AGAT Laboratories

11 Morris Drive, Unit 122
Dartmouth, Nova Scotia
CANADA B3B 1M2
TEL (902)468-8718
FAX (902)468-8924
http://www.agatlabs.com

CLIENT NAME: REGION OF QUEENS MUNICIPALITY
345 ROY TURNER ROAD
LIVERPOOL, NS B0T1K0
(902) 354-3455
ATTENTION TO: ADAM GRANT
PROJECT: 2008-060843-02
AGAT WORK ORDER: 23X077567
TRACE ORGANICS REVIEWED BY: Dylan McCarthy, Trace Organics Lab Technician
WATER ANALYSIS REVIEWED BY: Kaliegh Cullen, Report Writer
DATE REPORTED: Oct 19, 2023
PAGES (INCLUDING COVER): 14
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (902) 468-8718

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
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- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
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- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*
- *For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.*

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Certificate of Analysis

AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

Haloacetic Acids (water)

DATE RECEIVED: 2023-10-05

DATE REPORTED: 2023-10-19

SAMPLE DESCRIPTION:				WORKS DEPT	SOUTH QUEENS WTF	OLD COBB BARN RD	SCHOOL ST SAMPLE	BROOKLYN SAMPLE
SAMPLE TYPE:				Water	Water	Water	Water	Water
DATE SAMPLED:				2023-10-04 10:30	2023-10-04 14:40	2023-10-04 12:15	2023-10-04 11:05	2023-10-04 11:30
Parameter	**Unit**	**G / S**	**RDL**	**5344543**	**5344546**	**5344547**	**5344548**	**5344549**
Chloroacetic Acid	ug/L		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoacetic Acid	ug/L		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroacetic Acid	ug/L		0.5	22.4	23.5	36.9	36.1	51.4
Trichloroacetic Acid	ug/L		0.5	28.8	21.3	37.1	35.1	47.8
Bromochloroacetic Acid	ug/L		0.5	3.7	5.0	5.9	5.3	6.7
Dibromoacetic Acid	ug/L		0.5	0.9	1.0	1.1	1.0	1.0
Total Haloacetic Acids	ug/L	80	4.0	55.8	50.8	**81.0**	77.5	**107**
HAA5	ug/L	80	4.0	52.1	45.8	75.1	72.2	**100**
Surrogate	**Unit**	**Acceptable Limits**						
2-Bromobutanoic acid	%	70-130		101	101	106	102	106

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Canadian Drinking Water Quality - updated 2023-06
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.

5344543-5344549 HAA5 is a calculated parameter. The calculated parameter is non-accredited. The component parameters of the calculation are accredited.

Analysis performed at AGAT Halifax (unless marked by *)

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AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

Trihalomethane Analysis - Water

DATE RECEIVED: 2023-10-05

DATE REPORTED: 2023-10-19

	SAMPLE DESCRIPTION:			**WORKS DEPT**	**SOUTH QUEENS WTF**	**OLD COBB BARN RD**	**SCHOOL ST SAMPLE**	**BROOKLYN SAMPLE**
	SAMPLE TYPE:			**Water**	**Water**	**Water**	**Water**	**Water**
	DATE SAMPLED:			**2023-10-04 10:30**	**2023-10-04 14:40**	**2023-10-04 12:15**	**2023-10-04 11:05**	**2023-10-04 11:30**
Parameter	**Unit**	**G / S**	**RDL**	**5344543**	**5344546**	**5344547**	**5344548**	**5344549**
Chloroform	mg/L		0.001	0.048	0.047	0.112	0.097	0.085
Bromodichloromethane	mg/L		0.001	0.009	0.005	0.013	0.013	0.014
Dibromochloromethane	mg/L		0.001	0.001	0.002	0.004	0.002	0.002
Bromoform	mg/L		0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Trihalomethanes	mg/L	0.100	0.001	0.058	0.054	**0.129**	**0.112**	**0.101**
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	%	50-140		106	114	98	106	107

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2022 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.

