

Your P.O. #: 000292
 Your C.O.C. #: 21621704, 2162170401

Attention: Scott Churko
 City of Parksville
 Engineering and Operations Dpt
 PO Box 1390
 Parksville, BC
 Canada V9P 2H3

Report Date: 2011/12/01

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1B3663
Received: 2011/11/23, 08:25

Sample Matrix: DRINKING WATER
 # Samples Received: 4

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Alkalinity - Water	3	2011/11/23	2011/11/23	BBY6SOP-00026, BBY0SOP-00002	SM2320B
Alkalinity - Water	1	2011/11/23	2011/11/24	BBY6SOP-00026, BBY0SOP-00002	SM2320B
Chloride by Automated Colourimetry	4	N/A	2011/11/25	BBY6SOP-00011	SM-4500-CI-
Colour (True)	4	N/A	2011/11/23	BBY6SOP-00021	SM-2120B
Conductance - water	3	N/A	2011/11/23	BBY6SOP-00026	SM-2510B
Conductance - water	1	N/A	2011/11/24	BBY6SOP-00026	SM-2510B
Fluoride	4	N/A	2011/11/28	BBY6SOP-00038	SM - 4500 F C
Hardness Total (calculated as CaCO3)	4	N/A	2011/12/01		
Na, K, Ca, Mg, S by CRC ICPMS (total)	4	N/A	2011/12/01	BBY7SOP-00002	EPA 200.8
Elements by CRC ICPMS (total)	4	N/A	2011/11/30	BBY7SOP-00002	EPA 200.8
Nitrate + Nitrite (N)	4	N/A	2011/11/24	BBY6SOP-00010	USEPA 353.2
Nitrite (N) by CFA	4	N/A	2011/11/24	BBY6SOP-00010	EPA 353.2
Nitrogen - Nitrate (as N)	4	N/A	2011/11/25	BBY6SOP-00010	Based on EPA 353.2
pH Water	3	N/A	2011/11/23	BBY6SOP-00026	SM-4500H+B
pH Water	1	N/A	2011/11/24	BBY6SOP-00026	SM-4500H+B
Sulphate by Automated Colourimetry	4	N/A	2011/11/25	BBY6SOP-00017	SM4500-SO42
Total Dissolved Solids (Filt. Residue)	4	2011/11/24	2011/11/24	BBY6SOP-00033	SM 2540C
Turbidity	4	N/A	2011/11/23	BBY6SOP-00027	SM - 2130B

* Results relate only to the items tested.

Encryption Key

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

RAOUL JAIN, BBY Customer Service
 Email: RJain@maxxam.ca
 Phone# (604) 639-2618

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 This report has been generated and distributed using a secure automated process.
 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.

Total cover pages: 1

Maxxam Job #: B1B3663
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Your P.O. #: 000292

DRINKING WATER PACKAGE (DRINKING WATER)

Maxxam ID		CE7781	CE7782	CE7783	CE7784		
Sampling Date		2011/11/21 09:10	2011/11/21 09:00	2011/11/21 09:35	2011/11/21 09:25		
	Units	SPRINGWOOD WELL #5	SPRINGWOOD WELL #6	RAILWAY WELL #3	RAILWAY WELL #5	RDL	QC Batch
ANIONS							
Nitrite (N)	mg/L	0.008	<0.005	<0.005	<0.005	0.005	5392288
Calculated Parameters							
Total Hardness (CaCO ₃)	mg/L	127	152	115	167	0.50	5387217
Nitrate (N)	mg/L	0.719	1.37	0.739	1.24	0.020	5387838
Misc. Inorganics							
Fluoride (F)	mg/L	0.037	0.036	0.044	0.047	0.010	5399957
Alkalinity (Total as CaCO ₃)	mg/L	128	137	88.7	126	0.50	5388623
Alkalinity (PP as CaCO ₃)	mg/L	<0.50	<0.50	<0.50	<0.50	0.50	5388623
Bicarbonate (HCO ₃)	mg/L	156	167	108	153	0.50	5388623
Carbonate (CO ₃)	mg/L	<0.50	<0.50	<0.50	<0.50	0.50	5388623
Hydroxide (OH)	mg/L	<0.50	<0.50	<0.50	<0.50	0.50	5388623
Anions							
Dissolved Sulphate (SO ₄)	mg/L	4.80	9.16	5.00	7.40	0.50	5394978
Dissolved Chloride (Cl)	mg/L	19	16	33	43	0.5	5394916
MISCELLANEOUS							
True Colour	Col. Unit	<5	<5	<5	<5	5	5389118
Nutrients							
Nitrate plus Nitrite (N)	mg/L	0.727	1.37	0.739	1.24	0.020	5392286
Physical Properties							
Conductivity	uS/cm	303	330	284	382	1.0	5388627
pH	pH Units	7.90	7.59	7.86	7.90		5388629
Physical Properties							
Total Dissolved Solids	mg/L	160	172	152	200	10	5390912
Turbidity	NTU	2.12	<0.10	0.32	<0.10	0.10	5386680

