

CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT 5031 MOUNTAIN VIEW ROAD BOWSER, BC V0R1G0 (250) 757-9312

**ATTENTION TO: Leslie Carter** 

PROJECT:

**AGAT WORK ORDER: 18V410150** 

MICROBIOLOGY ANALYSIS REVIEWED BY: Dana Solari, Lab Reporter

TRACE ORGANICS REVIEWED BY: Dana Solari, Lab Reporter

WATER ANALYSIS REVIEWED BY: Dana Solari, Lab Reporter

DATE REPORTED: Dec 03, 2018

PAGES (INCLUDING COVER): 21
VERSION\*: 2

Should you require any information regarding this analysis please contact your client services representative at (778) 452-4000

*NOTES	
VERSION 2:	Sample receipt temperature 5°C. Version 2 issued December 3rd, 2018 to report complete results. Version 2 is an amendment to Version
1.	
1	

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

**AGAT** Laboratories (V2)

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Western Enviro-Agricultural Laboratory Association (WEALA) Environmental Services Association of Alberta (ESAA) AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation.



**SAMPLING SITE:** 

#### **Certificate of Analysis**

**AGAT WORK ORDER: 18V410150** 

PROJECT:

Burnaby, British Columbia CANADA V5J 0B6 TEL (778)452-4000 FAX (778)452-4074 http://www.agatlabs.com

Unit 120, 8600 Glenlyon Parkway

ATTENTION TO: Leslie Carter

SAMPLED BY:

#### **Heterotrophic Plate Count**

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DATE RECEIVED: 2018-11-16 DATE REPORTED: 2018-12-03													
		SAMPLE DES	CRIPTION:	Well # 1	Well # 2	Well # 3	Well # 4	Well # 5	Well # 6	Well # 8			
		SAM	PLE TYPE:	Water									
		DATE S	SAMPLED:	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15			
Parameter	Unit	G/S	RDL	9707296	9707303	9707304	9707305	9707306	9707307	9707308			
Heterotrophic Plate Count (HPC)	MPN/mL		2	507	623	339	623	555	738	507			

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to BC CSR Schedule 3.2 - Drinking Water in mg/L

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.

Analysis performed at AGAT Vancouver (unless marked by \*)





**ATTENTION TO: Leslie Carter** 

**AGAT WORK ORDER: 18V410150** 

**PROJECT:** 

Unit 120, 8600 Glenlyon Parkway Burnaby, British Columbia CANADA V5J 0B6 TEL (778)452-4000 FAX (778)452-4074 http://www.agatlabs.com

**CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT** 

SAMPLING SITE: SAMPLED BY:

	Total Coliforms and E.Coli by Enzyme Substrate														
ATE RECEIVED: 2018-11-16 DATE REPORTED: 2018-12-03															
	٤	_	CRIPTION: PLE TYPE: SAMPLED:	Well # 1     Well # 2     Well # 3     Well # 4     Well # 5     Well # 6       Water     Water     Water     Water     Water       2018-11-15     2018-11-15     2018-11-15     2018-11-15     2018-11-15					Well # 8 Water 2018-11-15						
Parameter	Unit	G/S	RDL	9707296	9707303	9707304	9707305	9707306	9707307	9707308					
Total Coliforms	MPN/100mL		1	<1	<1	2	<1	<1	<1	<1					
Escherichia Coli (E.coli)	MPN/100mL		1	<1	<1	<1	<1	<1	<1	<1					

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to BC CSR Schedule 3.2 - Drinking Water in mg/L

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**AGAT WORK ORDER: 18V410150** 

PROJECT:

Burnaby, British Columbia CANADA V5J 0B6 TEL (778)452-4000 FAX (778)452-4074 http://www.agatlabs.com

Unit 120, 8600 Glenlyon Parkway

**CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT** 

**SAMPLING SITE:** 

**ATTENTION TO: Leslie Carter** 

**SAMPLED BY:** 

#### **Trihalomethane Analysis-Water**

DATE RECEIVED: 2018-11-16								<b>DATE REPORTED: 2018-12-03</b>				
		_	PLE TYPE:	Well # 1 Water	Well # 2 Water	Well # 3 Water	Well # 4 Water	Well # 5 Water	Well # 6 Water	Well # 8 Water		
Parameter	Unit	DATE: G/S	SAMPLED: RDL	2018-11-15 9707296	2018-11-15 9707303	2018-11-15 9707304	2018-11-15 9707305	2018-11-15 9707306	2018-11-15 9707307	2018-11-15 9707308		
Chloroform	μg/L	100	1	<1	<1	<1	<1	<1	<1	<1		
Bromodichloromethane	μg/L	100	1	<1	<1	<1	<1	<1	<1	<1		
Dibromochloromethane	μg/L	100	1	<1	<1	<1	<1	<1	<1	<1		
Bromoform	μg/L	100	1	<1	<1	<1	<1	<1	<1	<1		
Total Trihalomethanes	μg/L		2	<2	<2	<2	<2	<2	<2	<2		
Surrogate	Unit	Acceptab	le Limits									
Bromofluorobenzene	%	70-1	130	90	90	86	86	90	89	90		
Dibromofluoromethane	%	70-	130	83	83	80	80	83	82	84		
Toluene - d8	%	70-	130	92	92	89	89	91	90	92		