5344543-5344549 Total Trihalomethanes is a calculated parameter. The calculated value is the sum of Chloroform + Bromodichloromethane + Dibromochloromethane + Bromoform. 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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AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-10-05

DATE REPORTED: 2023-10-19

SAMPLE DESCRIPTION:				WORKS DEPT	SOUTH QUEENS WTF	OLD COBB BARN RD	SCHOOL ST SAMPLE	BROOKLYN SAMPLE
SAMPLE TYPE:				Water	Water	Water	Water	Water
DATE SAMPLED:				2023-10-04 10:30	2023-10-04 14:40	2023-10-04 12:15	2023-10-04 11:05	2023-10-04 11:30
Parameter	Unit	G / S	RDL	5344543	5344546	5344547	5344548	5344549
pH		7.0-10.5		7.62	**6.26**	**6.32**	**6.36**	**6.34**
Reactive Silica as SiO2	mg/L		0.5	2.5	2.4	2.4	2.5	2.5
Chloride	mg/L	250 AO	1	14	15	13	13	11
Fluoride	mg/L	1.5	0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Sulphate	mg/L	500 AO	2	3	3	3	3	3
Alkalinity	mg/L		5	10	8	8	8	8
True Color	TCU	15 AO	5.00	<5.00	<5.00	<5.00	<5.00	<5.00
Turbidity	NTU	1.0	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Electrical Conductivity	umho/cm		1	82	78	80	78	77
Nitrate + Nitrite as N	mg/L		0.05	0.51	0.37	0.38	0.43	0.25
Nitrate as N	mg/L	10	0.05	0.13	0.06	0.09	0.11	<0.05
Nitrite as N	mg/L	1.0	0.05	0.38	0.31	0.29	0.32	0.25
Ammonia as N	mg/L		0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Total Organic Carbon	mg/L		0.50	2.9	2.9	2.7	2.8	3.1
Ortho-Phosphate as P	mg/L		0.01	0.22	0.19	0.23	0.27	0.28
Total Sodium	mg/L	200 AO	0.1	15.2	14.7	15.1	14.6	14.5
Total Potassium	mg/L		0.1	0.4	0.4	0.4	0.4	0.4
Total Calcium	mg/L		0.1	0.6	0.5	0.5	0.3	0.3
Total Magnesium	mg/L		0.1	0.4	0.5	0.5	0.4	0.4
Bicarb. Alkalinity (as CaCO3)	mg/L		5	10	8	8	8	8
Carb. Alkalinity (as CaCO3)	mg/L		10	<10	<10	<10	<10	<10
Hydroxide	mg/L		5	<5	<5	<5	<5	<5
Calculated TDS	mg/L		1	42	41	39	39	36
Hardness	mg/L			3.1	3.3	3.3	2.4	2.4
Langelier Index (@20C)	NA			-3.15	-4.69	-4.62	-4.81	-4.82
Langelier Index (@ 4C)	NA			-3.47	-5.01	-4.94	-5.13	-5.14
Saturation pH (@ 20C)	NA			10.8	10.9	10.9	11.2	11.2
Saturation pH (@ 4C)	NA			11.1	11.3	11.3	11.5	11.5

Certified By: Kaleigh Cullen

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AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-10-05