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Sampling Date		2011/11/21 09:10	2011/11/21 09:00	2011/11/21 09:35	2011/11/21 09:25		
	Units	SPRINGWOOD WELL #5	SPRINGWOOD WELL #6	RAILWAY WELL #3	RAILWAY WELL #5	RDL	QC Batch
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	<3.0	<3.0	<3.0	<3.0	3.0	5408486
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	5408486
Total Arsenic (As)	ug/L	0.23	0.29	0.23	0.38	0.10	5408486
Total Barium (Ba)	ug/L	6.0	6.2	5.6	22.7	1.0	5408486
Total Boron (B)	ug/L	<50	<50	<50	<50	50	5408486
Total Cadmium (Cd)	ug/L	<0.010	<0.010	<0.010	<0.010	0.010	5408486
Total Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	5408486
Total Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	5408486
Total Copper (Cu)	ug/L	0.85	0.54	6.87	4.93	0.20	5408486
Total Iron (Fe)	ug/L	173	13.5	106	59.3	5.0	5408486
Total Lead (Pb)	ug/L	<0.20	<0.20	0.23	1.82	0.20	5408486
Total Manganese (Mn)	ug/L	17.4	7.6	13.1	7.0	1.0	5408486
Total Mercury (Hg)	ug/L	<0.050	<0.050	<0.050	<0.050	0.050	5408486
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	5408486
Total Nickel (Ni)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	5408486
Total Selenium (Se)	ug/L	<0.10	<0.10	<0.10	0.24	0.10	5408486
Total Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	0.020	5408486
Total Uranium (U)	ug/L	0.14	0.21	0.12	0.34	0.10	5408486
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	5408486
Total Zinc (Zn)	ug/L	15.5	<5.0	6.5	<5.0	5.0	5408486
Total Calcium (Ca)	mg/L	28.7	34.6	25.6	38.3	0.050	5388096
Total Magnesium (Mg)	mg/L	13.5	15.9	12.5	17.3	0.050	5388096
Total Potassium (K)	mg/L	0.808	0.874	0.678	0.924	0.050	5388096
Total Sodium (Na)	mg/L	9.09	9.61	6.06	11.3	0.050	5388096
Total Sulphur (S)	mg/L	<3.0	<3.0	<3.0	<3.0	3.0	5388096

RDL = Reportable Detection Limit

Maxxam Job #: B1B3663
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Package 1	4.0°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Maxxam Job #: B1B3663
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Your P.O. #: 000292

