Success Through Science®

Your P.O. #: 00188
Your C.O.C. #: 20034301, 2003430101

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

Report Date: 2011/11/17

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B1A7390
Received: 2011/11/04, 11:35

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity - Water	1	2011/11/04	2011/11/04	BBY6SOP-00026, BBY0SOP-00002	SM2320B
Chloride by Automated Colourimetry	1	N/A	2011/11/05	BBY6SOP-00011	SM-4500-Cl-
Colour (True)	1	N/A	2011/11/04	BBY6SOP-00021	SM-2120B
Coliform by membrane filt'n (100xDil'n)	1	N/A	2011/11/04	BRN SOP 00363 R2.0	Based on SM-9222
E.coli by membr. filt'n Water (100xDil)	1	N/A	2011/11/04	BRN SOP 00363 R2.0	Based on SM-9222
Conductance - water	1	N/A	2011/11/04	BBY6SOP-00026	SM-2510B
Fluoride	1	N/A	2011/11/07	BBY6SOP-00038	SM - 4500 F C
Hardness Total (calculated as CaCO3)	1	N/A	2011/11/14		
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2011/11/14	BBY7SOP-00002	EPA 200.8
Elements by CRC ICPMS (total)	1	N/A	2011/11/11	BBY7SOP-00002	EPA 200.8
Nitrate + Nitrite (N)	1	N/A	2011/11/05	BBY6SOP-00010	USEPA 353.2
Nitrite (N) by CFA	1	N/A	2011/11/05	BBY6SOP-00010	EPA 353.2
Nitrogen - Nitrate (as N)	1	N/A	2011/11/07	BBY6SOP-00010	Based on EPA 353.2
pH Water	1	N/A	2011/11/04	BBY6SOP-00026	SM-4500H+B
Sulphate by Automated Colourimetry	1	N/A	2011/11/17	BBY6SOP-00017	SM4500-SO42
Total Dissolved Solids (Filt. Residue)	1	2011/11/09	2011/11/09	BBY6SOP-00033	SM 2540C
Turbidity	1	N/A	2011/11/04	BBY6SOP-00027	SM - 2130B

* Results relate only to the items tested.

Encryption Key

Maxxam

17 Nov 2011 17:22:39 -08:00

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

City of Parksville

Maxxam Job #: B1A7390
Report Date: 2011/11/17

Your P.O. #: 00188

MICROBIOLOGY (WATER)

Maxxam ID		CA7401		
Sampling Date		2011/11/03 12:15		
	Units	**NEW INTAKE**	**RDL**	**QC Batch**
Microbiological Param.				
E. coli	CFU/100mL	<100	100	5335634
Total Coliforms	CFU/100mL	450	1	5335632

RDL = Reportable Detection Limit

City of Parksville

Maxxam Job #: B1A7390
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DRINKING WATER PACKAGE (WATER)

Maxxam ID		CA7401		
Sampling Date		2011/11/03 12:15		
	Units	**NEW INTAKE**	**RDL**	**QC Batch**
ANIONS				
Nitrite (N)	mg/L	0.011	0.005	5336452
Calculated Parameters				
Total Hardness (CaCO3)	mg/L	23.5	0.5	5331726
Nitrate (N)	mg/L	0.80	0.02	5331732
Misc. Inorganics				
Fluoride (F)	mg/L	0.01	0.01	5338369
Alkalinity (Total as CaCO3)	mg/L	20	0.5	5335080
Alkalinity (PP as CaCO3)	mg/L	<0.5	0.5	5335080
Bicarbonate (HCO3)	mg/L	25	0.5	5335080
Carbonate (CO3)	mg/L	<0.5	0.5	5335080
Hydroxide (OH)	mg/L	<0.5	0.5	5335080
Anions				
Dissolved Sulphate (SO4)	mg/L	3.4	0.5	5374283
Dissolved Chloride (Cl)	mg/L	6.8	0.5	5336565
MISCELLANEOUS				
True Colour	Col. Unit	10	5	5334219
Nutrients				
Nitrate plus Nitrite (N)	mg/L	0.81	0.02	5336084
Physical Properties				
Conductivity	uS/cm	62	1	5335078
pH	pH Units	7.49		5335068
Physical Properties				
Total Dissolved Solids	mg/L	36	10	5347271
Turbidity	NTU	0.5	0.1	5335602