DATE REPORTED: 2023-10-19

SAMPLE DESCRIPTION:				WORKS DEPT	SOUTH QUEENS WTF	OLD COBB BARN RD	SCHOOL ST SAMPLE	BROOKLYN SAMPLE
SAMPLE TYPE:				Water	Water	Water	Water	Water
DATE SAMPLED:				2023-10-04 10:30	2023-10-04 14:40	2023-10-04 12:15	2023-10-04 11:05	2023-10-04 11:30
Parameter	Unit	G / S	RDL	5344543	5344546	5344547	5344548	5344549
Anion Sum	me/L			0.69	0.67	0.62	0.62	0.55
Cation sum	me/L			0.76	0.76	0.76	0.71	0.71
% Difference/ Ion Balance	%			4.7	6.4	10.4	7.1	12.9
Total Aluminum	ug/L	2900, 100	5	230	369	215	171	179
Total Antimony	ug/L	6	2	<2	<2	<2	<2	<2
Total Arsenic	ug/L	10	2	<2	<2	<2	<2	<2
Total Barium	ug/L	2000	5	<5	<5	<5	<5	<5
Total Beryllium	ug/L		2	<2	<2	<2	<2	<2
Total Bismuth	ug/L		2	<2	<2	<2	<2	<2
Total Boron	ug/L	5000	5	24	23	31	26	28
Total Cadmium	ug/L	7	0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Total Chromium	ug/L	50	2	<2	<2	<2	<2	<2
Total Cobalt	ug/L		1	<1	<1	<1	<1	<1
Total Copper	ug/L	2000, 1000	2	8	3	2	<2	<2
Total Iron	ug/L	300 AO	50	<50	<50	<50	<50	<50
Total Lead	ug/L	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Manganese	ug/L	120, 20 AO	2	10	41	4	5	5
Total Molybdenum	ug/L		2	<2	<2	<2	<2	<2
Total Nickel	ug/L		2	<2	<2	<2	<2	<2
Total Phosphorous	mg/L		0.07	0.95	0.95	0.90	0.86	0.95
Total Selenium	ug/L	50	1	<1	<1	<1	<1	<1
Total Silver	ug/L		0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Strontium	ug/L	7000	5	6	6	6	<5	<5
Total Thallium	ug/L		0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Tin	ug/L		2	<2	<2	<2	<2	<2
Total Titanium	ug/L		3	<3	<3	<3	<3	<3
Total Uranium	ug/L	20	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Vanadium	ug/L		2	<2	<2	<2	<2	<2

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AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

Standard Water Analysis + Total Metals

DATE RECEIVED: 2023-10-05

DATE REPORTED: 2023-10-19

				SAMPLE DESCRIPTION:	SOUTH WORKS DEPT	QUEENS WTF	OLD COBB BARN RD	SCHOOL ST SAMPLE	BROOKLYN SAMPLE
				SAMPLE TYPE:	Water	Water	Water	Water	Water
				DATE SAMPLED:	2023-10-04 10:30	2023-10-04 14:40	2023-10-04 12:15	2023-10-04 11:05	2023-10-04 11:30
Parameter	Unit	G / S	RDL		5344543	5344546	5344547	5344548	5344549
Total Zinc	ug/L	5000 AO	5		90	167	87	76	131

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Canadian Drinking Water Quality - updated 2023-06
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.

5344543-5344549 % Difference / Ion Balance, Hardness, Langelier Index, Nitrate + Nitrite, Hydroxide and Saturation pH are calculated parameters. The calculated parameters are non-accredited. The component parameters of the calculations are accredited.
pH has been analyzed past the recommended holding time of 15 minutes from sampling. Field measurement recommended for most accurate result
The cation and anion sums are at, or below, 1 me/L, therefore the acceptable criteria is a difference of less than 0.3me/L.

Analysis performed at AGAT Halifax (unless marked by *)

Certified By: Kaleigh Cullen

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Certificate of Analysis

AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

TSS

DATE RECEIVED: 2023-10-05

DATE REPORTED: 2023-10-19

			SAMPLE DESCRIPTION:	**DISCHARGE DAM**
			SAMPLE TYPE:	**Water**
			DATE SAMPLED:	**2023-10-04 11:30**
Parameter	**Unit**	**G / S**	**RDL**	**5344550**
Total Suspended Solids	mg/L		5	<5

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

5344550 pH has been analyzed past the recommended holding time of 15 minutes from sampling. Field measurement recommended for most accurate result

Analysis performed at AGAT Halifax (unless marked by *)

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Quality Assurance

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Oct 19, 2023			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
Haloacetic Acids (water)															
Chloroacetic Acid	1	5344543	< 0.5	< 0.5	NA	< 0.5	113%	70%	130%	75%	60%	130%	81%	60%	130%
Bromoacetic Acid	1	5344543	< 0.5	< 0.5	NA	< 0.5	91%	70%	130%	88%	60%	130%	81%	60%	130%
Dichloroacetic Acid	1	5344543	22.4	22.3	0.4%	< 0.5	92%	70%	130%	122%	60%	130%	110%	60%	130%
Trichloroacetic Acid	1	5344543	28.8	29.4	2.1%	< 0.5	92%	70%	130%	116%	60%	130%	104%	60%	130%
Bromochloroacetic Acid	1	5344543	3.7	4.0	7.8%	< 0.5	89%	70%	130%	127%	60%	130%	127%	60%	130%
Dibromoacetic Acid	1	5344543	0.9	0.9	NA	< 0.5	94%	70%	130%	126%	60%	130%	122%	60%	130%

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.

