

Your Project #: ANNUAL TREATED WATER
 Site Location: SITE #1
 Your C.O.C. #: WI000907

Attention: MARK SPRINGFORD

VILLAGE OF CUMBERLAND
 PO BOX 340
 CUMBERLAND, BC
 CANADA VOR 1S0

Report Date: 2016/01/13
 Report #: R2115077
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B601061

Received: 2016/01/07, 09:30

Sample Matrix: DRINKING WATER
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Alkalinity - Water (1)	1	2016/01/08	2016/01/09	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry (1)	1	N/A	2016/01/08	BBY6SOP-00011	SM 22 4500-Cl- G m
Colour (True) by Kone Lab (1)	1	N/A	2016/01/09	BBY6SOP-00057	SM 22 2120 C m
Coliforms & E.coli by Quantitray (MPN)	1	N/A	2016/01/07	CTYSOP-00002	Based on SM-9223
Conductance - water (1)	1	N/A	2016/01/09	BBY6SOP-00026	SM 22 2510 B m
Fluoride (1)	1	N/A	2016/01/08	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO ₃) (1)	1	N/A	2016/01/08	BBY7SOP-00002	EPA 6020a R1 m
Mercury (Total) by CVAf (1)	1	2016/01/13	2016/01/13	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total) (1)	1	N/A	2016/01/08	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total) (1)	1	N/A	2016/01/08	BBY7SOP-00002	EPA 6020A R1 m
Nitrate + Nitrite (N) (1)	1	N/A	2016/01/08	BBY6SOP-00010	SM 22 4500-NO ₃ - I m
Nitrite (N) by CFA (1)	1	N/A	2016/01/08	BBY6SOP-00010	SM 22 4500-NO ₃ - I m
Nitrogen - Nitrate (as N) (1)	1	N/A	2016/01/08	BBY6SOP-00010	SM 22 4500-NO ₃ I m
pH Water (1, 2)	1	N/A	2016/01/09	BBY6SOP-00026	SM 22 4500-H+ B m
Sulphate by Automated Colourimetry (1)	1	N/A	2016/01/08	BBY6SOP-00017	SM 22 4500-SO ₄ 2- E m
Total Dissolved Solids (Filt. Residue) (1)	1	2016/01/08	2016/01/11	BBY6SOP-00033	SM 22 2540 C m
Total Trihalomethanes Calculation (1)	1	N/A	2016/01/11	BBY WI-00033	BC MOE Lab Method
Turbidity (1)	1	N/A	2016/01/08	BBY6SOP-00027	SM 22 2130 B m
VOCs, VH, F1, LH in Water by HS GC/MS (1)	1	2016/01/08	2016/01/11	BBY8SOP-00009	EPA 8260c R3 m

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 Vancouver

(2) 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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RESULTS OF CHEMICAL ANALYSES OF DRINKING WATER

Maxxam ID					NX8552	
Sampling Date					2016/01/07 08:55	
COC Number					WI000907	
	UNITS	MAC	AO	OG	SITE #1 ANNUAL	RDL
ANIONS						
Nitrite (N)	mg/L	1	-	-	<0.0050	0.0050
Calculated Parameters						
Nitrate (N)	mg/L	10	-	-	<0.020	0.020
Misc. Inorganics						
Fluoride (F)	mg/L	1.5	-	-	0.013	0.010
Alkalinity (Total as CaCO3)	mg/L	-	-	-	8.43	0.50
Alkalinity (PP as CaCO3)	mg/L	-	-	-	<0.50	0.50
Bicarbonate (HCO3)	mg/L	-	-	-	10.3	0.50
Carbonate (CO3)	mg/L	-	-	-	<0.50	0.50
Hydroxide (OH)	mg/L	-	-	-	<0.50	0.50
Anions						
Dissolved Sulphate (SO4)	mg/L	-	500	-	<0.50	0.50
Dissolved Chloride (Cl)	mg/L	-	250	-	1.9	0.50
MISCELLANEOUS						
True Colour	Col. Unit	-	15	-	24.0	5.0
Nutrients						
Nitrate plus Nitrite (N)	mg/L	-	-	-	<0.020	0.020
Physical Properties						
Conductivity	uS/cm	-	-	-	26.4	1.0
pH	pH	-	6.5:8.5	-	7.22	N/A
Physical Properties						
Total Dissolved Solids	mg/L	-	500	-	18	10
Turbidity	NTU	see remark	see remark	see remark	0.95	0.10
Volatiles						
Total Trihalomethanes	ug/L	100	-	-	33	1.0
Microbiological Param.						
Total Coliforms	MPN/100mL	<1	-	-	<1	1
E. coli	MPN/100mL	<1	-	-	<1	1
RDL = Reportable Detection Limit N/A = Not Applicable						

