

Attention:Lynn Unsworth

Island Well Drillers
PO Box 545
Sydney, NS
B1P 6H4

Report Date: 2017/07/19

Report #: R4604369

Version: 2 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7E6219

Received: 2017/07/12, 09:12

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide (1)	1	N/A	2017/07/14	N/A	SM 22 4500-CO2 D
Alkalinity (1)	1	N/A	2017/07/18	ATL SOP 00013	EPA 310.2 R1974 m
Chloride (1)	1	N/A	2017/07/19	ATL SOP 00014	SM 22 4500-Cl- E m
Colilert - Coliform (MPN) in water	1	N/A	2017/07/13	SYD SOP 00187	SM 22 9223B m
Colour (1)	1	N/A	2017/07/18	ATL SOP 00020	SM 22 2120C m
Conductance - water (1)	1	N/A	2017/07/14	ATL SOP 00004	SM 22 2510B m
Hardness (calculated as CaCO3) (1)	1	N/A	2017/07/17	ATL SOP 00048	SM 22 2340 B
Metals Water Total MS (1)	1	2017/07/14	2017/07/14	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference) (1)	1	N/A	2017/07/19	N/A	Auto Calc.
Anion and Cation Sum (1)	1	N/A	2017/07/18	N/A	Auto Calc.
Nitrogen Ammonia - water (1)	1	N/A	2017/07/17	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite (1)	1	N/A	2017/07/19	ATL SOP 00016	USGS SOPINCF0452.2 m
Nitrogen - Nitrite (1)	1	N/A	2017/07/19	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N) (1)	1	N/A	2017/07/19	ATL SOP 00018	ASTM D3867-16
pH (1, 2)	1	N/A	2017/07/14	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho (1)	1	N/A	2017/07/19	ATL SOP 00021	EPA 365.2 m
Sat. pH and Langelier Index (@ 20C) (1)	1	N/A	2017/07/19	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C) (1)	1	N/A	2017/07/19	ATL SOP 00049	Auto Calc.
Reactive Silica (1)	1	N/A	2017/07/18	ATL SOP 00022	EPA 366.0 m
Sulphate (1)	1	N/A	2017/07/18	ATL SOP 00023	ASTMD516-11 m
Total Dissolved Solids (TDS calc) (1)	1	N/A	2017/07/19	N/A	Auto Calc.
Organic carbon - Total (TOC) (1, 3)	1	N/A	2017/07/17	ATL SOP 00037	SM 22 5310C m
Turbidity (1)	1	N/A	2017/07/18	ATL SOP 00011	EPA 180.1 R2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless

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indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Bedford

(2) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

(3) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Natalie MacAskill, Sr. Project Manager

Email: NMacAskill@maxxam.ca

Phone# (902)567-1255 Ext:17

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

RESULTS OF ANALYSES OF WATER

Maxxam ID				ESO079		
Sampling Date				2017/07/11 14:30		
COC Number				D23192		
	UNITS	MAC	AO	TROUT BROOK	RDL	QC Batch
Calculated Parameters						
Anion Sum	me/L	-	-	5.53	N/A	5069002
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	35	1.0	5068854
Calculated TDS	mg/L	-	500	310	1.0	5069004
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	ND	1.0	5068854
Cation Sum	me/L	-	-	5.12	N/A	5069002
Hardness (CaCO3)	mg/L	-	-	81	1.0	5069000
Ion Balance (% Difference)	%	-	-	3.85	N/A	5069001
Langelier Index (@ 20C)	N/A	-	-	-1.74		5068855
Langelier Index (@ 4C)	N/A	-	-	-1.98		5068856
Nitrate (N)	mg/L	10	-	0.23	0.050	5069003
Saturation pH (@ 20C)	N/A	-	-	8.51		5068855
Saturation pH (@ 4C)	N/A	-	-	8.76		5068856
Inorganics						
Total Alkalinity (Total as CaCO3)	mg/L	-	-	35	5.0	5076168
Dissolved Chloride (Cl)	mg/L	-	250	160	1.0	5076183
Colour	TCU	-	15	ND	5.0	5076189
Nitrate + Nitrite (N)	mg/L	-	-	0.23	0.050	5076194
Nitrite (N)	mg/L	1	-	ND	0.010	5076198
<p>RDL = Reportable Detection Limit QC Batch = Quality Control Batch MAC,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Feb. 2017.</p> <p>MAC= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.</p> <p>AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.</p> <p>If Screening Levels (SL) for gross alpha or gross beta are exceeded then concentration of the specific radionuclides of the CWQG should be analyzed.</p> <p>Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU. Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.</p> <p>N/A = Not Applicable ND = Not detected</p>						