Trihalomethane Analysis - Water															
Chloroform	3416	5365632	<0.001	<0.001	NA	< 0.001	104%	50%	140%	108%	60%	130%	114%	50%	140%
Bromodichloromethane	3416	5365632	<0.001	<0.001	NA	< 0.001	108%	50%	140%	117%	60%	130%	87%	50%	140%
Dibromochloromethane	3416	5365632	<0.001	<0.001	NA	< 0.001	124%	50%	140%	116%	60%	130%	78%	50%	140%
Bromoform	3416	5365632	<0.001	<0.001	NA	< 0.001	122%	50%	140%	110%	60%	130%	113%	50%	140%

Comments: Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.
The sample spikes and dups are not from the same sample ID.

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Quality Assurance

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AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

Water Analysis

RPT Date: Oct 19, 2023			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
Standard Water Analysis + Total Metals															
pH	5344543	5344543	7.62	6.36	18.0%	<	100%	80%	120%						
Reactive Silica as SiO2	5344549	5344549	2.5	2.6	3.9%	< 0.5	103%	80%	120%	100%	80%	120%	103%	80%	120%
Chloride	5344549	5344549	6	5	18.2%	< 1	99%	80%	120%	NA	80%	120%	NA	70%	130%
Fluoride	5344549	5344549	<0.12	<0.12	NA	< 0.12	92%	80%	120%	NA	80%	120%	100%	70%	130%
Sulphate	5344549	5344549	3	3	NA	< 2	109%	80%	120%	NA	80%	120%	104%	70%	130%
Alkalinity	5344543	5344543	10	11	NA	< 5	97%	80%	120%						
True Color	5344549	5344549	<5.00	<5.00	NA	< 5	103%	80%	120%	120%	80%	120%			
Turbidity	5344543	5344543	<0.50	<0.50	NA	< 0.5	91%	80%	120%						
Electrical Conductivity	5344543	5344543	82	81	1.5%	< 1	102%	90%	110%						
Nitrate as N	5344549	5344549	<0.05	<0.05	NA	< 0.05	96%	80%	120%	NA	80%	120%	86%	70%	130%
Nitrite as N	5344549	5344549	0.25	0.25	0.0%	< 0.05	84%	80%	120%	NA	80%	120%	79%	70%	130%
Ammonia as N	5343351		<0.03	<0.03	NA	< 0.03	99%	80%	120%	105%	80%	120%	105%	70%	130%
Total Organic Carbon	5344543	5344543	2.9	2.9	0.0%	< 0.5	111%	80%	120%	NA	80%	120%	115%	80%	120%
Ortho-Phosphate as P	5344549	5344549	0.28	0.28	0.0%	< 0.01	101%	80%	120%	103%	80%	120%	99%	80%	120%
Total Sodium	5345606		23.6	22.7	3.9%	< 0.1	106%	80%	120%	94%	80%	120%	NA	70%	130%
Total Potassium	5345606		0.1	0.1	NA	< 0.1	102%	80%	120%	98%	80%	120%	98%	70%	130%
Total Calcium	5345606		< 0.1	< 0.1	NA	< 0.1	101%	80%	120%	97%	80%	120%	97%	70%	130%
Total Magnesium	5345606		< 0.1	< 0.1	NA	< 0.1	104%	80%	120%	98%	80%	120%	98%	70%	130%
Bicarb. Alkalinity (as CaCO3)	5344543	5344543	10	11	NA	< 5	NA	80%	120%						
Carb. Alkalinity (as CaCO3)	5344543	5344543	<10	<10	NA	< 10	NA	80%	120%						
Hydroxide	5344543	5344543	<5	<5	NA	< 5	NA	80%	120%						
Total Aluminum	5345606		31	23	NA	< 5	101%	80%	120%	95%	80%	120%	107%	70%	130%
Total Antimony	5345606		< 2	< 2	NA	< 2	96%	80%	120%	88%	80%	120%	90%	70%	130%
Total Arsenic	5345606		< 2	< 2	NA	< 2	98%	80%	120%	92%	80%	120%	91%	70%	130%
Total Barium	5345606		< 5	< 5	NA	< 5	97%	80%	120%	89%	80%	120%	89%	70%	130%
Total Beryllium	5345606		< 2	< 2	NA	< 2	105%	80%	120%	113%	80%	120%	109%	70%	130%
Total Bismuth	5345606		< 2	< 2	NA	< 2	98%	80%	120%	88%	80%	120%	95%	70%	130%
Total Boron	5345606		64	64	0.0%	< 5	107%	80%	120%	NA	80%	120%	122%	70%	130%
Total Cadmium	5345606		< 0.09	< 0.09	NA	< 0.09	98%	80%	120%	92%	80%	120%	89%	70%	130%
Total Chromium	5345606		< 1	< 1	NA	< 1	99%	80%	120%	91%	80%	120%	92%	70%	130%
Total Cobalt	5345606		< 1	< 1	NA	< 1	99%	80%	120%	93%	80%	120%	92%	70%	130%
Total Copper	5345606		47	45	4.3%	< 1	100%	80%	120%	92%	80%	120%	100%	70%	130%
Total Iron	5345606		< 50	< 50	NA	< 50	104%	80%	120%	96%	80%	120%	96%	70%	130%
Total Lead	5345606		0.7	0.6	NA	< 0.5	96%	80%	120%	89%	80%	120%	92%	70%	130%
Total Manganese	5345606		< 2	< 2	NA	< 2	100%	80%	120%	95%	80%	120%	94%	70%	130%
Total Molybdenum	5345606		< 2	< 2	NA	< 2	94%	80%	120%	88%	80%	120%	89%	70%	130%
Total Nickel	5345606		< 2	< 2	NA	< 2	102%	80%	120%	91%	80%	120%	95%	70%	130%
Total Phosphorous	5345606		4.65	4.38	6.0%	< 0.02	100%	80%	120%	89%	80%	120%	NA	70%	130%
Total Selenium	5345606		< 1	< 1	NA	< 1	100%	80%	120%	95%	80%	120%	93%	70%	130%