RDL = Reportable Detection Limit

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DRINKING WATER PACKAGE (WATER)

Maxxam ID		CA7401		
Sampling Date		2011/11/03 12:15		
	Units	**NEW INTAKE**	**RDL**	**QC Batch**
Total Metals by ICPMS				
Total Aluminum (Al)	ug/L	52	3	5351266
Total Antimony (Sb)	ug/L	<0.5	0.5	5351266
Total Arsenic (As)	ug/L	0.1	0.1	5351266
Total Barium (Ba)	ug/L	5	1	5351266
Total Boron (B)	ug/L	<50	50	5351266
Total Cadmium (Cd)	ug/L	0.02	0.01	5351266
Total Chromium (Cr)	ug/L	<1	1	5351266
Total Cobalt (Co)	ug/L	<0.5	0.5	5351266
Total Copper (Cu)	ug/L	0.7	0.2	5351266
Total Iron (Fe)	ug/L	74	5	5351266
Total Lead (Pb)	ug/L	<0.2	0.2	5351266
Total Manganese (Mn)	ug/L	5	1	5351266
Total Mercury (Hg)	ug/L	<0.05	0.05	5351266
Total Molybdenum (Mo)	ug/L	<1	1	5351266
Total Nickel (Ni)	ug/L	<1	1	5351266
Total Selenium (Se)	ug/L	<0.1	0.1	5351266
Total Silver (Ag)	ug/L	<0.02	0.02	5351266
Total Uranium (U)	ug/L	<0.1	0.1	5351266
Total Vanadium (V)	ug/L	<5	5	5351266
Total Zinc (Zn)	ug/L	<5	5	5351266
Total Calcium (Ca)	mg/L	7.81	0.05	5333958
Total Magnesium (Mg)	mg/L	0.97	0.05	5333958
Total Potassium (K)	mg/L	0.15	0.05	5333958
Total Sodium (Na)	mg/L	3.55	0.05	5333958
Total Sulphur (S)	mg/L	<3	3	5333958

