE E3121	GC/MS
Metribuzin	ORG-91-5104	EPA SW-846 3510 & 8270 & MOE E3121	GC/MS
Prometryne	ORG-91-5104	EPA SW-846 3510 & 8270 & MOE E3121	GC/MS
Metolachlor	ORG-91-5104	EPA SW-846 3510 & 8270 & MOE E3121	GC/MS
Alachlor	ORG-91-5104	EPA SW-846 3510 & 8270 & MOE E3121	GC/MS
Cyanazine	ORG-91-5104	EPA SW-846 3510 & 8270 & MOE E3121	GC/MS
Benzo[a]pyrene	TO 0200	EPA 8270-W	GC/MS
2-Fluorobiphenyl (PAH)	TO 0200	EPA 8270	GC/MS
p-Terphenyl-d14 (PAH)	TO 0200	EPA 8270	GC/MS
Glyphosate	TO-1320	OSHA Method # PV2067	HPLC
Monobromoacetic Acid	ORG-91-5121	EPA 552.3	GC ECD
Monochloroacetic Acid	ORG-91-5121	EPA 552.3	GC ECD
Dichloroacetic Acid	ORG-91-5121	EPA 552.3	GC ECD
Dibromoacetic Acid	ORG-91-5121	EPA 552.3	GC ECD
Trichloroacetic Acid	ORG-91-5121	EPA 552.3	GC ECD
Haloacetic Acids (HAA5)	ORG-91-5121	EPA 552.3	GC ECD
Bromochloroacetic Acid	ORG-91-5121	EPA 552.3	GC/ECD
2-Bromopropionic Acid	ORG-91-5121	EPA 552.3	GC/ECD
Nitrilotriacetic Acid	TO-3503	"In house" developed method	HPLC
C10 - C16 (F2)	TO 0511	EPA SW-846 3511, CCME Tier 1 Method-W	GC/FID
o-Terphenyl (F2)	TO 0511	EPA SW-846 3511, CCME Tier 1 Method-W	GC/FID
Extractable Organic Halides	TO-3504	"In house" method	IC/EC
Chloromethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Vinyl Chloride	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Bromomethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Chloroethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Trichlorofluoromethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Acetone	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,1-Dichloroethylene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Methylene Chloride	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Methyl tert-Butyl Ether	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Methyl Ethyl Ketone	TO-0330	EPA SW-846 5030 & 8260	GC/MS
trans-1,2-Dichloroethylene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,1-Dichloroethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
cis-1,2-Dichloroethylene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Chloroform	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,2-Dichloroethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,1,1-Trichloroethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Carbon Tetrachloride	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Benzene	TO-0330	EPA SW-846 5030 & 8260	GC/MS

Method Summary

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

SAMPLING SITE:
SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
1,2-Dichloropropane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Trichloroethylene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Bromodichloromethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
trans-1,3-Dichloropropene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Methyl Isobutyl Ketone	TO-0330	EPA SW-846 5030 & 8260	GC/MS
cis-1,3-Dichloropropene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,1,2-Trichloroethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Toluene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
2-Hexanone	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Dibromochloromethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Ethylene Dibromide	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Tetrachloroethene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,1,1,2-Tetrachloroethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Chlorobenzene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Ethylbenzene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
m,p-Xylenes	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Bromoform	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Styrene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,1,2,2-Tetrachloroethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
o-Xylene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,3-Dichlorobenzene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,4-Dichlorobenzene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,2-Dichlorobenzene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
1,2,4-Trichlorobenzene	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Total Xylenes	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Toluene-d8	TO-0330	EPA SW-846 5030 & 8260	GC/MS

Method Summary

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AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

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SAMPLING SITE:
SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Aluminum	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Antimony	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Arsenic	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Barium	INST 0141	SM 3125 B DW	ICP-MS
Dissolved Beryllium	INST 0141	SM 3125 B	ICP-MS
Dissolved Boron	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Cadmium	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Chromium	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Copper	INST 0141	SM 3125 B DW	ICP-MS
Dissolved Iron	INST 0140	SM 3120 B DW	ICP/OES
Dissolved Lead	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Manganese	INST 0140	SM 3120 B DW	ICP/OES
Dissolved Mercury	INST 0160	SM 3112 B DW	CV/AA
Dissolved Molybdenum		SM 3125 B	ICP-MS
Dissolved Nickel	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Selenium	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Silver	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Sodium	INST 0140	SM 3120 B DW	ICP/OES
Dissolved Thallium	INST 0141	SM 3125 B DW	ICP-MS
Dissolved Titanium	INST 0141	SM 3125 B	ICP-MS
Dissolved Uranium	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Zinc	INST 0141	SM 3125 B DW	ICP/MS
Total Aluminum	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Antimony	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Arsenic	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Barium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Beryllium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Boron	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Cadmium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Chromium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Cobalt	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Copper	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Iron	WATR 0200; INST 0140	SM 3030 E; SM 3120 B TW	ICP/OES
Total Lead	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Manganese	WATR 0200; INST 0140	SM 3030 E; SM 3120 B TW	ICP/OES
Total Mercury	WATR 0200; INST 0160	SM 3030 E; SM 3112 B TW	CV/AA
Total Molybdenum	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Nickel	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Selenium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Silver	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Sodium	WATR 0200; INST 0140	SM 3030 E; SM 3120 B TW	ICP/OES
Total Thallium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Titanium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Uranium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Zinc	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
pH	INST 0101, INST 0104	SM 4500 H+	PH METER
p - Alkalinity (as CaCO ₃)	INST 0101	SM 2320 B	TITRATION
T - Alkalinity (as CaCO ₃)	INST 0101	SM 2320 B	TITRATION
Bicarbonate	INST 0101	SM 2320 B	PC TITRATE