RESULTS OF ANALYSES OF WATER

Maxxam ID				ESO079		
Sampling Date				2017/07/11 14:30		
COC Number				D23192		
	UNITS	MAC	AO	TROUT BROOK	RDL	QC Batch
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	ND	0.050	5075767
Total Organic Carbon (C)	mg/L	-	-	0.74	0.50	5075804
Orthophosphate (P)	mg/L	-	-	ND	0.010	5076193
pH	pH	-	7.0 : 10.5	6.78	N/A	5072940
Reactive Silica (SiO2)	mg/L	-	-	5.6	0.50	5076187
Dissolved Sulphate (SO4)	mg/L	-	500	19	2.0	5076186
Turbidity	NTU	0.3	-	6.6	0.10	5076092
Conductivity	uS/cm	-	-	600	1.0	5072942
<p>RDL = Reportable Detection Limit QC Batch = Quality Control Batch MAC,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Feb. 2017.</p> <p>MAC= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.</p> <p>AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.</p> <p>If Screening Levels (SL) for gross alpha or gross beta are exceeded then concentration of the specific radionuclides of the CWQG should be analyzed.</p> <p>Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU. Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.</p> <p>ND = Not detected N/A = Not Applicable</p>						

ELEMENTS BY ICP/MS (WATER)

Maxxam ID				ESO079		
Sampling Date				2017/07/11 14:30		
COC Number				D23192		
	UNITS	MAC	AO	TROUT BROOK	RDL	QC Batch
Metals						
Total Aluminum (Al)	ug/L	-	100	360	5.0	5072954
Total Antimony (Sb)	ug/L	6	-	ND	1.0	5072954
Total Arsenic (As)	ug/L	10	-	9.7	1.0	5072954
Total Barium (Ba)	ug/L	1000	-	91	1.0	5072954
Total Beryllium (Be)	ug/L	-	-	ND	1.0	5072954
Total Bismuth (Bi)	ug/L	-	-	ND	2.0	5072954
Total Boron (B)	ug/L	5000	-	ND	50	5072954
Total Cadmium (Cd)	ug/L	5	-	0.79	0.010	5072954
Total Calcium (Ca)	ug/L	-	-	23000	100	5072954
Total Chromium (Cr)	ug/L	50	-	1.4	1.0	5072954
Total Cobalt (Co)	ug/L	-	-	ND	0.40	5072954
Total Copper (Cu)	ug/L	-	1000	38	2.0	5072954
Total Iron (Fe)	ug/L	-	300	430	50	5072954
Total Lead (Pb)	ug/L	10	-	10	0.50	5072954
Total Magnesium (Mg)	ug/L	-	-	5500	100	5072954
Total Manganese (Mn)	ug/L	-	50	15	2.0	5072954
Total Molybdenum (Mo)	ug/L	-	-	ND	2.0	5072954
<p>RDL = Reportable Detection Limit QC Batch = Quality Control Batch MAC,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Feb. 2017.</p> <p>MAC= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.</p> <p>AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.</p> <p>If Screening Levels (SL) for gross alpha or gross beta are exceeded then concentration of the specific radionuclides of the CWQG should be analyzed.</p> <p>Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.</p> <p>Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.</p> <p>ND = Not detected</p>						

ELEMENTS BY ICP/MS (WATER)