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to BC CSR Schedule 3.2 - Drinking Water in ug/L

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#### **Certificate of Analysis**

**AGAT WORK ORDER: 18V410150** 

PROJECT:

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Unit 120, 8600 Glenlyon Parkway

Burnaby, British Columbia CANADA V5J 0B6

TEL (778)452-4000 FAX (778)452-4074

**ATTENTION TO: Leslie Carter** 

**SAMPLED BY:** 

#### **Anions and Nutrients**

DATE RECEIVED: 2018-11-16	i							DATE REPORTED: 2018-12-03			
		SAMPLE DES	CRIPTION:	Well # 1	Well # 2	Well # 3	Well # 4	Well # 5	Well # 6	Well # 8	
		SAM	PLE TYPE:	Water	Water	Water	Water	Water	Water	Water	
		DATES	SAMPLED:	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	
Parameter	Unit	G/S	RDL	9707296	9707303	9707304	9707305	9707306	9707307	9707308	
Chloride	mg/L	250	0.05	1.50	1.55	1.22	2.17	2.42	1.74	3.72	
Nitrate-N	mg/L	10	0.005	0.013	< 0.005	0.030	0.060	0.171	0.026	0.122	
Nitrite-N	mg/L	1	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Sulphate	mg/L	500	0.5	0.7	<0.5	0.9	1.3	0.6	0.6	0.7	
Fluoride	mg/L	1.5	0.02	< 0.02	<0.02	0.02	0.02	0.03	0.03	0.03	
Bromide	mg/L		0.05	< 0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	
Ammonia-N	mg/L		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Nitrogen - Total	mg/L		0.05	< 0.05	<0.05	< 0.05	<0.05	0.16	<0.05	0.11	
Phosphorus Total	mg/L		0.005	0.009	0.010	0.010	0.010	0.013	0.016	0.013	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to BC CSR Schedule 3.2 - Drinking Water in mg/L

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Unit 120, 8600 Glenlyon Parkway Burnaby, British Columbia CANADA V5J 0B6 TEL (778)452-4000 FAX (778)452-4074 http://www.agatlabs.com

#### BC CSR Omnibus Dissolved Metals (mg/L)

DATE RECEIVED: 2018-11-16							DATE REPORTED: 2018-12-03				
Parameter	Unit	SAMPLE DESCI SAMPL DATE SA G/S	E TYPE:	Well # 1 Water 2018-11-15 9707296	Well # 2 Water 2018-11-15 9707303	Well # 3 Water 2018-11-15 9707304	Well # 4 Water 2018-11-15 9707305	Well # 5 Water 2018-11-15 9707306	Well # 6 Water 2018-11-15 9707307	Well # 8 Water 2018-11-15 9707308	
Aluminum Dissolved	mg/L	9.5	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Antimony Dissolved	mg/L	0.006	0.0002	<0.002	<0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	
Arsenic Dissolved	mg/L	0.01	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0002	0.0001	
Barium Dissolved	mg/L	1	0.0002	0.0008	<0.0002	0.0008	0.0007	0.0016	0.0014	0.0013	
Beryllium Dissolved	mg/L		0.00001	<0.00001	<0.00001	<0.00001	<0.0001	<0.0001	<0.0001	<0.00001	
Boron Dissolved	mg/L	5	0.002	0.003	<0.002	0.003	0.003	0.004	0.003	0.003	
Cadmium Dissolved	mg/L		0.00001	0.00062	<0.0001	0.00008	0.00003	<0.0001	0.00002	<0.00001	
Calcium Dissolved	mg/L	0.000	0.05	8.54	4.49	11.1	9.52	10.6	10.5	9.76	
Chromium Dissolved	mg/L		0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0005	0.0006	0.0006	
Cobalt Dissolved	mg/L	0.001	0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	<0.00005	
Copper Dissolved	mg/L	1.5	0.0002	0.0019	0.0021	0.0007	0.0024	0.0006	0.0004	0.0004	
Iron Dissolved	mg/L	6.5	0.01	0.01	0.02	<0.01	<0.01	0.01	<0.01	<0.01	
Lead Dissolved	mg/L	0.01	0.00005	0.00011	0.00009	0.00007	0.00011	< 0.00005	0.00008	<0.00005	
Lithium Dissolved	mg/L	0.008	0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	<0.0005	
Magnesium Dissolved	mg/L		0.05	2.09	0.93	2.74	2.42	3.55	3.45	3.18	
Manganese Dissolved	mg/L	1.5	0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	
Mercury Dissolved	μg/L	1	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Molybdenum Dissolved	mg/L	0.25	0.00005	< 0.00005	< 0.00005	<0.00005	<0.00005	0.00007	0.00006	<0.00005	
Nickel Dissolved	mg/L	0.08	0.0002	< 0.0002	< 0.0002	0.0011	< 0.0002	<0.0002	< 0.0002	<0.0002	
Potassium Dissolved	mg/L		0.05	0.19	0.08	0.22	0.19	0.33	0.34	0.31	
Selenium Dissolved	mg/L	0.01	0.0005	< 0.0005	< 0.0005	<0.0005	<0.0005	<0.0005	< 0.0005	<0.0005	
Silver Dissolved	mg/L	0.02	0.00002	< 0.00002	<0.00002	<0.00002	< 0.00002	<0.00002	<0.00002	<0.00002	
Sodium Dissolved	mg/L		0.05	2.48	2.17	3.21	3.23	2.86	2.78	2.80	
Strontium Dissolved	mg/L	2.5	0.0001	0.0223	0.0252	0.0323	0.0304	0.0255	0.0269	0.0244	
Thallium Dissolved	mg/L		0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	
Tin Dissolved	mg/L	2.5	0.00005	< 0.00005	< 0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	<0.00005	
Titanium Dissolved	mg/L		0.0005	0.0038	0.0030	0.0039	0.0047	0.0036	0.0038	0.0042	
Tungsten Dissolved	mg/L	0.003	0.00001	< 0.00001	<0.00001	0.00002	0.00002	<0.00001	0.00001	0.00005	
Uranium Dissolved	mg/L	0.02	0.00001	< 0.00001	< 0.00001	<0.00001	<0.00001	0.00002	0.00001	<0.00001	
Vanadium Dissolved	mg/L	0.02	0.0005	0.0010	0.0005	0.0011	0.0009	0.0021	0.0021	0.0019	