RDL = Reportable Detection Limit

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General Comments

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QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
5334219	True Colour	2011/11/04					<5	Col. Unit	NC	20
5335078	Conductivity	2011/11/04			98	80 - 120	<1	uS/cm	0.6	20
5335080	Alkalinity (Total as CaCO3)	2011/11/04	NC	80 - 120	93	80 - 120	<0.5	mg/L		
5335080	Alkalinity (PP as CaCO3)	2011/11/04					<0.5	mg/L		
5335080	Bicarbonate (HCO3)	2011/11/04					<0.5	mg/L	2.2	20
5335080	Carbonate (CO3)	2011/11/04					<0.5	mg/L	NC	20
5335080	Hydroxide (OH)	2011/11/04					<0.5	mg/L		
5335602	Turbidity	2011/11/04			101	80 - 120	<0.1	NTU	4.4	20
5336084	Nitrate plus Nitrite (N)	2011/11/05	113	80 - 120	107	80 - 120	<0.02	mg/L	0.7	25
5336452	Nitrite (N)	2011/11/05			99	80 - 120	<0.005	mg/L	NC	20
5336565	Dissolved Chloride (Cl)	2011/11/05	100	80 - 120	98	80 - 120	<0.5	mg/L	1.8	20
5338369	Fluoride (F)	2011/11/07	105	80 - 120	102	80 - 120	<0.01	mg/L	NC	20
5347271	Total Dissolved Solids	2011/11/09	NC	80 - 120	88	80 - 120	<10	mg/L	NC	20
5351266	Total Antimony (Sb)	2011/11/11	107	80 - 120	109	80 - 120	<0.5	ug/L	NC	20
5351266	Total Arsenic (As)	2011/11/11	100	80 - 120	102	80 - 120	<0.1	ug/L	3.7	20
5351266	Total Barium (Ba)	2011/11/11	NC	80 - 120	103	80 - 120	<1	ug/L	0.02	20
5351266	Total Cadmium (Cd)	2011/11/11	99	80 - 120	101	80 - 120	<0.01	ug/L	NC	20
5351266	Total Chromium (Cr)	2011/11/11	97	80 - 120	103	80 - 120	<1	ug/L	NC	20
5351266	Total Cobalt (Co)	2011/11/11	96	80 - 120	102	80 - 120	<0.5	ug/L		
5351266	Total Copper (Cu)	2011/11/11	NC	80 - 120	98	80 - 120	<0.2	ug/L	0.1	20
5351266	Total Iron (Fe)	2011/11/11	NC	80 - 120	107	80 - 120	<5	ug/L	6.2	20
5351266	Total Lead (Pb)	2011/11/11	NC	80 - 120	100	80 - 120	<0.2	ug/L	2.2	20
5351266	Total Manganese (Mn)	2011/11/11	NC	80 - 120	102	80 - 120	<1	ug/L	2.1	20
5351266	Total Mercury (Hg)	2011/11/11	104	80 - 120	105	80 - 120	<0.05	ug/L	NC	20
5351266	Total Molybdenum (Mo)	2011/11/11	107	80 - 120	103	80 - 120	<1	ug/L		
5351266	Total Nickel (Ni)	2011/11/11	NC	80 - 120	103	80 - 120	<1	ug/L		
5351266	Total Selenium (Se)	2011/11/11	95	80 - 120	100	80 - 120	<0.1	ug/L	NC	20
5351266	Total Silver (Ag)	2011/11/11	105	80 - 120	107	80 - 120	<0.02	ug/L		
5351266	Total Uranium (U)	2011/11/11	100	80 - 120	100	80 - 120	<0.1	ug/L	NC	20
5351266	Total Vanadium (V)	2011/11/11	98	80 - 120	103	80 - 120	<5	ug/L		
5351266	Total Zinc (Zn)	2011/11/11	NC	80 - 120	105	80 - 120	<5	ug/L	0.7	20
5351266	Total Aluminum (Al)	2011/11/11					<3	ug/L	5.2	20

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QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
5351266	Total Boron (B)	2011/11/11					<50	ug/L	NC	20
5374283	Dissolved Sulphate (SO4)	2011/11/17	NC	80 - 120	104	80 - 120	<0.5	mg/L	1.1	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 #: B1A7390

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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Maxxam

Maxxam Analytics International Corporation o/a Maxxam Analytics
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free:(604) 734 7276 Fax (604) 731 2386 www.maxxam.ca

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#7634 City of Parksville	Company Name:		Quotation #:	B11293
Contact Name:	Scott Churko	Contact Name:		P.O. #:	
Address:	Engineering and Operations Dpt PO Box 1390	Address:		Project #:	
	Parksville BC V9P 2H3			Project Name:	
Phone:	(250)248-5412 Fax: (250)248-6140	Phone:	Fax:	Site #:	
Email:	schurko@parksville.ca	Email:		Sampled By:	

MAXX
~~B1A73~~
B
CHAIN OF
C#2003

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

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

ANALYSIS REQUESTED (Please be specific):

TURN
PLEASE PROV
Regular (Standard) TAT:
(will be applied if Rush TA
Standard TAT = 5-7 Work
Please note: Standard TA
days - contact your Projec
Job Specific Rush TAT (
Date Required:
Rush Confirmation Numbe

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	MONTHLY								# of Bottles	
1	CA7401	New Intake.	Nov 3/11	12:15		N	N	X								5	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Time Sensitive
S Churko / Scott Churko	11/11/03	3:00	Nicole Lockyer	11/11/04	08:50		☐

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.