

REPORTED TO	Regional District of Thompson Nicola 300 - 465 Victoria Street Kamloops, BC V2C 2A9	TEL	(250) 377-8673
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ATTENTION	Shawn Kratchmer	WORK ORDER	5041047
PO NUMBER	23929	RECEIVED / TEMP	Apr-16-15 10:15 / 12°C
PROJECT	Spences Bridge CWS	REPORTED	Apr-23-15
PROJECT INFO		COC NUMBER	B15930

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Authorized By: **Ed Hoppe, B.Sc., P.Chem.**
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Please contact CARO if more information is needed or to provide feedback on our services.

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Spences Bridge CWS

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Apr-23-15

Analysis Description	Method Reference	Technique	Location
Alkalinity (Total)	APHA 2320 B	Titration with H2SO4 to pH 4.5	Kelowna
Anions in Water by IC	APHA 4110 B	Ion Chromatography with Chemical Suppression of Eluent Conductivity	Kelowna
Colour, True	APHA 2120 C	Spectrophotometry (456 nm)	Kelowna
Conductivity in Water	APHA 2510 B	Conductivity Meter	Kelowna
Cyanide, Total in Liquids	APHA 4500-CN- C / APHA 4500-CN- E	Distillation / Colorimetry	Kelowna
E. coli (CCA)	APHA 9222*	Membrane Filtration / Chromocult Agar	Kelowna
Hardness (as CaCO3)	APHA 2340 B	Calculation	N/A
Mercury, total by CVAFS	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	Richmond
pH in Water	APHA 4500-H+ B	Electrometry	Kelowna
Solids, Total Dissolved	APHA 1030 E	Calculation	N/A
Total Coliforms (CCA)	APHA 9222*	Membrane Filtration / Chromocult Agar	Kelowna
Total Recoverable Metals	APHA 3030E* / APHA 3125 B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma Mass Spectrometry (ICP-MS)	Richmond
Transmissivity at 254 nm	APHA 5910 B	Ultraviolet Absorption	Kelowna
Turbidity	APHA 2130 B	Nephelometry	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Method Reference Descriptions:

APHA Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation
EPA United States Environmental Protection Agency Test Methods

Glossary of Terms:

MRL Method Reporting Limit
< Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
AO Aesthetic objective
MAC Maximum acceptable concentration (health based)
OG Operational guideline (treated water)
% T Percent Transmittance
CFU/100 mL Colony Forming Units per 100 millilitres
CU Colour Units (referenced against a platinum cobalt standard)
mg/L Milligrams per litre
NTU Nephelometric Turbidity Units
pH units pH < 7 = acidic, pH > 7 = basic
µS/cm Microsiemens per centimetre

Standards / Guidelines Referenced in this Report:

Guidelines for Canadian Drinking Water Quality (Oct 2014)
Website: http://www.hc-sc.gc.ca/ewh-semt/alt_formats/pdf/pubs/water-eau/sum_guide-res_recom/sum_guide-res_recom-eng.pdf

Note: In some cases, the values displayed on the report represent the lowest guideline and are to be verified by the end user

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Analyte	Result / Recovery	Standard / Guideline	MRL / Units Limits	Prepared	Analyzed	Notes
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Sample ID: Spences Bridge Pump House (5041047-01) [Water] Sampled: Apr-15-15 11:15