**SAMPLING SITE:** 

#### **Certificate of Analysis**

**AGAT WORK ORDER: 18V410150** 

PROJECT:

Unit 120, 8600 Glenlyon Parkway

Burnaby, British Columbia CANADA V5J 0B6

http://www.agatlabs.com

TEL (778)452-4000 FAX (778)452-4074

ATTENTION TO: Leslie Carter

SAMPLED BY:

#### **BC CSR Omnibus Dissolved Metals (mg/L)**

DATE RECEIVED: 2018-11-16 DATE REPORTED: 2018-12-0												
	S	AMPLE DES	CRIPTION:	Well # 1 Water	Well # 2 Water	Well # 3 Water	Well # 4 Water	Well # 5 Water	Well # 6 Water	Well # 8 Water		
Parameter	Unit		SAMPLED:	2018-11-15 9707296	2018-11-15 9707303	2018-11-15 9707304	2018-11-15 9707305	2018-11-15 9707306	2018-11-15 9707307	2018-11-15 9707308		
Zinc Dissolved	mg/L	3	0.002	0.035	0.010	0.017	0.045	<0.002	<0.002	<0.002		
Hardness (calc)	mg CaCO3/L		0.5	29.9	15.0	39.0	33.7	41.1	40.4	37.5		

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to BC CSR Schedule 3.2 - Drinking Water in mg/L

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Analysis performed at AGAT Vancouver (unless marked by \*)





**AGAT WORK ORDER: 18V410150** 

PROJECT:

Unit 120, 8600 Glenlyon Parkway Burnaby, British Columbia CANADA V5J 0B6 TEL (778)452-4000 FAX (778)452-4074 http://www.agatlabs.com

**CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT** 

**SAMPLING SITE:** 

ATTENTION TO: Leslie Carter SAMPLED BY:

DATE RECEIVED: 2018-11-16								[	DATE REPORTE	ED: 2018-12-03
			CRIPTION: PLE TYPE: SAMPLED:	Well # 1 Water 2018-11-15	Well # 2 Water 2018-11-15	Well # 3 Water 2018-11-15	Well # 4 Water 2018-11-15	Well # 5 Water 2018-11-15	Well # 6 Water 2018-11-15	Well # 8 Water 2018-11-15
Parameter	Unit	G/S	RDL	9707296	9707303	9707304	9707305	9707306	9707307	9707308
ron Related Bacteria**				Present	Absent	Present	Absent	Present	Absent	Absent
RB Approximate Population Count**	CFU/mL		1	8	<1	2200	<1	2200	<1	<1
Sulfate Reducing Bacteria**				Absent						
SRB Approximate Population Count**	CFU/mL		1	<1	<1	<1	<1	<1	<1	<1

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

Analysis performed at AGAT Calgary (unless marked by \*)





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PROJECT:

Burnaby, British Columbia CANADA V5J 0B6 TEL (778)452-4000 FAX (778)452-4074 http://www.aqatlabs.com

Unit 120, 8600 Glenlyon Parkway

ATTENTION TO: Leslie Carter

-1.17

-1.61

-1.06

SAMPLED BY:

-2.15

#### **Physical Tests Package**

DATE RECEIVED: 2018-11-16 **DATE REPORTED: 2018-12-03** Well #5 SAMPLE DESCRIPTION: Well #1 Well # 2 Well #3 Well #4 Well #6 Well #8 **SAMPLE TYPE:** Water Water Water Water Water Water Water DATE SAMPLED: 2018-11-15 2018-11-15 2018-11-15 2018-11-15 2018-11-15 2018-11-15 2018-11-15 Unit G/S RDL 9707296 9707303 9707304 9707305 9707306 9707307 9707308 **Parameter** pH units 0.01 7.23 6.75 7.20 7.01 7.36 7.39 7.35 Electrical Conductivity uS/cm 74 44 94 87 96 97 94 True Colour Colour units 5 <5 <5 <5 <5 <5 <5 <5 Turbidity NTU 0.1 2.4 0.9 1.2 6.4 4.6 < 0.1 <0.1 Total Dissolved Solids mg/L 5 72 40 72 62 70 72 90 Alkalinity (pH 4.5) 37 17 48 36 47 44 43 mg CaCO3/L

Comments:

Langlier Index

SAMPLING SITE:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to BC CSR Schedule 3.2 - Drinking Water in mg/L

-1.77

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-1.95

-2.77

9707296-9707308 Literature holding time exceeded for pH analysis.

Analysis performed at AGAT Vancouver (unless marked by \*)

ified By:



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Unit 120, 8600 Glenlyon Parkway Burnaby, British Columbia CANADA V5J 0B6 TEL (778)452-4000 FAX (778)452-4074 http://www.agatlabs.com

**CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT** 

**SAMPLING SITE:** 

**ATTENTION TO: Leslie Carter** 

**SAMPLED BY:** 

	Sulphide in Water													
ATE RECEIVED: 2018-11-16 DATE REPORTED: 2018-12-03														
		SAMPLE DES	CRIPTION:	Well # 1	Well # 2	Well # 3	Well # 4	Well # 5	Well # 6	Well # 8				
		SAM	PLE TYPE:	Water										
		DATE	SAMPLED:	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15				
Parameter	Unit	G/S	RDL	9707296	9707303	9707304	9707305	9707306	9707307	9707308				
Sulphide	mg/L		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				

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

Analysis performed at AGAT Vancouver (unless marked by \*)





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Unit 120, 8600 Glenlyon Parkway Burnaby, British Columbia CANADA V5J 0B6 TEL (778)452-4000 FAX (778)452-4074 http://www.agatlabs.com

#### **Tannin and Lignin**

rannin and Lighin													
ATE RECEIVED: 2018-11-16 DATE REPORTED: 2018-12-03													
		SAMPLE DES	CRIPTION:	Well # 1	Well # 2	Well # 3	Well # 4	Well # 5	Well # 6	Well # 8			
		SAM	PLE TYPE:	Water									
		DATES	SAMPLED:	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15			
Parameter	Unit	G/S	RDL	9707296	9707303	9707304	9707305	9707306	9707307	9707308			
Tannin & Lignin as Tannic Acid	mg/L		0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			

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

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PROJECT:

Burnaby, British Columbia CANADA V5J 0B6 TEL (778)452-4000 FAX (778)452-4074 http://www.agatlabs.com

Unit 120, 8600 Glenlyon Parkway

CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT

ATTENTION TO: Leslie Carter

SAMPLING SITE: SAMPLED BY:

	Total Organic and Dissolved Organic Carbon in Water													
DATE RECEIVED: 2018-11-16							DATE REPORTI	ED: 2018-12-03						
	SAMPLE DESCRIPTION:	Well # 1	Well # 2	Well # 3	Well # 4	Well # 5	Well # 6	Well # 8						
	SAMPLE TYPE:	Water	Water	Water	Water	Water	Water	Water						
	DATE SAMPLED:	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15						

		SAMPLE DESC	RIPTION:	Well # 1	Well # 2	Well # 3	Well # 4	Well # 5	Well # 6	Well # 8	
		SAMP	LE TYPE:	Water							
		DATE S	AMPLED:	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	2018-11-15	
Parameter	Unit	G/S	RDL	9707296	9707303	9707304	9707305	9707306	9707307	9707308	
Total Organic Carbon	mg/L		0.5	0.7	0.6	0.9	0.8	0.7	0.6	0.9	
Carbon Dissolved Organic	mg/L		0.5	0.6	0.6	0.9	0.8	<0.5	0.6	0.7	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to BC CSR Schedule 3.2 - Drinking Water in mg/L

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#### **Quality Assurance**

CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT

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ATTENTION TO: Leslie Carter

SAMPLING SITE: SAMPLED BY:

SAMI LING SITE.							•	ו וועורע								
Trace Organics Analysis																
RPT Date: Dec 03, 2018			С	UPLICAT	E		REFERENCE MATERIAL			METHOD	BLANK	SPIKE	MAT	RIX SPI	SPIKE	
PARAMETER	Batch	Sample			Measured	Acceptable Limits		Recovery	Lin	ptable nits	Recovery	1 1 1 1 1	ptable nits			
		la la		-			Value	Lower	Upper		Lower	Upper		Lower	Upper	
Trihalomethane Analysis-Water																
Chloroform	70253	9709084	<1	<1	NA	< 1	100%	80%	120%				91%	70%	130%	
Bromodichloromethane	70253	9709084	<1	<1	NA	< 1	101%	80%	120%				89%	70%	130%	
Dibromochloromethane	70253	9709084	<1	<1	NA	< 1	101%	80%	120%				90%	70%	130%	
Bromoform	70253	9709084	<1	<1	NA	< 1	101%	80%	120%				92%	70%	130%	
Bromofluorobenzene	70253	9709084	95	92	3.2%		100%	80%	120%				97%	70%	130%	
Dibromofluoromethane	70253	9709084	88	85	3.5%		102%	70%	130%				95%	70%	130%	
Toluene - d8	70253	9709084	100	94	6.2%		95%	80%	120%				92%	70%	130%	

Comments: RPDs are calculated using raw analytical data and not the rounded duplicate values reported.





