

Your Project #: PERRINO
Site Location: 173 HEAD ST.
Your C.O.C. #: 08470224

Attention: Mindy Michener

Absolute Water Treatment Ltd.
736 Isabella Pt. Rd.
Salt Spring Island, BC
Canada V8K 1V2

Report Date: 2019/05/27
Report #: R2727859
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B938544

Received: 2019/05/22, 11:04

Sample Matrix: Drinking Water
Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Fluoride	1	N/A	2019/05/24	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3) (2)	1	N/A	2019/05/27	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2019/05/27	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	1	N/A	2019/05/25	BBY7SOP-00003,	EPA 6020b R2 m
pH Water (3)	1	N/A	2019/05/24	BBY6SOP-00026	SM 22 4500-H+ B m
Total Coliform & E.Coli by MF-Chromocult (1)	1	N/A	2019/05/22	VIC SOP 00112	SM23 9222J

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025 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 indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

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. Maxxam is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

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. When sampling is not conducted by Maxxam, results relate to the supplied 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 Victoria

(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

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

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CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B938544
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Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: CustomerService@maxxam.ca
Phone# (604) 734 7276

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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 CHEMICAL ANALYSES OF DRINKING WATER

Maxxam ID			VS3962		
Sampling Date			2019/05/21 15:00		
COC Number			08470224		
	UNITS	MAC	KITCHEN, TREATED	RDL	QC Batch
Misc. Inorganics					
Fluoride (F)	mg/L	1.5	0.420	0.020	9431219
Physical Properties					
pH	pH	-	8.30		9430954
No Fill	No Exceedance				
Grey	Exceeds 1 criteria policy/level				
Black	Exceeds both criteria/levels				
RDL = Reportable Detection Limit					

MICROBIOLOGY (DRINKING WATER)

Maxxam ID			VS3962	
Sampling Date			2019/05/21 15:00	
COC Number			08470224	
	UNITS	MAC	KITCHEN, TREATED	QC Batch
Microbiological Param.				
Total Coliforms	CFU/100mL	0	0	9429940
E. coli	CFU/100mL	0	0	9429940
No Fill	No Exceedance			
Grey	Exceeds 1 criteria policy/level			
Black	Exceeds both criteria/levels			

TOT. METALS W/ CV HG FOR DRINKING WATER (DRINKING WATER)

Maxxam ID				VS3962		
Sampling Date				2019/05/21 15:00		
COC Number				08470224		
	UNITS	MAC	AO	KITCHEN, TREATED	RDL	QC Batch
Calculated Parameters						
Total Hardness (CaCO3)	mg/L	-	-	129	0.50	9426888
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	-	-	7.3	3.0	9430006
Total Antimony (Sb)	ug/L	6	-	<0.50	0.50	9430006
Total Arsenic (As)	ug/L	10	-	1.06	0.10	9430006
Total Barium (Ba)	ug/L	1000	-	50.8	1.0	9430006
Total Beryllium (Be)	ug/L	-	-	<0.10	0.10	9430006
Total Bismuth (Bi)	ug/L	-	-	<1.0	1.0	9430006
Total Boron (B)	ug/L	5000	-	107	50	9430006
Total Cadmium (Cd)	ug/L	5	-	<0.010	0.010	9430006
Total Chromium (Cr)	ug/L	50	-	<1.0	1.0	9430006
Total Cobalt (Co)	ug/L	-	-	<0.20	0.20	9430006
Total Copper (Cu)	ug/L	-	1000	6.36	0.20	9430006
Total Iron (Fe)	ug/L	-	300	11.1	5.0	9430006
Total Lead (Pb)	ug/L	10	-	<0.20	0.20	9430006
Total Manganese (Mn)	ug/L	-	20	1.2	1.0	9430006
Total Molybdenum (Mo)	ug/L	-	-	<1.0	1.0	9430006
Total Nickel (Ni)	ug/L	-	-	<1.0	1.0	9430006
Total Selenium (Se)	ug/L	50	-	<0.10	0.10	9430006
Total Silicon (Si)	ug/L	-	-	10200	100	9430006
Total Silver (Ag)	ug/L	-	-	<0.020	0.020	9430006
Total Strontium (Sr)	ug/L	-	-	232	1.0	9430006
Total Thallium (Tl)	ug/L	-	-	<0.010	0.010	9430006
Total Tin (Sn)	ug/L	-	-	<5.0	5.0	9430006
Total Titanium (Ti)	ug/L	-	-	<5.0	5.0	9430006
Total Uranium (U)	ug/L	20	-	<0.10	0.10	9430006
Total Vanadium (V)	ug/L	-	-	<5.0	5.0	9430006
Total Zinc (Zn)	ug/L	-	5000	8.9	5.0	9430006
Total Zirconium (Zr)	ug/L	-	-	<0.10	0.10	9430006
Total Calcium (Ca)	mg/L	-	-	35.8	0.050	9427144
Total Magnesium (Mg)	mg/L	-	-	9.67	0.050	9427144
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						