AGAT Laboratories

11 Morris Drive, Unit 122
Dartmouth, Nova Scotia
CANADA B3B 1M2
TEL (902)468-8718
FAX (902)468-8924
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

RPT Date: Oct 19, 2023			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
Total Silver	5345606		< 0.1	< 0.1	NA	< 0.1	99%	80%	120%	89%	80%	120%	88%	70%	130%
Total Strontium	5345606		< 5	< 5	NA	< 5	100%	80%	120%	94%	80%	120%	94%	70%	130%
Total Thallium	5345606		< 0.1	< 0.1	NA	< 0.1	95%	80%	120%	90%	80%	120%	91%	70%	130%
Total Tin	5345606		< 2	< 2	NA	< 2	96%	80%	120%	90%	80%	120%	92%	70%	130%
Total Titanium	5345606		< 2	< 2	NA	< 2	98%	80%	120%	91%	80%	120%	95%	70%	130%
Total Uranium	5345606		< 0.2	< 0.2	NA	< 0.2	94%	80%	120%	87%	80%	120%	89%	70%	130%
Total Vanadium	5345606		< 2	< 2	NA	< 2	98%	80%	120%	80%	80%	120%	91%	70%	130%
Total Zinc	5345606		15	13	NA	< 5	97%	80%	120%	83%	80%	120%	95%	70%	130%

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

TSS

Total Suspended Solids	5352140		<5	<5	NA	< 5	99%	80%	120%				94%	80%	120%

Comments: 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: Kaliegh Cullen

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Dartmouth, Nova Scotia
CANADA B3B 1M2
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Method Summary

