

**Attention: Bob Weir**  
 Town of Qualicum Beach  
 201-660 Primrose St  
 P.O. Box 130  
 Qualicum Beach, BC  
 Canada V9K 1S7

**Report Date: 2013/10/18**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B393846**  
**Received: 2013/10/11, 09:10**

Sample Matrix: Water  
 # Samples Received: 6

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Colour (True)	6	N/A	2013/10/11	BBY6SOP-00021	SM-2120B
Hardness Total (calculated as CaCO3)	6	N/A	2013/10/17	BBY7SOP-00002	EPA 6020A
ICP-AES Total Metals in Water	6	2013/10/17	2013/10/17	BBY7SOP-00018	EPA 6010C
Nitrogen (Total)	6	2013/10/15	2013/10/16	BBY6SOP-00016	SM-4500N C
Ammonia-N (Preserved)	6	N/A	2013/10/11	BBY6SOP-00009	SM-4500NH3G
Nitrate + Nitrite (N)	6	N/A	2013/10/11	BBY6SOP-00010	SM 4500NO3-I
Nitrite (N) by CFA	6	N/A	2013/10/11	BBY6SOP-00010	EPA 353.2
Nitrogen - Nitrate (as N)	6	N/A	2013/10/12	BBY6SOP-00010	SM 4500NO3-I
pH Water	6	N/A	2013/10/12	BBY6SOP-00026	SM-4500H+B
Total Dissolved Solids (Filt. Residue)	6	2013/10/17	2013/10/18	BBY6SOP-00033	SM 2540C
TKN (Calc. TN, N/N) total	6	N/A	2013/10/16	BBY6SOP-00022	SM 4500N-C
Carbon (Total Organic) (1)	6	N/A	2013/10/11	BBY6SOP-00003	SM-5310C
Total Phosphorus	6	N/A	2013/10/12	BBY6SOP-00013	SM 4500 PE
Turbidity	6	N/A	2013/10/11	BBY6SOP-00027	SM - 2130B

\* Results relate only to the items tested.

(1) TOC present in the sample should be considered as non-purgeable TOC.

Encryption Key

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

Jasmeen Jatana, Project Manager  
 Email: JJatana@maxxam.ca  
 Phone# (604) 734 7276

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 This report has been generated and distributed using a secure automated process.  
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Total cover pages: 1

Maxxam Job #: B393846  
 Report Date: 2013/10/18

Town of Qualicum Beach

Sampler Initials: SW

**RESULTS OF CHEMICAL ANALYSES OF WATER**

Maxxam ID					HU3917	HU3918	HU3919	HU3924	HU3925	HU3926	
Sampling Date					2013/10/10 08:13	2013/10/10 08:32	2013/10/10 07:58	2013/10/10 09:13	2013/10/10 08:53	2013/10/10 09:03	
COC#					G070983	G070983	G070983	G070984	G070984	G070984	
	UNITS	Criteria A	Criteria B	Criteria C	RIVERWELL #5	RIVERWELL #6	RIVERWELL #7	BERWICK WELL #1	BERWICK WELL #2	BERWICK WELL #3	RDL
<b>ANIONS</b>											
Nitrite (N)	mg/L	1			<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050
<b>Calculated Parameters</b>											
Total Hardness (CaCO <sub>3</sub> )	mg/L				45.2	48.7	61.8	151	146	128	0.50
Nitrate (N)	mg/L	10			0.139	0.201	0.116	0.467	0.605	0.617	0.020
<b>Misc. Inorganics</b>											
Total Organic Carbon (C)	mg/L				0.56	0.56	0.60	0.67	0.54	0.64	0.50
<b>MISCELLANEOUS</b>											
True Colour	Col. Unit		15		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0
<b>Nutrients</b>											
Ammonia (N)	mg/L				0.0069	0.010	0.0061	0.0093	0.0090	0.0053	0.0050
Total Total Kjeldahl Nitrogen (Calc)	mg/L				0.064	0.044	0.055	<0.020	0.056	<0.020	0.020
Nitrate plus Nitrite (N)	mg/L				0.139	0.201	0.116	0.467	0.605	0.617	0.020
Total Nitrogen (N)	mg/L				0.203	0.245	0.171	0.484	0.661	0.629	0.020
Total Phosphorus (P)	mg/L				<0.0050	<0.0050	<0.0050	0.0175	0.0133	0.0167	0.0050
<b>Physical Properties</b>											
pH	pH Units		6.5:8.5		7.50	7.59	7.55	8.12	7.98	8.06	
<b>Physical Properties</b>											
Total Dissolved Solids	mg/L		500		74	84	100	200	186	174	10
Turbidity	NTU	see remark	see remark	see remark	<0.10	<0.10	0.16	<0.10	<0.10	<0.10	0.10