Maxxam ID				ESO079		
Sampling Date				2017/07/11 14:30		
COC Number				D23192		
	UNITS	MAC	AO	TROUT BROOK	RDL	QC Batch
Total Nickel (Ni)	ug/L	-	-	2.2	2.0	5072954
Total Phosphorus (P)	ug/L	-	-	ND	100	5072954
Total Potassium (K)	ug/L	-	-	1900	100	5072954
Total Selenium (Se)	ug/L	50	-	ND	1.0	5072954
Total Silver (Ag)	ug/L	-	-	ND	0.10	5072954
Total Sodium (Na)	ug/L	-	200000	79000	100	5072954
Total Strontium (Sr)	ug/L	-	-	52	2.0	5072954
Total Thallium (Tl)	ug/L	-	-	ND	0.10	5072954
Total Tin (Sn)	ug/L	-	-	ND	2.0	5072954
Total Titanium (Ti)	ug/L	-	-	7.8	2.0	5072954
Total Uranium (U)	ug/L	20	-	0.12	0.10	5072954
Total Vanadium (V)	ug/L	-	-	ND	2.0	5072954
Total Zinc (Zn)	ug/L	-	5000	120	5.0	5072954

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC,AO: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Feb. 2017.

MAC= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.

AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.

If Screening Levels (SL) for gross alpha or gross beta are exceeded then concentration of the specific radionuclides of the CWQG should be analyzed.

Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.

Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.

ND = Not detected

MICROBIOLOGY COLILERT (WATER)

Maxxam ID			ESO079		
Sampling Date			2017/07/11 14:30		
COC Number			D23192		
	UNITS	MAC	TROUT BROOK	RDL	QC Batch
Microbiological					
Escherichia coli	MPN/100mL	0 : 0	ND	1.0	5069545
Total Coliforms	MPN/100mL	0 : 0	ND	1.0	5069545
<p>RDL = Reportable Detection Limit QC Batch = Quality Control Batch MAC: Guideline - Summary of Guidelines for Canadian Drinking Water Quality (SGCDWQ), Health Canada, Feb. 2017.</p> <p>MAC= Maximum Acceptable Concentration (MAC) - established for substances that are known or suspected to cause adverse effects on health.</p> <p>AO= Aesthetic Objectives (AO) - apply to characteristics of drinking water that can affect its acceptance by consumers or interfere with practices for supplying good quality water.</p> <p>If Screening Levels (SL) for gross alpha or gross beta are exceeded then concentration of the specific radionuclides of the CWQG should be analyzed.</p> <p>Note 1 Turbidity guideline value of 0.3 NTU based on conventional treatment system. For slow sand or diatomaceous earth filtration 1.0 NTU and for membrane filtration 0.1 NTU.</p> <p>Note 2 Aluminium guideline value of 0.1 mg/L is for treatment plants using aluminium-based coagulants, 0.2mg/L applies to other types of treatment systems.</p> <p>ND = Not detected</p>					