TOT. METALS W/ CV HG FOR DRINKING WATER (DRINKING WATER)

Maxxam ID				VS3962		
Sampling Date				2019/05/21 15:00		
COC Number				08470224		
	UNITS	MAC	AO	KITCHEN, TREATED	RDL	QC Batch
Total Potassium (K)	mg/L	-	-	1.43	0.050	9427144
Total Sodium (Na)	mg/L	-	200	43.1	0.050	9427144
Total Sulphur (S)	mg/L	-	-	4.1	3.0	9427144
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy//level					
Black	Exceeds both criteria//levels					
RDL = Reportable Detection Limit						

GENERAL COMMENTS

MAC,AO: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, February 2017.

MAC = Maximum Acceptable Concentration
AO = Aesthetic Objectives

It is recommended to consult these guidelines when interpreting your data since there are non-numerical guidelines that are not included on this report.

Turbidity Guidelines:

1. Chemically assisted filtration: less than or equal to 0.3 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 1.0 NTU at any time.
2. Slow sand / diatomaceous earth filtration: less than or equal to 1.0 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 3.0 NTU at any time.
3. Membrane filtration: less than or equal to 0.1 NTU in 99% of the measurements made or at least 99% of the time each calendar month. Shall not exceed 0.3 NTU at any time.
4. To ensure effectiveness of disinfection and for good operation of the distribution system, it is recommended that water entering the distribution system have turbidity levels of 1.0 NTU or less.

Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
9430006	JC8	Matrix Spike	Total Aluminum (Al)	2019/05/24	94	%	80 - 120			
			Total Antimony (Sb)	2019/05/24	104	%	80 - 120			
			Total Arsenic (As)	2019/05/24	100	%	80 - 120			
			Total Barium (Ba)	2019/05/24	98	%	80 - 120			
			Total Beryllium (Be)	2019/05/24	94	%	80 - 120			
			Total Bismuth (Bi)	2019/05/24	99	%	80 - 120			
			Total Boron (B)	2019/05/24	96	%	80 - 120			
			Total Cadmium (Cd)	2019/05/24	100	%	80 - 120			
			Total Chromium (Cr)	2019/05/24	99	%	80 - 120			
			Total Cobalt (Co)	2019/05/24	97	%	80 - 120			
			Total Copper (Cu)	2019/05/24	93	%	80 - 120			
			Total Iron (Fe)	2019/05/24	99	%	80 - 120			
			Total Lead (Pb)	2019/05/24	98	%	80 - 120			
			Total Manganese (Mn)	2019/05/24	96	%	80 - 120			
			Total Molybdenum (Mo)	2019/05/24	93	%	80 - 120			
			Total Nickel (Ni)	2019/05/24	95	%	80 - 120			
			Total Selenium (Se)	2019/05/24	98	%	80 - 120			
			Total Silicon (Si)	2019/05/24	NC	%	80 - 120			
			Total Silver (Ag)	2019/05/24	97	%	80 - 120			
			Total Strontium (Sr)	2019/05/24	99	%	80 - 120			
			Total Thallium (Tl)	2019/05/24	99	%	80 - 120			
			Total Tin (Sn)	2019/05/24	104	%	80 - 120			
			Total Titanium (Ti)	2019/05/24	101	%	80 - 120			
			Total Uranium (U)	2019/05/24	101	%	80 - 120			
			Total Vanadium (V)	2019/05/24	101	%	80 - 120			
			Total Zinc (Zn)	2019/05/24	99	%	80 - 120			
			Total Zirconium (Zr)	2019/05/24	99	%	80 - 120			
			9430006	JC8	Spiked Blank	Total Aluminum (Al)	2019/05/24	96	%	80 - 120
						Total Antimony (Sb)	2019/05/24	98	%	80 - 120
						Total Arsenic (As)	2019/05/24	97	%	80 - 120
						Total Barium (Ba)	2019/05/24	98	%	80 - 120
Total Beryllium (Be)	2019/05/24	95				%	80 - 120			
Total Bismuth (Bi)	2019/05/24	102				%	80 - 120			
Total Boron (B)	2019/05/24	97				%	80 - 120			
Total Cadmium (Cd)	2019/05/24	97				%	80 - 120			
Total Chromium (Cr)	2019/05/24	102				%	80 - 120			
Total Cobalt (Co)	2019/05/24	101				%	80 - 120			
Total Copper (Cu)	2019/05/24	98				%	80 - 120			
Total Iron (Fe)	2019/05/24	102				%	80 - 120			
Total Lead (Pb)	2019/05/24	99				%	80 - 120			
Total Manganese (Mn)	2019/05/24	100				%	80 - 120			
Total Molybdenum (Mo)	2019/05/24	95				%	80 - 120			
Total Nickel (Ni)	2019/05/24	100				%	80 - 120			
Total Selenium (Se)	2019/05/24	98				%	80 - 120			
Total Silicon (Si)	2019/05/24	96				%	80 - 120			
Total Silver (Ag)	2019/05/24	96				%	80 - 120			
Total Strontium (Sr)	2019/05/24	98				%	80 - 120			
Total Thallium (Tl)	2019/05/24	100				%	80 - 120			
Total Tin (Sn)	2019/05/24	98				%	80 - 120			
Total Titanium (Ti)	2019/05/24	101				%	80 - 120			
Total Uranium (U)	2019/05/24	99				%	80 - 120			
Total Vanadium (V)	2019/05/24	100	%	80 - 120						
Total Zinc (Zn)	2019/05/24	103	%	80 - 120						