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
5386680	Turbidity	2011/11/23			103	80 - 120	<0.10	NTU	6.5	20
5388623	Alkalinity (Total as CaCO ₃)	2011/11/23	109	80 - 120	101	80 - 120	<0.50	mg/L	1.4	20
5388623	Alkalinity (PP as CaCO ₃)	2011/11/23					<0.50	mg/L		
5388623	Bicarbonate (HCO ₃)	2011/11/23					<0.50	mg/L		
5388623	Carbonate (CO ₃)	2011/11/23					<0.50	mg/L		
5388623	Hydroxide (OH)	2011/11/23					<0.50	mg/L		
5388627	Conductivity	2011/11/23			99	80 - 120	<1.0	uS/cm	0	20
5389118	True Colour	2011/11/23					<5	Col. Unit	NC	20
5390912	Total Dissolved Solids	2011/11/24	NC	80 - 120	94	80 - 120	<10	mg/L	1.6	20
5392286	Nitrate plus Nitrite (N)	2011/11/24	NC	80 - 120	106	80 - 120	<0.020	mg/L	NC	25
5392288	Nitrite (N)	2011/11/24	96	80 - 120	100	80 - 120	<0.005	mg/L	NC	20
5394916	Dissolved Chloride (Cl)	2011/11/25			106	80 - 120	<0.5	mg/L	3.0	20
5394978	Dissolved Sulphate (SO ₄)	2011/11/25			102	80 - 120	<0.50	mg/L	0.3	20
5399957	Fluoride (F)	2011/11/28	100	80 - 120	100	80 - 120	<0.010	mg/L	0	20
5408486	Total Antimony (Sb)	2011/11/30	108	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
5408486	Total Arsenic (As)	2011/11/30	99	80 - 120	94	80 - 120	<0.10	ug/L	NC	20
5408486	Total Barium (Ba)	2011/11/30	NC	80 - 120	98	80 - 120	<1.0	ug/L	6.0	20
5408486	Total Cadmium (Cd)	2011/11/30	99	80 - 120	95	80 - 120	<0.010	ug/L	NC	20
5408486	Total Chromium (Cr)	2011/11/30	93	80 - 120	93	80 - 120	<1.0	ug/L	NC	20
5408486	Total Cobalt (Co)	2011/11/30	93	80 - 120	96	80 - 120	<0.50	ug/L		
5408486	Total Copper (Cu)	2011/11/30	109	80 - 120	96	80 - 120	<0.20	ug/L	NC	20
5408486	Total Iron (Fe)	2011/11/30	NC	80 - 120	95	80 - 120	<5.0	ug/L	10.8	20
5408486	Total Lead (Pb)	2011/11/30	102	80 - 120	101	80 - 120	<0.20	ug/L	NC	20
5408486	Total Manganese (Mn)	2011/11/30	NC	80 - 120	97	80 - 120	<1.0	ug/L	3.7	20
5408486	Total Mercury (Hg)	2011/11/30	95	80 - 120	95	80 - 120	<0.050	ug/L	NC	20
5408486	Total Molybdenum (Mo)	2011/11/30	103	80 - 120	94	80 - 120	<1.0	ug/L		
5408486	Total Nickel (Ni)	2011/11/30	91	80 - 120	96	80 - 120	<1.0	ug/L		
5408486	Total Selenium (Se)	2011/11/30	111	80 - 120	105	80 - 120	<0.10	ug/L	NC	20
5408486	Total Silver (Ag)	2011/11/30	104	80 - 120	101	80 - 120	<0.020	ug/L	NC	20
5408486	Total Uranium (U)	2011/11/30	108	80 - 120	102	80 - 120	<0.10	ug/L	3.6	20
5408486	Total Vanadium (V)	2011/11/30	97	80 - 120	92	80 - 120	<5.0	ug/L		
5408486	Total Zinc (Zn)	2011/11/30	NC	80 - 120	101	80 - 120	<5.0	ug/L	NC	20

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QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
5408486	Total Aluminum (Al)	2011/11/30					<3.0	ug/L	NC	20
5408486	Total Boron (B)	2011/11/30					<50	ug/L	NC	20

N/A = Not Applicable

RPD = Relative Percent Difference

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

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

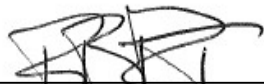
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page



Maxxam Job #: B1B3663

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



ROB REINERT, Data Validation Coordinator

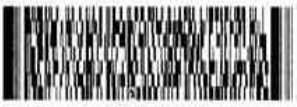
=====
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INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#7634 City of Parksville	Company Name:		Quotation #:	B11293	MAXXAM JOB #:	B1B3663
Contact Name:	Scott Churko	Contact Name:		P.O. #:	000292		
Address:	Engineering and Operations Dpt PO Box 1390 Parksville BC V9P 2H3	Address:		Project #:			216217
Phone:	(250)248-5412 Fax: (250)248-6140	Phone:		Project Name:		CHAIN OF CUSTODY #:	
Email:	schurko@parksville.ca	Email:		Site #:			PROJECT MANAGER:
				Sampled By:		CH#216217-04-01	RAOUL JAIN

REGULATORY CRITERIA:	SPECIAL INSTRUCTIONS	ANALYSIS REQUESTED (Please be specific):										TURNAROUND TIME (TAT) REQUIRED:
												PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS Regular (Standard) TAT: (will be applied if Rush TAT is not specified): <input type="checkbox"/> Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details. Job Specific Rush TAT (if applies to entire submission) <input type="checkbox"/> Date Required: _____ Time Required: _____ Rush Confirmation Number: _____ (call lab for #)

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	Drinking Water Package	ANALYSIS REQUESTED										# of Bottles	Comments				
1 CE7781	Springwood Well #5	Nov 21/11	9:10 AM		Y	N	X															3	
2 CE7782	Springwood Well #6	Nov 21/11	9:00 AM		Y	N	X																3
3 CE7783	Railway Well #3	Nov 21/11	9:35 AM		Y	N	X																3
4 CE7784	Railway Well #5	Nov 21/11	9:25 AM		Y	N	X																3
5																							
6																							
7																							
8																							
9																							
10																							B1B3663

*RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time:	# Jars Used and	Laboratory Use Only		
Kevin Royat		Nov 21/11	10:25am	NICOLE LOCKYER		11/11/23	08:25	Not Submitted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact?
									<input type="checkbox"/>	3, 4, 5	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No