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.3°C
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Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
5069545	MMB	Method Blank	Escherichia coli	2017/07/13	ND, RDL=1.0		MPN/100mL	
			Total Coliforms	2017/07/13	ND, RDL=1.0		MPN/100mL	
5072940	JMV	QC Standard	pH	2017/07/14		100	%	97 - 103
5072940	JMV	RPD	pH	2017/07/14	0.49		%	N/A
5072942	JMV	Spiked Blank	Conductivity	2017/07/14		101	%	80 - 120
5072942	JMV	Method Blank	Conductivity	2017/07/14	ND, RDL=1.0		uS/cm	
5072942	JMV	RPD	Conductivity	2017/07/14	0.29		%	25
5072954	BAN	Matrix Spike	Total Aluminum (Al)	2017/07/14		102	%	80 - 120
			Total Antimony (Sb)	2017/07/14		100	%	80 - 120
			Total Arsenic (As)	2017/07/14		95	%	80 - 120
			Total Barium (Ba)	2017/07/14		99	%	80 - 120
			Total Beryllium (Be)	2017/07/14		103	%	80 - 120
			Total Bismuth (Bi)	2017/07/14		103	%	80 - 120
			Total Boron (B)	2017/07/14		104	%	80 - 120
			Total Cadmium (Cd)	2017/07/14		101	%	80 - 120
			Total Calcium (Ca)	2017/07/14		107	%	80 - 120
			Total Chromium (Cr)	2017/07/14		99	%	80 - 120
			Total Cobalt (Co)	2017/07/14		100	%	80 - 120
			Total Copper (Cu)	2017/07/14		100	%	80 - 120
			Total Iron (Fe)	2017/07/14		101	%	80 - 120
			Total Lead (Pb)	2017/07/14		100	%	80 - 120
			Total Magnesium (Mg)	2017/07/14		101	%	80 - 120
			Total Manganese (Mn)	2017/07/14		101	%	80 - 120
			Total Molybdenum (Mo)	2017/07/14		106	%	80 - 120
			Total Nickel (Ni)	2017/07/14		100	%	80 - 120
			Total Phosphorus (P)	2017/07/14		105	%	80 - 120
			Total Potassium (K)	2017/07/14		104	%	80 - 120
			Total Selenium (Se)	2017/07/14		97	%	80 - 120
			Total Silver (Ag)	2017/07/14		98	%	80 - 120
			Total Sodium (Na)	2017/07/14		104	%	80 - 120
			Total Strontium (Sr)	2017/07/14		101	%	80 - 120
			Total Thallium (Tl)	2017/07/14		103	%	80 - 120
			Total Tin (Sn)	2017/07/14		105	%	80 - 120
			Total Titanium (Ti)	2017/07/14		100	%	80 - 120
			Total Uranium (U)	2017/07/14		102	%	80 - 120
			Total Vanadium (V)	2017/07/14		101	%	80 - 120
			Total Zinc (Zn)	2017/07/14		101	%	80 - 120
5072954	BAN	Spiked Blank	Total Aluminum (Al)	2017/07/14		105	%	80 - 120
			Total Antimony (Sb)	2017/07/14		96	%	80 - 120
			Total Arsenic (As)	2017/07/14		94	%	80 - 120
			Total Barium (Ba)	2017/07/14		97	%	80 - 120
			Total Beryllium (Be)	2017/07/14		104	%	80 - 120
			Total Bismuth (Bi)	2017/07/14		101	%	80 - 120
			Total Boron (B)	2017/07/14		107	%	80 - 120
			Total Cadmium (Cd)	2017/07/14		100	%	80 - 120
			Total Calcium (Ca)	2017/07/14		105	%	80 - 120
			Total Chromium (Cr)	2017/07/14		99	%	80 - 120
			Total Cobalt (Co)	2017/07/14		100	%	80 - 120
			Total Copper (Cu)	2017/07/14		101	%	80 - 120
			Total Iron (Fe)	2017/07/14		102	%	80 - 120
			Total Lead (Pb)	2017/07/14		99	%	80 - 120
			Total Magnesium (Mg)	2017/07/14		102	%	80 - 120