Anions						
Chloride	6.74	AO ≤ 250	0.10 mg/L	N/A	Apr-17-15	
Fluoride	< 0.10	MAC = 1.5	0.10 mg/L	N/A	Apr-17-15	
Nitrate as N	0.499	MAC = 10	0.010 mg/L	N/A	Apr-17-15	
Nitrite as N	< 0.010	MAC = 1	0.010 mg/L	N/A	Apr-17-15	
Sulfate	76.5	AO ≤ 500	1.0 mg/L	N/A	Apr-17-15	
General Parameters						
Alkalinity, Total as CaCO3	153	N/A	1 mg/L	N/A	Apr-16-15	
Colour, True	< 5	AO ≤ 15	5 CU	N/A	Apr-17-15	
Conductivity (EC)	451	N/A	2 µS/cm	N/A	Apr-16-15	
Cyanide, Total	< 0.010	MAC = 0.2	0.010 mg/L	Apr-20-15	Apr-21-15	
pH	8.01	6.5-8.5	0.01 pH units	N/A	Apr-16-15	HT2
Turbidity	0.1	OG < 0.1	0.1 NTU	N/A	Apr-17-15	
UV Transmittance @ 254nm	91.9	N/A	0.1 % T	N/A	Apr-17-15	
Calculated Parameters						
Hardness, Total (Total as CaCO3)	208	N/A	5.0 mg/L	N/A	N/A	
Solids, Total Dissolved	275	AO ≤ 500	2.0 mg/L	N/A	N/A	
Total Recoverable Metals						
Aluminum, total	< 0.05	OG < 0.1	0.05 mg/L	Apr-21-15	Apr-22-15	
Antimony, total	< 0.001	MAC = 0.006	0.001 mg/L	Apr-21-15	Apr-22-15	
Arsenic, total	< 0.005	MAC = 0.01	0.005 mg/L	Apr-21-15	Apr-22-15	
Barium, total	< 0.05	MAC = 1	0.05 mg/L	Apr-21-15	Apr-22-15	
Beryllium, total	< 0.001	N/A	0.001 mg/L	Apr-21-15	Apr-22-15	
Boron, total	0.40	MAC = 5	0.04 mg/L	Apr-21-15	Apr-22-15	
Cadmium, total	< 0.0001	MAC = 0.005	0.0001 mg/L	Apr-21-15	Apr-22-15	
Calcium, total	52.0	N/A	2.0 mg/L	Apr-21-15	Apr-22-15	
Chromium, total	< 0.005	MAC = 0.05	0.005 mg/L	Apr-21-15	Apr-22-15	
Cobalt, total	< 0.0005	N/A	0.0005 mg/L	Apr-21-15	Apr-22-15	
Copper, total	< 0.002	AO ≤ 1	0.002 mg/L	Apr-21-15	Apr-22-15	
Iron, total	< 0.10	AO ≤ 0.3	0.10 mg/L	Apr-21-15	Apr-22-15	
Lead, total	0.004	MAC = 0.01	0.001 mg/L	Apr-21-15	Apr-22-15	
Magnesium, total	19.0	N/A	0.1 mg/L	Apr-21-15	Apr-22-15	
Manganese, total	0.012	AO ≤ 0.05	0.002 mg/L	Apr-21-15	Apr-22-15	
Mercury, total	< 0.00002	MAC = 0.001	0.00002 mg/L	Apr-22-15	Apr-23-15	
Molybdenum, total	0.003	N/A	0.001 mg/L	Apr-21-15	Apr-22-15	
Nickel, total	0.005	N/A	0.002 mg/L	Apr-21-15	Apr-22-15	
Phosphorus, total	< 0.2	N/A	0.2 mg/L	Apr-21-15	Apr-22-15	
Potassium, total	2.3	N/A	0.2 mg/L	Apr-21-15	Apr-22-15	
Selenium, total	< 0.005	MAC = 0.05	0.005 mg/L	Apr-21-15	Apr-22-15	
Silicon, total	7	N/A	5 mg/L	Apr-21-15	Apr-22-15	
Silver, total	< 0.0005	N/A	0.0005 mg/L	Apr-21-15	Apr-22-15	
Sodium, total	23.1	AO ≤ 200	0.2 mg/L	Apr-21-15	Apr-22-15	
Uranium, total	0.0015	MAC = 0.02	0.0002 mg/L	Apr-21-15	Apr-22-15	
Vanadium, total	< 0.01	N/A	0.01 mg/L	Apr-21-15	Apr-22-15	
Zinc, total	< 0.04	AO ≤ 5	0.04 mg/L	Apr-21-15	Apr-22-15	

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Sample ID: Spences Bridge Pump House (5041047-01) [Water] Sampled: Apr-15-15 11:15, Continued

Microbiological Parameters

Coliforms, Total	< 1	MAC = None Detected	1 CFU/100 mL	Apr-16-15	Apr-17-15	
E. coli	< 1	MAC = None Detected	1 CFU/100 mL	Apr-16-15	Apr-17-15	

Sample / Analysis Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.