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JUN 26 2015

REPORTED TO Regional District of Thompson Nicola
300 - 465 Victoria Street
Kamloops, BC V2C 2A9

TEL (250) 377-8673
FAX (250) 374-6489

ATTENTION Arden Bolton

WORK ORDER 5060905

PO NUMBER 23929
PROJECT Blue River CWS
PROJECT INFO

RECEIVED / TEMP Jun-10-15 10:00 / 8°C
REPORTED Jun-17-15
COC NUMBER B15973

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.**
Division Manager, Kelowna

Please contact CARO if more information is needed or to provide feedback on our services.

Locations:

#110 4011 Viking Way
Richmond, BC V6V 2K9
Tel: 604-279-1499 Fax: 604-279-1599

#102 3677 Highway 97N
Kelowna, BC V1X 5C3
Tel: 250-765-9646 Fax: 250-765-3893

17225 109 Avenue
Edmonton, AB T5S 1H7
Tel: 780-489-9100 Fax: 780-489-9700

www.caro.ca

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Analysis Description	Method Reference	Technique	Location
Alkalinity (Total)	APHA 2320 B	Titration with H ₂ SO ₄ 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
Hardness (as CaCO ₃)	APHA 2340 B	Calculation	N/A
pH in Water	APHA 4500-H+ B	Electrometry	Kelowna
Solids, Total Dissolved	APHA 1030 E	Calculation	N/A
Total Recoverable Metals	APHA 3030E* / APHA 3125 B	HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma Mass Spectrometry (ICP-MS)	Richmond
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

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)
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 / Limits	Units	Prepared	Analyzed	Notes
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Sample ID: Blue River CWS (5060905-01) [Water] Sampled: Jun-08-15 21:45

Anions

Chloride	0.17	AO ≤ 250	0.10	mg/L	N/A	Jun-12-15	
Fluoride	< 0.10	MAC = 1.5	0.10	mg/L	N/A	Jun-12-15	
Nitrate as N	0.043	MAC = 10	0.010	mg/L	N/A	Jun-12-15	HT1
Nitrite as N	< 0.010	MAC = 1	0.010	mg/L	N/A	Jun-12-15	HT1
Sulfate	6.9	AO ≤ 500	1.0	mg/L	N/A	Jun-12-15	

General Parameters

Alkalinity, Total as CaCO3	78	N/A	1	mg/L	N/A	Jun-16-15	
Colour, True	< 5	AO ≤ 15	5	CU	N/A	Jun-12-15	HT1
Conductivity (EC)	146	N/A	2	µS/cm	N/A	Jun-16-15	
pH	7.71	6.5-8.5	0.01	pH units	N/A	Jun-16-15	HT2
Turbidity	0.3	OG < 0.1	0.1	NTU	N/A	Jun-12-15	HT1

Calculated Parameters

Hardness, Total (Total as CaCO3)	73.8	N/A	5.0	mg/L	N/A	N/A	
Solids, Total Dissolved	86.4	AO ≤ 500	2.0	mg/L	N/A	N/A	

Total Recoverable Metals

Aluminum, total	< 0.05	OG < 0.1	0.05	mg/L	Jun-15-15	Jun-16-15	
Antimony, total	< 0.001	MAC = 0.006	0.001	mg/L	Jun-15-15	Jun-16-15	
Arsenic, total	< 0.005	MAC = 0.01	0.005	mg/L	Jun-15-15	Jun-16-15	
Barium, total	< 0.05	MAC = 1	0.05	mg/L	Jun-15-15	Jun-16-15	
Beryllium, total	< 0.001	N/A	0.001	mg/L	Jun-15-15	Jun-16-15	
Boron, total	< 0.04	MAC = 5	0.04	mg/L	Jun-15-15	Jun-16-15	
Cadmium, total	< 0.0001	MAC = 0.005	0.0001	mg/L	Jun-15-15	Jun-16-15	
Calcium, total	22.3	N/A	2.0	mg/L	Jun-15-15	Jun-16-15	
Chromium, total	< 0.005	MAC = 0.05	0.005	mg/L	Jun-15-15	Jun-16-15	
Cobalt, total	< 0.0005	N/A	0.0005	mg/L	Jun-15-15	Jun-16-15	
Copper, total	0.019	AO ≤ 1	0.002	mg/L	Jun-15-15	Jun-16-15	
Iron, total	0.34	AO ≤ 0.3	0.10	mg/L	Jun-15-15	Jun-16-15	
Lead, total	0.007	MAC = 0.01	0.001	mg/L	Jun-15-15	Jun-16-15	
Magnesium, total	4.4	N/A	0.1	mg/L	Jun-15-15	Jun-16-15	
Manganese, total	< 0.002	AO ≤ 0.05	0.002	mg/L	Jun-15-15	Jun-16-15	
Molybdenum, total	0.001	N/A	0.001	mg/L	Jun-15-15	Jun-16-15	
Nickel, total	0.069	N/A	0.002	mg/L	Jun-15-15	Jun-16-15	
Phosphorus, total	< 0.2	N/A	0.2	mg/L	Jun-15-15	Jun-16-15	
Potassium, total	1.4	N/A	0.2	mg/L	Jun-15-15	Jun-16-15	
Selenium, total	< 0.005	MAC = 0.05	0.005	mg/L	Jun-15-15	Jun-16-15	
Silicon, total	7	N/A	5	mg/L	Jun-15-15	Jun-16-15	
Silver, total	< 0.0005	N/A	0.0005	mg/L	Jun-15-15	Jun-16-15	
Sodium, total	3.3	AO ≤ 200	0.2	mg/L	Jun-15-15	Jun-16-15	
Uranium, total	0.0014	MAC = 0.02	0.0002	mg/L	Jun-15-15	Jun-16-15	
Vanadium, total	< 0.01	N/A	0.01	mg/L	Jun-15-15	Jun-16-15	
Zinc, total	0.06	AO ≤ 5	0.04	mg/L	Jun-15-15	Jun-16-15	

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Sample / Analysis Qualifiers:

HT1 The sample was prepared / analyzed past the recommended holding time.
HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.