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

Maxxam ID					NX8552	
Sampling Date					2016/01/07 08:55	
COC Number					WI000907	
	UNITS	MAC	AO	OG	SITE #1 ANNUAL	RDL
Calculated Parameters						
Total Hardness (CaCO3)	mg/L	-	-	-	9.69	0.50
Elements						
Total Mercury (Hg)	ug/L	1	-	-	<0.010	0.010
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	-	-	100	59.0	3.0
Total Antimony (Sb)	ug/L	6	-	-	<0.50	0.50
Total Arsenic (As)	ug/L	10	-	-	<0.10	0.10
Total Barium (Ba)	ug/L	1000	-	-	<1.0	1.0
Total Beryllium (Be)	ug/L	-	-	-	<0.10	0.10
Total Bismuth (Bi)	ug/L	-	-	-	<1.0	1.0
Total Boron (B)	ug/L	5000	-	-	<50	50
Total Cadmium (Cd)	ug/L	5	-	-	<0.010	0.010
Total Chromium (Cr)	ug/L	50	-	-	<1.0	1.0
Total Cobalt (Co)	ug/L	-	-	-	<0.50	0.50
Total Copper (Cu)	ug/L	-	1000	-	11.4	0.20
Total Iron (Fe)	ug/L	-	300	-	205	5.0
Total Lead (Pb)	ug/L	10	-	-	0.68	0.20
Total Manganese (Mn)	ug/L	-	50	-	15.6	1.0
Total Molybdenum (Mo)	ug/L	-	-	-	<1.0	1.0
Total Nickel (Ni)	ug/L	-	-	-	<1.0	1.0
Total Selenium (Se)	ug/L	50	-	-	<0.10	0.10
Total Silicon (Si)	ug/L	-	-	-	3030	100
Total Silver (Ag)	ug/L	-	-	-	<0.020	0.020
Total Strontium (Sr)	ug/L	-	-	-	6.1	1.0
Total Thallium (Tl)	ug/L	-	-	-	<0.050	0.050
Total Tin (Sn)	ug/L	-	-	-	<5.0	5.0
Total Titanium (Ti)	ug/L	-	-	-	<5.0	5.0
Total Uranium (U)	ug/L	20	-	-	<0.10	0.10
Total Vanadium (V)	ug/L	-	-	-	<5.0	5.0
Total Zinc (Zn)	ug/L	-	5000	-	14.6	5.0
Total Zirconium (Zr)	ug/L	-	-	-	<0.50	0.50
Total Calcium (Ca)	mg/L	-	-	-	2.57	0.050
Total Magnesium (Mg)	mg/L	-	-	-	0.792	0.050
Total Potassium (K)	mg/L	-	-	-	0.065	0.050
RDL = Reportable Detection Limit						

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Maxxam ID					NX8552	
Sampling Date					2016/01/07 08:55	
COC Number					WI000907	
	UNITS	MAC	AO	OG	SITE #1 ANNUAL	RDL
Total Sodium (Na)	mg/L	-	200	-	0.916	0.050
Total Sulphur (S)	mg/L	-	-	-	<3.0	3.0
RDL = Reportable Detection Limit						

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TRIHALOMETHANES (THM) IN WATER

Maxxam ID		NX8552	
Sampling Date		2016/01/07 08:55	
COC Number		WI000907	
	UNITS	SITE #1 ANNUAL	RDL
Volatiles			
Chloroform	ug/L	33	1.0
Chlorodibromomethane	ug/L	<1.0	1.0
Bromodichloromethane	ug/L	<1.0	1.0
Bromoform	ug/L	<1.0	1.0
Surrogate Recovery (%)			
1,4-Difluorobenzene (sur.)	%	99	
4-Bromofluorobenzene (sur.)	%	95	
D4-1,2-Dichloroethane (sur.)	%	100	
RDL = Reportable Detection Limit			

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GENERAL COMMENTS

MAC,AO,OG: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, October 2014.

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.

Results relate only to the items tested.