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Chloroacetic Acid	ORG-120-5110	EPA 552.3	GC/ECD
Bromoacetic Acid	ORG-120-5110	EPA 552.3	GC/ECD
Dichloroacetic Acid	ORG-120-5110	EPA 552.3	GC/ECD
Trichloroacetic Acid	ORG-120-5110	EPA 552.3	GC/ECD
Bromochloroacetic Acid	ORG-120-5110	EPA 552.3	GC/ECD
Dibromoacetic Acid	ORG-120-5110	EPA 552.3	GC/ECD
2-Bromobutanoic acid	ORG-120-5110	EPA 552.3	GC/ECD
Total Haloacetic Acids	ORG-120-5110	EPA 552.3	GC/ECD
HAA5	ORG-120-5110	EPA 552.3	GC/ECD
Chloroform	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Bromodichloromethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Dibromochloromethane	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Bromoform	TO-0330	EPA SW-846 5030 & 8260	GC/MS
Total Trihalomethanes	TO-0330	EPA SW-846 8260	GC/MS
Toluene-d8	TO-0330	EPA SW-846 5030 & 8260	GC/MS

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Method Summary

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

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SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
pH	INOR-121-6001	SM 4500 H+B	PC TITRATE
Reactive Silica as SiO2	INOR-121-6027	SM 4500-SiO2 F	COLORIMETER
Chloride	INORG-121-6005	SM 4110 B	ION CHROMATOGRAPH
Fluoride	INORG-121-6005	SM 4110 B	ION CHROMATOGRAPH
Sulphate	INORG-121-6005	SM 4110 B	ION CHROMATOGRAPH
Alkalinity	INOR-121-6001	SM 2320 B	
True Color	INOR-121-6008	SM 2120 B	LACHAT FIA
Turbidity	INOR-121-6001	SM 2130 B	PC TITRATE
Electrical Conductivity	INOR-121-6001	SM 2510 B	PC TITRATE
Nitrate + Nitrite as N	INORG-121-6005	SM 4110 B	CALCULATION
Nitrate as N	INORG-121-6005	SM 4110 B	ION CHROMATOGRAPH
Nitrite as N	INORG-121-6005	SM 4110 B	ION CHROMATOGRAPH
Ammonia as N	INOR-121-6047	SM 4500-NH3 H	COLORIMETER
Total Organic Carbon	INOR-121-6026	SM 5310 B	TOC ANALYZER
Ortho-Phosphate as P	INOR-121-6012	SM 4500-P G	COLORIMETER
Total Sodium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Potassium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Calcium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Magnesium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Bicarb. Alkalinity (as CaCO3)	INORG-121-6001	SM 2320 B	PC TITRATE
Carb. Alkalinity (as CaCO3)	INORG-121-6001	SM 2320 B	PC TITRATE
Hydroxide	INORG-121-6001	SM 2320 B	PC-TITRATE
Calculated TDS	CALCULATION	SM 1030E	CALCULATION
Hardness	CALCULATION	SM 2340B	CALCULATION
Langelier Index (@20C)	CALCULATION	CALCULATION	CALCULATION
Langelier Index (@ 4C)	CALCULATION	CALCULATION	CALCULATION
Saturation pH (@ 20C)	CALCULATION	CALCULATION	CALCULATION
Saturation pH (@ 4C)	CALCULATION	CALCULATION	CALCULATION
Anion Sum	CALCULATION	SM 1030E	CALCULATION
Cation sum	CALCULATION	SM 1030E	CALCULATION
% Difference/ Ion Balance	CALCULATION	SM 1030E	CALCULATION
Total Aluminum	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Antimony	MET121-6104 & MET-121-6105	SM 3125	ICP-MS
Total Arsenic	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Barium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Beryllium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Bismuth	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Boron	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Cadmium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS

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Method Summary

CLIENT NAME: REGION OF QUEENS MUNICIPALITY

AGAT WORK ORDER: 23X077567

PROJECT: 2008-060843-02

ATTENTION TO: ADAM GRANT

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Total Chromium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Cobalt	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Copper	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Iron	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Lead	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Manganese	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Molybdenum	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Nickel	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Phosphorous	MET-121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Selenium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Silver	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Strontium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Thallium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Tin	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Titanium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Uranium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Vanadium	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Zinc	MET121-6104 & MET-121-6105	modified from SM 3125/SM 3030 B/SM 3030 D	ICP-MS
Total Suspended Solids	INOR-121-6024, 6025	SM 2540C, D	GRAVIMETRIC

AGAT Laboratories

Have feedback? Scan here for a quick survey!