# **Quality Assurance**

CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT

AGAT WORK ORDER: 18V410150

PROJECT:

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SAMPLING SITE:							:	SAMP	LED B	Υ:					
				Wate	er Aı	nalys	is								
RPT Date: Dec 03, 2018				UPLICATE	<u> </u>		REFERE	NCE MA	TERIAL	METHOD	BLANK	SPIKE	MAT	RIX SP	KE
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured		eptable mits	Recovery		ptable nits	Recovery	1 1 1	ptable
PARAMETER	Batch	ld	Dup #1	Dup #2	KFD		Value	Lower	Upper	Recovery	Lower	Upper	Recovery	Lower	Uppe
Physical Tests Package															
рН	9707009		6.95	6.96	0.1%		99%	95%	105%						
Electrical Conductivity	9707009		71	70	1.4%	< 1	99%	90%	110%						
True Colour	9708630		<5	<5	NA	< 5	96%	90%	110%	96%	80%	120%			
Turbidity	9707009		2.1	2.0	1.0%	< 0.1	101%	85%	115%	100%	85%	115%			
Total Dissolved Solids	9705469		625	622	0.4%	< 5				90%	85%	115%			
Alkalinity (pH 4.5)	9707009		32	31	3.2%	< 1	98%	90%	110%						
Comments: RPDs are calculated	d using raw analyt	ical data a	and not the	e rounded d	luplicate	values rep	orted.								
Anions and Nutrients															
Chloride	9707009		1.84	1.84	0.1%	< 0.05	105%	90%	110%	100%	90%	110%			
Nitrate-N	9707009		0.035	0.035	1.4%	< 0.005	101%		110%	104%		110%			
Nitrite-N	9707009		< 0.005	< 0.005	NA	< 0.005				103%		110%			
Sulphate	9707009		0.6	0.6	NA	< 0.5	98%	90%	110%	95%		110%			
Fluoride	9707009		0.03	0.03	NA	< 0.02	99%	85%		103%		110%			
Bromide	9707009		<0.05	<0.05	NA	< 0.05	102%	85%	115%	105%	90%	110%			
Ammonia-N	9707296		<0.01	<0.01	NA	< 0.01	106%	85%		105%		110%			
Nitrogen - Total	9707296		<0.05	<0.05	NA	< 0.05	86%	85%	115%	102%		110%			
Phosphorus Total	9707296		0.009	0.009	NA	< 0.005		85%		97%		110%	84%	80%	120%
Comments: RPDs are calculated	d using raw analyt	ical data a	and not the	e rounded d	luplicate	values rep	orted.								
Total Organic and Dissolved	Organic Carbon	in Wator			·										
Total Organic Carbon	9707296	i iii watei	0.7	0.7	NA	< 0.5	89%	85%	115%	92%	000/	110%			
			0.7												
Carbon Dissolved Organic	9707296			0.6	NA 	< 0.5	89%	65%	115%	91%	90%	110%			
Comments: RPDs are calculated		ical data a	and not the	e rounded d	luplicate	values rep	orted.								
BC CSR Omnibus Dissolved	,		.0.000	0.000	NIA	. 0. 000	4000/	000/	4400/	4000/	000/	4400/			
Aluminum Dissolved	9707296		<0.002	<0.002	NA	< 0.002		90%		108%		110%			
Antimony Dissolved	9707296		<0.0002	<0.0002	NA	< 0.0002		90%	110%	97%		110%			
Arsenic Dissolved	9707296		<0.0001	<0.0001	NA	< 0.0001		90%	110%	100%		110%			
Barium Dissolved	9707296		0.0008	0.0009	NA	< 0.0002			110%	99%		110%			
Beryllium Dissolved	9707296	<	<0.00001	<0.00001	NA	< 0.0000	1 96%	90%	110%	100%	90%	110%			
Boron Dissolved	9707296		0.003	0.003	NA	< 0.002		90%		106%		110%			
Cadmium Dissolved	9707296		0.00062	0.00060	3.4%	< 0.0000		90%		100%		110%			
Calcium Dissolved	9707296		8.54	8.54	0.0%	< 0.05	99%		110%			110%			
Chromium Dissolved	9707296		<0.0005	< 0.0005	NA	< 0.0005		90%		101%	90%	110%			
Cobalt Dissolved	9707296	<	<0.00005	<0.00005	NA	< 0.0000	5 104%	90%	110%	103%	90%	110%			
Copper Dissolved	9707296		0.0019	0.0019	0.4%	< 0.0002	104%	90%	110%	103%	90%	110%			
Iron Dissolved	9707296		0.01	0.01	NA	< 0.01	100%	90%	110%	100%	90%	110%			
Lead Dissolved	9707296		0.00011	0.00010	NA	< 0.0000	5 93%	90%	110%	96%	90%	110%			
Lithium Dissolved	9707296		<0.0005	<0.0005	NA	< 0.0005	5			98%	90%	110%			

AGAT QUALITY ASSURANCE REPORT (V2)

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AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation.