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Manganese (Mn)	2017/07/14		100	%	80 - 120
			Total Molybdenum (Mo)	2017/07/14		101	%	80 - 120
			Total Nickel (Ni)	2017/07/14		99	%	80 - 120
			Total Phosphorus (P)	2017/07/14		103	%	80 - 120
			Total Potassium (K)	2017/07/14		103	%	80 - 120
			Total Selenium (Se)	2017/07/14		95	%	80 - 120
			Total Silver (Ag)	2017/07/14		96	%	80 - 120
			Total Sodium (Na)	2017/07/14		102	%	80 - 120
			Total Strontium (Sr)	2017/07/14		99	%	80 - 120
			Total Thallium (Tl)	2017/07/14		101	%	80 - 120
			Total Tin (Sn)	2017/07/14		101	%	80 - 120
			Total Titanium (Ti)	2017/07/14		96	%	80 - 120
			Total Uranium (U)	2017/07/14		101	%	80 - 120
			Total Vanadium (V)	2017/07/14		101	%	80 - 120
			Total Zinc (Zn)	2017/07/14		100	%	80 - 120
5072954	BAN	Method Blank	Total Aluminum (Al)	2017/07/14	5.0, RDL=5.0 (1)		ug/L	
			Total Antimony (Sb)	2017/07/14	ND, RDL=1.0		ug/L	
			Total Arsenic (As)	2017/07/14	ND, RDL=1.0		ug/L	
			Total Barium (Ba)	2017/07/14	ND, RDL=1.0		ug/L	
			Total Beryllium (Be)	2017/07/14	ND, RDL=1.0		ug/L	
			Total Bismuth (Bi)	2017/07/14	ND, RDL=2.0		ug/L	
			Total Boron (B)	2017/07/14	ND, RDL=50		ug/L	
			Total Cadmium (Cd)	2017/07/14	ND, RDL=0.010		ug/L	
			Total Calcium (Ca)	2017/07/14	ND, RDL=100		ug/L	
			Total Chromium (Cr)	2017/07/14	ND, RDL=1.0		ug/L	
			Total Cobalt (Co)	2017/07/14	ND, RDL=0.40		ug/L	
			Total Copper (Cu)	2017/07/14	ND, RDL=2.0		ug/L	
			Total Iron (Fe)	2017/07/14	ND, RDL=50		ug/L	
			Total Lead (Pb)	2017/07/14	ND, RDL=0.50		ug/L	
			Total Magnesium (Mg)	2017/07/14	ND, RDL=100		ug/L	
			Total Manganese (Mn)	2017/07/14	ND, RDL=2.0		ug/L	
			Total Molybdenum (Mo)	2017/07/14	ND, RDL=2.0		ug/L	
			Total Nickel (Ni)	2017/07/14	ND, RDL=2.0		ug/L	
			Total Phosphorus (P)	2017/07/14	ND, RDL=100		ug/L	
			Total Potassium (K)	2017/07/14	ND, RDL=100		ug/L	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Selenium (Se)	2017/07/14	ND, RDL=1.0		ug/L	
			Total Silver (Ag)	2017/07/14	ND, RDL=0.10		ug/L	
			Total Sodium (Na)	2017/07/14	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2017/07/14	ND, RDL=2.0		ug/L	
			Total Thallium (Tl)	2017/07/14	ND, RDL=0.10		ug/L	
			Total Tin (Sn)	2017/07/14	ND, RDL=2.0		ug/L	
			Total Titanium (Ti)	2017/07/14	ND, RDL=2.0		ug/L	
			Total Uranium (U)	2017/07/14	ND, RDL=0.10		ug/L	
			Total Vanadium (V)	2017/07/14	ND, RDL=2.0		ug/L	
			Total Zinc (Zn)	2017/07/14	ND, RDL=5.0		ug/L	
5072954	BAN	RPD	Total Aluminum (Al)	2017/07/14	4.5		%	20
5075767	NRG	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2017/07/17		103	%	80 - 120
5075767	NRG	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2017/07/17		107	%	80 - 120
5075767	NRG	Method Blank	Nitrogen (Ammonia Nitrogen)	2017/07/17	ND, RDL=0.050		mg/L	
5075767	NRG	RPD	Nitrogen (Ammonia Nitrogen)	2017/07/17	NC		%	20
5075804	SMT	Matrix Spike	Total Organic Carbon (C)	2017/07/17		100	%	80 - 120
5075804	SMT	Spiked Blank	Total Organic Carbon (C)	2017/07/17		102	%	80 - 120
5075804	SMT	Method Blank	Total Organic Carbon (C)	2017/07/17	ND, RDL=0.50		mg/L	
5075804	SMT	RPD	Total Organic Carbon (C)	2017/07/17	NC		%	20
5076092	SSI	QC Standard	Turbidity	2017/07/18		98	%	80 - 120
5076092	SSI	Spiked Blank	Turbidity	2017/07/18		95	%	80 - 120
5076092	SSI	Method Blank	Turbidity	2017/07/18	ND, RDL=0.10		NTU	
5076092	SSI	RPD	Turbidity	2017/07/18	0.96		%	20
5076168	NRG	Matrix Spike	Total Alkalinity (Total as CaCO3)	2017/07/18		104	%	80 - 120
5076168	NRG	Spiked Blank	Total Alkalinity (Total as CaCO3)	2017/07/18		108	%	80 - 120
5076168	NRG	Method Blank	Total Alkalinity (Total as CaCO3)	2017/07/18	ND, RDL=5.0		mg/L	
5076168	NRG	RPD	Total Alkalinity (Total as CaCO3)	2017/07/18	2.0		%	25
5076183	NRG	Matrix Spike	Dissolved Chloride (Cl)	2017/07/19		109	%	80 - 120
5076183	NRG	QC Standard	Dissolved Chloride (Cl)	2017/07/19		107	%	80 - 120
5076183	NRG	Spiked Blank	Dissolved Chloride (Cl)	2017/07/19		104	%	80 - 120
5076183	NRG	Method Blank	Dissolved Chloride (Cl)	2017/07/19	ND, RDL=1.0		mg/L	
5076183	NRG	RPD	Dissolved Chloride (Cl)	2017/07/19	7.3		%	25
5076186	NRG	Matrix Spike	Dissolved Sulphate (SO4)	2017/07/18		107	%	80 - 120
5076186	NRG	Spiked Blank	Dissolved Sulphate (SO4)	2017/07/18		96	%	80 - 120
5076186	NRG	Method Blank	Dissolved Sulphate (SO4)	2017/07/18	ND, RDL=2.0		mg/L	
5076186	NRG	RPD	Dissolved Sulphate (SO4)	2017/07/18	NC		%	25
5076187	NRG	Matrix Spike	Reactive Silica (SiO2)	2017/07/18		99	%	80 - 120
5076187	NRG	Spiked Blank	Reactive Silica (SiO2)	2017/07/18		96	%	80 - 120