Unit 122 • 11 Morris Drive
Dartmouth, NS
B3B 1M2
P: 902.468.8718
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Chain of Custody Record

Laboratory Use Only
Arrival Condition: ☐ Good ☐ Poor (see notes)
Arrival Temperature: 6, 6.3, 7.1
Hold Time:
AGAT Job Number: 23X077567
Notes:

Report Information
Company: Region of Queens Municipality
Contact: Adam Grant
Address: 142 Hank Snow Dr.
Liverpool NS
Phone: 902-350-2046 Fax: 902-354-7473
Client Project #:
AGAT Quotation:
Please Note: If quotation number is not provided client will be billed full price for analysis.

Report Information (Please print):
1. Name: Adam Grant
Email: agrant@regionofqueens.com
2. Name: Ben Underhill
Email: BUnderhill@aiwuc.ca

Report Format
☐ Single Sample per page
☐ Multiple Samples per page
☐ Excel Format Included
☐ Export

Turnaround Time Required (TAT)
Regular TAT ☒ 5 to 7 working days
Rush TAT ☐ Same day ☐ 1 day ☐ 2 days ☐ 3 days
Date Required:

Invoice To Same Yes ☒ / No ☐
Company:
Contact:
Address:
Phone: Fax:
PO/Credit Card#:

Regulatory Requirements (Check):
☐ List Guidelines on Report ☐ Do not list Guidelines on Report
☐ PIRI
☐ Tier 1 ☐ Res ☐ Pot ☐ Coarse
☐ Tier 2 ☐ Com ☐ N/Pot ☐ Fine
☐ Gas ☐ Fuel ☐ Lube
☐ CCME ☒ CDWQ
☐ Industrial ☐ NSEQS-Cont Sites
☐ Commercial ☐ HRM 101
☐ Res/Park ☐ Storm Water
☐ Agricultural ☐ Waste Water
☐ FWAL
☐ Sediment ☐ Other

Drinking Water Sample: ☒ Yes ☐ No **Salt Water Sample** ☐ Yes ☐ No
Reg. No.: 2008-060843-02

Sample Identification	Date/Time Sampled	Sample Matrix	# Containers	Comments – Site/Sample Info. Sample Containment
Works Dept	Oct 4/23 10:30	DW	9	
South Queens WTF	Oct 4/23 14:40	DW	9	
Old Cobb Barn Rd	Oct 4/23 12:15	DW	9	
School St Sample	Oct 4/23 11:05	DW	9	
Brooklyn Sample	Oct 4/23 11:30	DW	9	
Discharge Dam	Oct 5/23 13:00	W	1	Total Cl: <0.02 mg/L pH 6.61

Field Filtered/Preserved	Standard Water Analysis	Metals: ☒ Total ☐ Diss ☐ Available	Mercury	☐ BOD ☐ CBOD	pH	☒ TSS ☐ TDS ☐ VSS	TKN	Total Phosphorus	Phenols	Tier 1: TPH/BTEX (PIRI) ☐ low level	Tier 2: TPH/BTEX Fractionation	CCME-CWS TPH/BTEX	VOC	THM	HAA	PAH	PCB	TC + EC ☐ P/A ☐ MPN ☐ MF	☐ HPC ☐ Pseudomonas	Fecal Coliform ☐ MPN ☐ MF	Other:	Other:	Hazardous (Y/N)
	✓	✓	✓											✓	✓								
	✓	✓	✓											✓	✓								
	✓	✓	✓											✓	✓								
	✓	✓	✓											✓	✓								
	✓	✓	✓											✓	✓								
							✗																

Samples Relinquished By (Print Name): Ben Underhill
Samples Relinquished By (Sign):
Date/Time: Oct 5/23 16:00
Samples Received By (Print Name):
Samples Received By (Sign):
Date/Time:

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

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