**AGAT WORK ORDER: 18V410150** 

## **Quality Assurance**

CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT

PROJECT: ATTENTION TO: Leslie Carter

SAMPLING SITE: SAMPLED BY:

Water Analysis (Continued)															
RPT Date: Dec 03, 2018				UPLICATE			REFERE	NCE MA	TERIAL	METHOD	BLANK	SPIKE	MAT	RIX SPI	KE
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value		ptable nits	Recovery	1 :	ptable nits	Recovery	1 :-	ptable nits
		IG.					value	Lower	Upper		Lower	Upper		Lower	Uppe
Magnesium Dissolved	9707296		2.09	2.10	0.5%	< 0.05	100%	90%	110%	99%	90%	110%			
Manganese Dissolved	9707296		<0.001	<0.001	NA	< 0.001	104%	90%	110%	100%	90%	110%			
Mercury Dissolved	9707296		<0.01	<0.01	NA	< 0.01	95%	90%	110%	93%	90%	110%			
Molybdenum Dissolved	9707296		<0.00005	<0.00005	NA	< 0.00008	5 91%	90%	110%	98%	90%	110%			
Nickel Dissolved	9707296		<0.0002	< 0.0002	NA	< 0.0002	105%	90%	110%	104%	90%	110%			
Potassium Dissolved	9707296		0.19	0.23	NA	< 0.05	92%	90%	110%	97%	90%	110%			
Selenium Dissolved	9707296		<0.0005	<0.0005	NA	< 0.0005	104%	90%	110%	100%	90%	110%			
Silver Dissolved	9707296		<0.00002	<0.00002	NA	< 0.00002	2			100%	90%	110%			
Sodium Dissolved	9707296		2.48	2.49	0.2%	< 0.05	97%	90%	110%	100%	90%	110%			
Strontium Dissolved	9707296		0.0223	0.0218	2.4%	< 0.0001	99%	90%	110%	98%	90%	110%			
Thallium Dissolved	9707296		<0.00001	<0.00001	NA	< 0.0000	1 97%	90%	110%	101%	90%	110%			
Tin Dissolved	9707296		<0.00005	<0.00005	NA	< 0.0000	5			101%	90%	110%			
Titanium Dissolved	9707296		0.0038	0.0033	16.3%	< 0.0005				101%	90%	110%			
Tungsten Dissolved	9707296		<0.00001	<0.00001	NA	< 0.0000	1			101%	90%	110%			
Uranium Dissolved	9707296		<0.00001	<0.00001	NA	< 0.0000	1 90%	90%	110%	96%	90%	110%			
Vanadium Dissolved	9707296		0.0010	0.0011	NA	< 0.0005	99%	90%	110%	100%	90%	110%			
Zinc Dissolved	9707296		0.035	0.034	2.2%	< 0.002	103%	90%	110%	103%	90%	110%			
O		e - 1 1													

Comments: RPDs are calculated using raw analytical data and not the rounded duplicate values reported.

Sulphide in Water

Sulphide 9718081 0.01 0.01 NA < 0.01 100% 85% 115% 98% 85% 115% 109% 80% 120%

Comments: RPDs are calculated using raw analytical data and not the rounded duplicate values reported.

**Tannin and Lignin** 

Tannin & Lignin as Tannic Acid 9707296 <0.1 <0.1 NA < 0.1 92% 85% 115% 100% 90% 110%

Comments: RPDs are calculated using raw analytical data and not the rounded duplicate values reported.

Microbial Analysis

Iron Related Bacteria**	974	296	Present	Present	NA	<
IRB Approximate Population Count**	974	296	8	8	0.0%	< 1
Sulfate Reducing Bacteria**	974	296	Absent	Absent	NA	
SRB Approximate Population	974	296	< 1	< 1	NA	<1

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

Certified By:

D. Soloui

AGAT QUALITY ASSURANCE REPORT (V2)

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<sup>\*\*</sup>Non-accredited test.Inquire with lab for details.