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
5076187	NRG	Method Blank	Reactive Silica (SiO ₂)	2017/07/18	ND, RDL=0.50		mg/L	
5076187	NRG	RPD	Reactive Silica (SiO ₂)	2017/07/18	0.18		%	25
5076189	NRG	Spiked Blank	Colour	2017/07/18		98	%	80 - 120
5076189	NRG	Method Blank	Colour	2017/07/18	ND, RDL=5.0		TCU	
5076189	NRG	RPD	Colour	2017/07/18	3.3		%	20
5076193	NRG	Matrix Spike	Orthophosphate (P)	2017/07/19		93	%	80 - 120
5076193	NRG	Spiked Blank	Orthophosphate (P)	2017/07/19		97	%	80 - 120
5076193	NRG	Method Blank	Orthophosphate (P)	2017/07/19	ND, RDL=0.010		mg/L	
5076193	NRG	RPD	Orthophosphate (P)	2017/07/19	NC		%	25
5076194	NRG	Matrix Spike	Nitrate + Nitrite (N)	2017/07/19		98	%	80 - 120
5076194	NRG	Spiked Blank	Nitrate + Nitrite (N)	2017/07/19		97	%	80 - 120
5076194	NRG	Method Blank	Nitrate + Nitrite (N)	2017/07/19	ND, RDL=0.050		mg/L	
5076194	NRG	RPD	Nitrate + Nitrite (N)	2017/07/19	NC		%	25
5076198	NRG	Matrix Spike	Nitrite (N)	2017/07/19		93	%	80 - 120
5076198	NRG	Spiked Blank	Nitrite (N)	2017/07/19		97	%	80 - 120
5076198	NRG	Method Blank	Nitrite (N)	2017/07/19	ND, RDL=0.010		mg/L	
5076198	NRG	RPD	Nitrite (N)	2017/07/19	NC		%	25

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

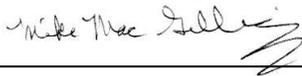
(1) Low level lab contamination. Minimal impact on sample data quality.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Michelle Mombourquette, Laboratory Manager



Mike MacGillivray, Scientific Specialist (Inorganics)

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.