RDL = Reportable Detection Limit

Criteria A, Criteria B, Criteria C: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, August 2012.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG)

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.

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**ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)**

Maxxam ID			HU3917	HU3918	HU3919	HU3924	HU3925	HU3926	
Sampling Date			2013/10/10 08:13	2013/10/10 08:32	2013/10/10 07:58	2013/10/10 09:13	2013/10/10 08:53	2013/10/10 09:03	
COC#			G070983	G070983	G070983	G070984	G070984	G070984	
	<b>UNITS</b>	<b>Criteria B</b>	<b>RIVERWELL #5</b>	<b>RIVERWELL #6</b>	<b>RIVERWELL #7</b>	<b>BERWICK WELL #1</b>	<b>BERWICK WELL #2</b>	<b>BERWICK WELL #3</b>	<b>RDL</b>
<b>Total Metals by ICP</b>									
Total Iron (Fe)	mg/L	0.3	<0.010	<0.010	0.040	<0.010	<0.010	<0.010	0.010

RDL = Reportable Detection Limit

Criteria A, Criteria B, Criteria C: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, August 2012.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG)

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.

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Package 1	5.3°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

#### General Comments

Sample HU3917-01: 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.

Sample HU3918-01: 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.

Sample HU3919-01: 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.

Sample HU3924-01: 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.

Sample HU3925-01: 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.


Sample HU3926-01: 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.

**Validation Signature Page**

**Maxxam Job #: B393846**

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



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Andy Lu, Data Validation Coordinator

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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.



Maxxam Job#: B393846

G 070983

Invoice To: Require Report? Yes  No

Report To:

Company Name: \_\_\_\_\_  
 Contact Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Phone / Fax#: Pbc: \_\_\_\_\_ Fax: \_\_\_\_\_  
 E-mail: \_\_\_\_\_

Company Name: TOWN OF QUALICUM BEACH  
 Contact Name: BOB WEIR  
 Address: #201-660 PRIMROSE ST.  
P.O. BOX 130 PO: V9K 1S7  
 Phone / Fax#: Ph: 250726921 Fax: 2507521243  
 E-mail: BOBWEIR@QUALICUMBACH.COM

PO #: \_\_\_\_\_  
 Quotation #: \_\_\_\_\_  
 Project #: \_\_\_\_\_  
 Proj. Name: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Sampled By: S Wood

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- CSR  Regular Turn Around Time (TAT) (5 days for most tests)  
 CCME  RUSH (Please contact the lab)  
 BC Water Quality  1 Day  2 Day  3 Day  
 Other Date Required: \_\_\_\_\_  
 DRINKING WATER

*\* ALL SAMPLES ARE RAW WATER*

Special Instructions:  
 Return Cooler  Ship Sample Bottles (please specify)

ANALYSIS REQUESTED

Sample ID	Analysis	Result	Notes
1 RIVERWELL #5	Turbidity	X	1 LITRE
2 " " #6	Turbidity	X	
3 " " #7	Turbidity	X	
4 RIVERWELL #5	Turbidity	X	120 ml H <sub>2</sub> SO <sub>4</sub>
5 " " #6	Turbidity	X	
6 " " #7	Turbidity	X	
7 RIVERWELL #5	Turbidity	X	120 ml HNO <sub>3</sub>
8 " " #6	Turbidity	X	
9 " " #7	Turbidity	X	
10 RIVERWELL #5	Turbidity	/	120 ml
11 " " #6	Turbidity	/	
12 " " #7	Turbidity	/	