# **Quality Assurance**

CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT

AGAT WORK ORDER: 18V410150

PROJECT:

ATTENTION TO: Leslie Carter

SAMPLING SITE: SAMPLED BY:

Water Analysis (Continued)															
RPT Date: Dec 03, 2018 DUPLICATE							REFEREN	NCE MA	TERIAL	METHOD	BLANK	SPIKE	MAT	RIX SPI	KE
PARAMETER	Batch	Batch Sample		Dup #2	RPD	Method Blank	Measured		ptable nits	Recovery	Lin	ptable nits	Recovery	Lin	ptable nits
		ld					Value	Lower Upper			Lower Uppe			Lower	Upper

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# **Method Summary**

CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT

AGAT WORK ORDER: 18V410150

PROJECT:

ATTENTION TO: Leslie Carter

SAMPLING SITE: SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Microbiology Analysis			
Heterotrophic Plate Count (HPC)	MIC-181-7002	SM 9125 E (IDEXX SimPlate®)	INCUBATOR
Total Coliforms	MIC-181-7004	SM 9223B	INCUBATOR
Escherichia Coli (E.coli)	MIC-181-7004	SM 9223B	INCUBATOR
Trace Organics Analysis			
Chloroform	ORG-180-5131	Modified from BC MOE Lab Manual Section D (VOC)	GC/MS
Bromodichloromethane	ORG-180-5131	Modified from BC MOE Lab Manual Section D (VOC)	GC/MS
Dibromochloromethane	ORG-180-5131	Modified from BC MOE Lab Manual Section D (VOC)	GC/MS
Bromoform	ORG-180-5131	Modified from BC MOE Lab Manual Section D (VOC)	GC/MS
Bromofluorobenzene	ORG-180-5131	Modified from BC MOE Lab Manual Section D (VOC)	GC/MS
Dibromofluoromethane	ORG-180-5131	Modified from BC MOE Lab Manual Section D (VOC)	GC/MS
Toluene - d8	ORG-180-5131	Modified from BC MOE Lab Manual Section D (VOC)	GC/MS



# **Method Summary**

CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT

AGAT WORK ORDER: 18V410150

PROJECT:

ATTENTION TO: Leslie Carter

SAMPLING SITE: SAMPLED BY:

SAMPLING SITE:	_	SAMPLED B1.	SAMPLED BY:							
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE							
Water Analysis										
Chloride	INOR-181-6002	Modified from SM 4110 B	ION CHROMATOGRAPH							
Nitrate-N	INOR-181-6002	Modified from SM 4110 B	ION CHROMATOGRAPH							
Nitrite-N	INOR-181-6002	Modified from SM 4110 B	ION CHROMATOGRAPH							
Sulphate	INOR-181-6002	Modified from SM 4110 B	ION CHROMATOGRAPH							
Fluoride	INOR-181-6002	Modified from SM 4110 B	ION CHROMATOGRAPH							
Bromide	INOR-181-6002	Modified from SM 4110 B	ION CHROMATOGRAPH							
Ammonia-N	INOR-181-6001	Modified from SM 4500-NH3 G	CONTINUOUS FLOW ANALYZER							
Nitrogen - Total	INOR-181-6006	Modified from SM 4500-N	COMBUSTION							
Phosphorus Total	INOR-181-6011	Modified from SM 4500-P B&E	SPECTROPHOTOMETER							
Aluminum Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Antimony Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Arsenic Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Barium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Beryllium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Boron Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Cadmium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Calcium Dissolved	MET-181-6101, LAB-181-4015	Modified from SM 3120 B	ICP/OES							
Chromium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Cobalt Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Copper Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Iron Dissolved	MET-181-6101, LAB-181-4015	Modified from SM 3120 B	ICP/OES							
Lead Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Lithium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Magnesium Dissolved	MET-181-6101, LAB-181-4015	Modified from SM 3120 B	ICP/OES							
Manganese Dissolved	MET-181-6101, LAB-181-4015	Modified from SM 3120 B	ICP/OES							
Mercury Dissolved	MET-181-6103, LAB-181-4015	Modified from EPA 245.7	CV/AA							
Molybdenum Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Nickel Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Potassium Dissolved	MET-181-6101, LAB-181-4015	Modified from SM 3120 B	ICP/OES							
Selenium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							
Silver Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS							

# **Method Summary**

CLIENT NAME: DEEP BAY IMPROVEMENT DISTRICT

AGAT WORK ORDER: 18V410150

PROJECT:

ATTENTION TO: Leslie Carter

SAMPLING SITE: SAMPLED BY:

SAMPLING SITE:		SAIVIFLED B1.	DAMPLED BT:						
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE						
Sodium Dissolved	MET-181-6101, LAB-181-4015	Modified from SM 3120 B	ICP/OES						
Strontium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS						
Thallium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS						
Tin Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS						
Titanium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS						
Tungsten Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS						
Uranium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS						
Vanadium Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS						
Zinc Dissolved	MET-181-6102, LAB-181-4015	Modified from SM 3125 B	ICP-MS						
Iron Related Bacteria**	MIC 0510	IRB-BART	INCUBATOR						
IRB Approximate Population Count**	MIC 0510	FLS-011	INCUBATOR						
Sulfate Reducing Bacteria**	MIC 0500	SRB-BART	INCUBATOR						
SRB Approximate Population Count**		FLS-009							
pH	INOR-181-6000	Modified from SM 4500-H+	PH METER						
Electrical Conductivity	INOR-181-6000	Modified from SM 2510 B	PC TITRATE						
True Colour	INOR-181-6033	Modified from BC MOE Lab Manual Section B (Colour,	PC TITRATE						
Turbidity	INOR-181-6008	SM 2130 B	PC TITRATE						
Total Dissolved Solids	INOR-181-6007	SM 2540 C, D & E	GRAVIMETRIC						
Alkalinity (pH 4.5)	INOR-181-6000	Modified from SM 2320 B	PC TITRATE						
Langlier Index		Calculation							
Sulphide	INOR-181-6035	modified from SM 4500S-D	SPECTROPHOTOMETER						
Tannin & Lignin as Tannic Acid	INOR-181-6018	Modified from SM 5550 B	SPECTROPHOTOMETER						
Total Organic Carbon	INOR-181-6003	Modified from SM 5310 B	COMBUSTION						
Carbon Dissolved Organic	INOR-181-6003	Modified from SM 5310 B	COMBUSTION						