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9430006	JC8	Method Blank	Total Zirconium (Zr)	2019/05/24		98	%	80 - 120
			Total Aluminum (Al)	2019/05/24	<3.0		ug/L	
			Total Antimony (Sb)	2019/05/24	<0.50		ug/L	
			Total Arsenic (As)	2019/05/24	<0.10		ug/L	
			Total Barium (Ba)	2019/05/24	<1.0		ug/L	
			Total Beryllium (Be)	2019/05/24	<0.10		ug/L	
			Total Bismuth (Bi)	2019/05/24	<1.0		ug/L	
			Total Boron (B)	2019/05/24	<50		ug/L	
			Total Cadmium (Cd)	2019/05/24	<0.010		ug/L	
			Total Chromium (Cr)	2019/05/24	<1.0		ug/L	
			Total Cobalt (Co)	2019/05/24	<0.20		ug/L	
			Total Copper (Cu)	2019/05/24	<0.20		ug/L	
			Total Iron (Fe)	2019/05/24	<5.0		ug/L	
			Total Lead (Pb)	2019/05/24	<0.20		ug/L	
			Total Manganese (Mn)	2019/05/24	<1.0		ug/L	
			Total Molybdenum (Mo)	2019/05/24	<1.0		ug/L	
			Total Nickel (Ni)	2019/05/24	<1.0		ug/L	
			Total Selenium (Se)	2019/05/24	<0.10		ug/L	
			Total Silicon (Si)	2019/05/24	<100		ug/L	
			Total Silver (Ag)	2019/05/24	<0.020		ug/L	
			Total Strontium (Sr)	2019/05/24	<1.0		ug/L	
			Total Thallium (Tl)	2019/05/24	<0.010		ug/L	
			Total Tin (Sn)	2019/05/24	<5.0		ug/L	
			Total Titanium (Ti)	2019/05/24	<5.0		ug/L	
Total Uranium (U)	2019/05/24	<0.10		ug/L				
Total Vanadium (V)	2019/05/24	<5.0		ug/L				
Total Zinc (Zn)	2019/05/24	<5.0		ug/L				
9430006	JC8	RPD	Total Zirconium (Zr)	2019/05/24	<0.10		ug/L	
			Total Aluminum (Al)	2019/05/25	NC		%	20
			Total Antimony (Sb)	2019/05/25	NC		%	20
			Total Arsenic (As)	2019/05/25	11		%	20
			Total Barium (Ba)	2019/05/25	NC		%	20
			Total Beryllium (Be)	2019/05/25	NC		%	20
			Total Bismuth (Bi)	2019/05/25	NC		%	20
			Total Boron (B)	2019/05/25	NC		%	20
			Total Cadmium (Cd)	2019/05/25	NC		%	20
			Total Chromium (Cr)	2019/05/25	NC		%	20
			Total Cobalt (Co)	2019/05/25	NC		%	20
			Total Copper (Cu)	2019/05/25	12		%	20
			Total Iron (Fe)	2019/05/25	0.66		%	20
			Total Lead (Pb)	2019/05/25	NC		%	20
			Total Manganese (Mn)	2019/05/25	NC		%	20
			Total Molybdenum (Mo)	2019/05/25	1.4		%	20
			Total Nickel (Ni)	2019/05/25	NC		%	20
			Total Selenium (Se)	2019/05/25	NC		%	20
			Total Silicon (Si)	2019/05/25	11		%	20
			Total Silver (Ag)	2019/05/25	NC		%	20
			Total Strontium (Sr)	2019/05/25	NC		%	20
			Total Thallium (Tl)	2019/05/25	NC		%	20
			Total Tin (Sn)	2019/05/25	NC		%	20
			Total Titanium (Ti)	2019/05/25	NC		%	20
Total Uranium (U)	2019/05/25	1.3		%	20			
Total Vanadium (V)	2019/05/25	NC		%	20			