Method Summary

CLIENT NAME: MISC AGAT CLIENT AB

AGAT WORK ORDER: 19C500766

PROJECT: Summer Analysis 2019

ATTENTION TO: Ryan Melrose

SAMPLING SITE:
SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Carbonate	INST 0101	SM 2320 B	PC TITRATE
Hydroxide	INST 0101	SM 2320 B	PC TITRATE
Electrical Conductivity	INST 0101, INST 0120	SM 2510 B	CONDUCTIVITY METER
Chloride	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Fluoride	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate-N	INST 0150	SM 4110 B	CALCULATION
Nitrite	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrite-N	INST 0150	SM 4110 B	CALCULATION
Nitrate+Nitrite - Nitrogen	INST 0150	SM 4110 B	CALCULATION
Sulfate	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Dissolved Calcium	INST 0140	SM 3120 B	ICP/OES
Dissolved Magnesium	INST 0140	SM 3120 B	ICP/OES
Dissolved Sodium	INST 0140	SM 3120 B	ICP/OES
Dissolved Potassium	INST 0140	SM 3120 B	ICP/OES
Dissolved Iron	INST 0140	SM 3120 B	ICP/OES
Dissolved Manganese	INST 0140	SM 3120 B	ICP/OES
Sodium Adsorption Ratio		CARTER & GREGORICH 2007	CALCULATION
Calculated TDS		SM 1030E	CALCULATION
Hardness		SM 2340 B	CALCULATION
Ion Balance		SM 1030E	CALCULATION
Bromate	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Chlorate	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Chlorite	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Colour, True	WATR 0710	SM 2120 C	VISUAL
Ammonia, Total (as N)	INST 0420	SM 4500-NH3 G W	DISCRETE ANALYZER
Total Cyanide	INST 0310	EPA 335.3	CONTINUOUS FLOW ANALYZER
Orthophosphate	INST 0410	SM 4500P	DISCRETE ANALYZER
Total Dissolved Solids	WATR 0610	SM 2540 C	GRAVIMETRIC
Total Organic Carbon	INST 0170	SM 5310 B	COMBUSTION
Sulfide	WATR 0100	SM 4500 S2- D	SPECTROPHOTOMETER
Residual Chlorine (Total)	WATR 0700	SM 4500 Cl- B	TITRATION



webearth.agatlabs.com

Date and Time:

1905076x

Emergency Support Services Hotline 1-855-AGAT 245 (1-855-242-8245)

Standing Offer #:

☐ Acute

HOLD FOR 30 DAYS AFTER ANALYSIS (Additional Fee)

SEE BACK FOR
SURCHARGE
BREAKDOWN.
CONTACT YOUR CPM
FOR ADDITIONAL
INFORMATION

Date Revised: May 10,
Page 33 of 34



RECEIVING BASICS - Shipping

Company/Consultant: Norwell Petal - Serv.
Courier: PURVISATRE Prepaid Collect
Waybill# 331922046533
Branch: EDM GP FN FM RD VAN LYD FSJ EST Other: 0
If multiple sites were submitted at once: Yes No
Custody Seal Intact: Yes No NA
TAT: <24hr 24-48hr 48-72hr Reg Other _____
Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry: ASAP

Hydrocarbons: Earliest Expiry NA

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken: _____

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack Bagged Ice Free Ice Free Water None

Temperature (Bottles/Jars only) N/A if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) 16 + 16 + 16 = 16 °C 2 (Bottle/Jar) _____ + _____ + _____ = _____ °C
3 (Bottle/Jar) _____ + _____ + _____ = _____ °C 4 (Bottle/Jar) _____ + _____ + _____ = _____ °C
5 (Bottle/Jar) _____ + _____ + _____ = _____ °C 6 (Bottle/Jar) _____ + _____ + _____ = _____ °C
7 (Bottle/Jar) _____ + _____ + _____ = _____ °C 8 (Bottle/Jar) _____ + _____ + _____ = _____ °C
9 (Bottle/Jar) _____ + _____ + _____ = _____ °C 10 (Bottle/Jar) _____ + _____ + _____ = _____ °C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 19000726

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other: _____

Account Project Manager: _____ have they been notified of the above issues: Yes No

Whom spoken to: _____ Date/Time: _____

CPM Initial _____

General Comments: _____

* Subcontracted Analysis (See CPM)