# AGAT Laboratories

120 - 8600 Glenlyon Parkway

Burnaby, BC V5J 0B6

Laboratory	Use	Only
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Arrival Temperature:

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Chain of	Custody Record								-11	otes:					V.	.21	×	2		
Report Inform	nation		Report Information	)	Re	port	Forr	nat	-  m	etal	ls in	n mg	g/L a	as p	er pi	revio	us y	ears	}	
Contact: Le	eep Bay Improvement Distri eslie Carter 031 Mountainview Road,	ict	1. Name: Leslie (admin@	@dbid.ca	-   -	Sing San pag	iple p	oer	Re	gulaı	r TAT	✓	] 5 to	7 w	orking	(TAT) g days				
	owser, BC V0R 1G0		Email: donsho	me@shaw.ca	_   c	San		per	- 11	sh T/	AΤ		] Day ] Day	3 - 5	0%					
LSD:	#:		Requirements (Pleas	e Check)  ☑ BC CSR - Water ☑ DW		Exce Incli		mat	Day 4 - 25%  Date Required:  PLEASE CONTACT LABORATORY IF RUSH REQUIRED SAMPLE SUBMISSION CUT OFF FOR EFFECTIVE DATE BY 3 PM										PLE	
Contact:	Same as above Ye		☐ IL ☐ PL ☐ CL ☐ RL-LD ☐ RL-HD ☐ WL-N ☐ WL-R Schedule 3.3 (Please S,	□ AW □ IW □ LW	, EC, Colour		Total Phosphorus	gen	Total Coliforms, E.Coli & HPC	Dissolved Metals/ Diss. Mercury	alc)		ins	teria	Reducing Bacteria		38			
The second secon	Fax:		CCME (Please S) Other (Please S)	pecify)	Anions, pH,	dity	Ammonia, Total	TOC/Total Nitrogen	Total Coliforms, E.C.	lved Metal	Corrosiveness (calc)	ide	Tannins and Lgnins	Irmanomethanes Iron Related Bacteria	ate Reducii		NUMBER OF CONTAINERS	PRESERVED (Y/N)	HAZARDOUS (Y/N) Hold for: □ 60 DAYS	
USE (LAB ID #)	SAMPLE IDENTIFICATION	SAMPLE MATRIX	DATE/TIME SAMPLED	COMMENTS - SITE SAMPLE INFO. SAMPLE CONTAINMENT	Alk.	Turbidity	Amn	COC	Cotal	Jisse	Orre	Sulphide	Cann	ron	Sulphate		NUMBE	RESEF	HAZARI Hold fo	
97-0+296	Well #1		NOV 15/18 9:20AM			7 7		<u>·</u>						-				4	+	
	Well #2		Novislia 10 AM		Ø				7 7											
304	Well #3 Well #4		NOV 15/18 9:40 AM		<b>V</b>				<b>V</b>	_	_	_						$\Box$		
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007	Well #6		NOVIS 18 10:40 AM													-	H	+	+	
307	Well #8	2	NOVI5/18 11:20 AM													_		$\pm$	+	
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Samples Relinquished By (Pr	int Name and Sign)	Samples Received By (				te/Time								Page		of.	=			
Samples Relinquished By (Pr	int Name and Sign):	Date/Time	Samples Received By (Print Name and Sign) Date/Time							4	V117595									



# AGAT Laboratories

#### **SAMPLE INTEGRITY RECEIPT FORM - BURNABY**

Work Order # 18 V4 13153

RECEIVING BASICS: Received From:	Waybill #:	
Sample Quantities: Coolers:	Containers: 98	
TIME SENSITIVE ISSUES: Earliest Date Sampled:	NOV 15,2018 ALREADY EXCEEDED? Yes No	) —
Non-Conformances: 3 temperatures of sample sample ID's) *use Jars when	es* and average of each cooler: (record differing temperatures on the CoC next to	0
(1)	°C (2) <u>\( \mathcal{U} + \sqrt{ + \sqrt{ =°C} (3) + + =°C (4) + + =</u>	_°C
Was ice or ice pack pre Integrity Issues:	sent: Yès No	
	: have they been notified of the above issues: Yes  Date and Time:	No
ADDITIONAL NOTES:		
-		
		_

Document #: SR-186-9504.001 Revision Date: July 9, 2014 Page 1 of 1