Date: 10-OCT-19
PO No.:
WO No.: L2357988
LSD:
Project Ref:
Sample ID: ANNUAL RAW WATER SAMPLE
Sampled By:
Date Collected: 01-OCT-19
Lab Sample ID: L2357988-1
Matrix: Water

VILLAGE OF FRASER LAKE
210 Carrier Cres
PO Box 430
Fraser Lake BC V0J 1S0
ATTN: Jeff Graham

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Physical Tests						
Colour, True	15.8		CU		15	04-OCT-19
Conductivity	114		uS/cm			03-OCT-19
Hardness (as CaCO3)	45.4	HTC	mg/L		500	06-OCT-19
Langelier Index Temperature	10		C			01-OCT-19
Langelier Index	-1.6		none			09-OCT-19
pH	7.04		pH		7-10.5	03-OCT-19
Total Dissolved Solids	79		mg/L		500	08-OCT-19
Turbidity	0.71		NTU			04-OCT-19
Anions and Nutrients						
Alkalinity, Total (as CaCO3)	49.6		mg/L			03-OCT-19
Ammonia, Total (as N)	0.0264		mg/L			08-OCT-19
Chloride (Cl)	1.35		mg/L		250	03-OCT-19
Fluoride (F)	0.074		mg/L	1.5		03-OCT-19
Nitrate (as N)	0.0550		mg/L	10		03-OCT-19
Nitrite (as N)	0.0012		mg/L	1		03-OCT-19
Total Kjeldahl Nitrogen	0.267		mg/L			09-OCT-19
Total Organic Nitrogen	0.240		mg/L			10-OCT-19
Sulfate (SO4)	6.95		mg/L		500	03-OCT-19
Organic / Inorganic Carbon						
Total Organic Carbon	7.61		mg/L			08-OCT-19
Total Metals						
Aluminum (Al)-Total	0.014		mg/L		0.1	04-OCT-19
Antimony (Sb)-Total	<0.00050		mg/L	0.006		04-OCT-19
Arsenic (As)-Total	0.00058		mg/L	0.01		04-OCT-19
Barium (Ba)-Total	<0.020		mg/L	1		04-OCT-19
Boron (B)-Total	<0.10		mg/L	5		04-OCT-19
Cadmium (Cd)-Total	<0.00020		mg/L	0.005		04-OCT-19
Calcium (Ca)-Total	12.8		mg/L			04-OCT-19
Chromium (Cr)-Total	<0.0020		mg/L	0.05		04-OCT-19
Copper (Cu)-Total	0.0013		mg/L	2.0	1.0	04-OCT-19
Iron (Fe)-Total	0.053		mg/L		0.3	04-OCT-19
Lead (Pb)-Total	<0.00050		mg/L	0.005		04-OCT-19
Magnesium (Mg)-Total	3.26		mg/L			04-OCT-19
Manganese (Mn)-Total	0.0192		mg/L	0.12	0.02	04-OCT-19
Mercury (Hg)-Total	<0.00020		mg/L	0.001		05-OCT-19
Potassium (K)-Total	1.07		mg/L			04-OCT-19
Selenium (Se)-Total	<0.0010		mg/L	0.05		04-OCT-19
Sodium (Na)-Total	4.0		mg/L		200	04-OCT-19
Uranium (U)-Total	0.00014		mg/L	0.02		04-OCT-19
Zinc (Zn)-Total	<0.050		mg/L		5.0	04-OCT-19

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CDWQG = Health Canada Guideline Limits updated	**JUNE 2019**					

* CDWQG for Nitrate+Nitrite-N is the limit for nitrate only. If present as Nitrate then the limit is 10mg/L < or N.D. = less than detection limit.
* Turbidity guideline based on membrane filtration. For guidelines on conventional treatment and slow sand or diatomaceous earth filtration please see Summary Table of Guidelines for Canadian Drinking Water Quality
- A blank entry designates no known limit.
- A shaded value in the Results column exceeds CDWQG MAC and/ or Aesthetic Objective.

Approved by

Amanda Lampreau
Account Manager

Guidelines & Objectives

Sample Parameter Qualifier key listed:

Qualifier	Description
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).

Health Canada MAC Health Related Criteria Limits

Nitrate/Nitrite-N*	Criteria limit is 10 mg/L (1.0 mg/L if present as all Nitrite-N). High concentrations may contribute to blue baby syndrome in infants.
Lead*	A cumulative body poison, uncommon in naturally occurring hard waters.
Fluoride*	Present in fluoridated water supplies at 0.8 mg/L to reduce dental caries. Elevated levels causes fluorosis (mottling of teeth).
Total Coliforms*	Criteria is 0 CFU/100mL. Adverse health effects.
E. Coli*	Criteria is 0 CFU/100 mL. Certain E. Coli bacteria can be life threatening.
Manganese*	Criteria limit is 0.12 mg/L. Possible neurological effects in infants.

*Health Canada Canadian Drinking Water Quality Guidelines (MAC limit)

Aesthetic Objective Concentration Levels

Alkalinity	Acid neutralizing capacity. Usually a measure of carbonate and bicarbonates and calculated and reported as calcium carbonate.
Balance	Quality control parameter ratioing cations to anions
Bicarbonate	See Alkalinity. Report as the anion HCO3-1
Carbonate	See Alkalinity. Reported at the anion CO3-2
Calcium	See Hardness. Common major cation of water chemistry.
Chloride	Common major anion of water chemistry.
Conductance	Physical test measuring water salinity (dissolved ions or solids)
Hardness	Classical measure or capacity of water to precipitate soap (chiefly calcium and magnesium ions). Causes scaling tendency in water if carbonates/bicarbonates are present (if >200 mg/L). For drinking water purposes waters with results <200 mg/L are considered acceptable, results >200 mg/L are considered poor but can be tolerated. Results >500 mg/L are unacceptable.
Hydroxide	See alkalinity
Magnesium	See hardness. Common major cation of water chemistry. Elevated levels (>125 mg/L) may exert a cathartic or diuretic action.
pH	Measure of water acidity/alkalinity. Normal range is 7.0-8.5.
Potassium	Common major cation of water chemistry.
Sodium	Common major cation of water chemistry. Measure of salinity (saltiness).
Sulphate	Common major anion of water chemistry. Elevated levels may exert a cathartic or diuretic action.
Total Dissolved Solids	A measure of water salinity.
Iron	Causes staining to laundry and porcelain and astringent taste. Oxidizes to red-brown precipitate on exposure to air.
Heterotrophic Plate Count	Criteria is 500 cfu/mL Measure of heterotrophic bacteria present.

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.