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Zinc (Zn)	2019/05/25	4.5		%	20
			Total Zirconium (Zr)	2019/05/25	NC		%	20
9430954	WAY	Spiked Blank	pH	2019/05/24		101	%	97 - 103
9431219	BB3	Matrix Spike	Fluoride (F)	2019/05/24		100	%	80 - 120
9431219	BB3	Spiked Blank	Fluoride (F)	2019/05/24		102	%	80 - 120
9431219	BB3	Method Blank	Fluoride (F)	2019/05/24	<0.020		mg/L	
9431219	BB3	RPD	Fluoride (F)	2019/05/24	10		%	20

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.

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.

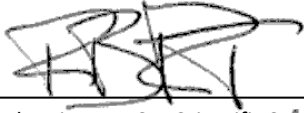
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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).

VALIDATION SIGNATURE PAGE

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



Rob Reinert, B.Sc., Scientific Spécialist

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.

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5. Toll Free (800) 665-8566

COC #:

08470224

Page 1 of 1

Invoice Information		Report Information (if differs from invoice)				Project Information (where applicable)				Time (TAT) Required							
Company Name: Absolute Water Treatment Ltd		Company Name: Absolute Water Treatment Ltd				Quotation #: _____				<input checked="" type="checkbox"/> Regular TAT 5 days (Most analyses)							
Contact Name: Mindy Michener		Contact Name: Mindy Michener				P.O. #/ AFE#: _____				PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS							
Address: 736 Isabella Pt. Rd., Salt Spring Island		Address: 736 Isabella Pt. Rd., Salt Spring Island				Project #: PERRINO				Rush TAT (Surcharges will be applied)							
BC PC: V8K 1V2		BC PC: V8K 1V2				Site Location: 173 Head St.				<input type="checkbox"/> Same Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 1 Day <input type="checkbox"/> 3 Days							
Phone: (250) 537-0925		Phone: (250) 537-0925				Site #: _____				Date Required: _____							
Email: westcoastwaterwhisperer@gmail.com		Email: westcoastwaterwhisperer@gmail.com				Sampled By: Mindy				Rush Confirmation #: _____							
Regulatory Criteria		Special Instructions		Analysis Requested						LABORATORY USE ONLY							
<input type="checkbox"/> BC CSR Soil <input type="checkbox"/> BC CSR Water <input type="checkbox"/> CCME (Specify) <input type="checkbox"/> Other (Specify) <input checked="" type="checkbox"/> Drinking Water <input checked="" type="checkbox"/> BC Water Quality		<input checked="" type="checkbox"/> Return Cooler <input checked="" type="checkbox"/> Ship Sample Bottles (Please Specify)		Total Metals (incl. Hardness and Hg) _____ pH _____ Turbidity _____ Total Dissolved Solids _____ Fluoride _____ UV Transmittance (unfiltered) _____ Conductivity _____ Total Coliform and E.coli _____ Drinking Water Scm _____ AWT PKG _____						CUSTODY SEAL Y / N Present Intact MA 425 COOLER TEMPERATURES _____ / _____ COOLING MEDIA PRESENT <input checked="" type="checkbox"/> / N COMMENTS							
SAMPLES MUST BE KEPT COOL (<10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM																	
Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	Total Metals (incl. Hardness and Hg)	pH	Turbidity	Total Dissolved Solids	Fluoride	UV Transmittance (unfiltered)	Conductivity	Total Coliform and E.coli	Drinking Water Scm	AWT PKG	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	COMMENTS
1	Kitchen, Treated	2019/05/22													3		
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
RELINQUISHED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #									
<i>Mindy Michener</i>		2019/05/22	11:05 AM	<i>S. STRUBEN</i>		19/05/22	1104										