*Relinquished by: <u>S Wood</u>	Date (YY/MM/DD): <u>13/10/10</u>	Time: _____	Received by: <u>[Signature]</u>	Date (YY/MM/DD): <u>2013/10/11</u>	Time: <u>09:10</u>	Time Sensitive: <input type="checkbox"/>	Temperature on Receipt (°C): <u>4.57</u>	Custody Seal (last on Cooler?) Yes <u>NA</u> No <input type="checkbox"/>
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B393846

Samples are from a Drinking Water Source? YES  NO   
 Does source supply multiple households? YES  NO



Maxxam Job#: B393846

G 070984



Invoice To: Require Report? Yes  No

Report To:

Company Name: \_\_\_\_\_  
Contact Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
PC: \_\_\_\_\_  
Phone / Fax#: Ph: \_\_\_\_\_ Fac: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Company Name: TOWN OF QUALIKUM BEACH  
Contact Name: BOB WEIR  
Address: #201-660 PRIMROSE ST.  
PO BOX 130 PC: V9K 1S7  
Phone / Fax#: Ph: 2507526921 Fax: 2507521243  
E-mail: BOBWEIR@QUALIKUMBEACH.COM

PO #: \_\_\_\_\_  
Quotation #: \_\_\_\_\_  
Project #: \_\_\_\_\_  
Proj. Name: \_\_\_\_\_  
Location: \_\_\_\_\_  
Sampled By: S Wood

REGULATORY REQUIREMENTS SERVICE REQUESTED:

- CSR  Regular Turn Around Time (TAT) (5 days for most tests)
- CCME  RUSH (Please contact the lab)
- BC Water Quality  1 Day  2 Day  3 Day
- Other \_\_\_\_\_ Date Required: \_\_\_\_\_
- DRINKING WATER

Special Instructions:

Return Cooler  Ship Sample Bottles (please specify)

*\* ALL SAMPLES ARE "RAW" WATER*

ANALYSIS REQUESTED

Sample ID	Sample Type	Volume	MTBE	VOC/MPH	TEH	LEP/HEPH	DDM-PHC (Fractions 1-4 Plus BTEX)	DDM-PHC (Fractions 2-4)	DDM-BTEX (Fraction 1 Plus BTEX)	PCB	Phenols by UAPP	Phenols by GDMS	TUG	MOG	BVCG	Free Formald	Free Acetalde	Total Metals (incl. Arsenic?)	Nitrate	Nitrite	Ammonia	Chloride	Fluoride	Sulfate	Total Suspended Solids-TSS	TDS	Alkalinity	pH	Conductivity	BOD	COO	Oxidant, Total & Free	Free	Asbestos	TURBIDITY	COLOUR	TK.N. & T.O.C.	TOTAL PHOS.	TOTAL IRON	HAZARDNESS	Other								
1 BERWICK WELL #1	H <sub>2</sub> O	1 LITRE																								X	X								X	X													
2 " " #2	"	1 LITRE																								X	X								X	X													
3 " " #3	"																									X	X								X	X													
4 BERWICK WELL #1	"																						X														X	X											
5 " " #2	"	120ml H <sub>2</sub> SO <sub>4</sub>																				X															X	X											
6 " " #3	"																					X															X	X											
7 BERWICK WELL #1	"																																							X	X								
8 " " #2	"	120ml HNO <sub>3</sub>																																					X	X									
9 " " #3	"																																					X	X										
10 BERWICK WELL #1	"																																							X	X								
11 " " #2	"	120ml																																															
12 " " #3	"																																																

YES  NO   
YES  NO   
Samples are from a Drinking Water Source?  
Does source supply multiple households?

\*Relinquished by: S Wood Date (YY/MM/DD): 13/10/10 Time: \_\_\_\_\_  
Received by: Bob Weir Date (YY/MM/DD): 13/10/10 Time: 09:10

Time Sensitive:   
Temperature on Receipt (°C): 4.57  
Custody Contact on Cooler? NA  
Yes  No