

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

**TEL** (250) 377-6284  
**FAX** (250) 374-6489

**ATTENTION** Shawn Kratchmer

**WORK ORDER** 6120710

**PO NUMBER**

**RECEIVED / TEMP** 2016-12-09 09:00 / 7°C

**PROJECT** Pritchard CWS

**REPORTED** 2016-12-16

**PROJECT INFO**

**COC NUMBER** B 49226

**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

**If you have any questions or concerns, please contact your Account Manager:**  
**Jennifer Shanko, ASCT ([jshanko@caro.ca](mailto:jshanko@caro.ca))**

**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](http://www.caro.ca)

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Analysis Description	Method Reference	Technique	Location
Alkalinity in Water	APHA 2320 B*	Titration with H2SO4	Kelowna
Ammonia, Total in Water	APHA 4500-NH3 G*	Automated Colorimetry (Phenate)	Kelowna
Anions by IC in Water	APHA 4110 B	Ion Chromatography with Chemical Suppression of Eluent Conductivity	Kelowna
Colour, True in Water	APHA 2120 C	Spectrophotometry (456 nm)	Kelowna
Conductivity in Water	APHA 2510 B	Conductivity Meter	Kelowna
Dissolved Metals by ICPMS in Water	APHA 3030 B / APHA 3125 B	0.45 µm Filtration / Inductively Coupled Plasma Mass Spectrometry (ICP-MS)	Richmond
Hardness (as CaCO3) in Water	APHA 2340 B	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	N/A
Hardness (as CaCO3) in Water	APHA 2340 B*	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Estimated)	N/A
Mercury, dissolved by CVAFS in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	Richmond
Mercury, total by CVAFS in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	Richmond
Solids, Total Dissolved (Calc) in Water	APHA 1030 E	Calculation: 100 x ([Cations]-[Anions])/([Cations]+[Anions])	N/A
Total Metals by ICPMS in Water	APHA 3030E* / APHA 3125 B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma Mass Spectrometry (ICP-MS)	Richmond
Transmissivity at 254 nm in Water	APHA 5910 B*	Ultraviolet Absorption	Kelowna
Trihalomethanes in Water	EPA 5030B / APHA 6200 B	Purge&Trap / Purge and Trap Capillary Column GC-MSD	Richmond

**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  
CU Colour Units (referenced against a platinum cobalt standard)  
mg/L Milligrams per litre  
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](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: Pritchard CWS - SP Gerella (6120710-01) [Water] Sampled: 2016-12-08 14:40**

F1

**Anions**

Chloride	3.53	AO ≤ 250	0.10	mg/L	N/A	2016-12-11	
Fluoride	< 0.10	MAC = 1.5	0.10	mg/L	N/A	2016-12-11	
Nitrate (as N)	0.046	MAC = 10	0.010	mg/L	N/A	2016-12-11	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	N/A	2016-12-11	
Sulfate	6.9	AO ≤ 500	1.0	mg/L	N/A	2016-12-11	

**General Parameters**

Alkalinity, Total (as CaCO3)	40	N/A	2	mg/L	N/A	2016-12-13	
Alkalinity, Phenolphthalein (as CaCO3)	< 1	N/A	2	mg/L	N/A	2016-12-13	
Alkalinity, Bicarbonate (as CaCO3)	40	N/A	2	mg/L	N/A	2016-12-13	
Alkalinity, Carbonate (as CaCO3)	< 1	N/A	2	mg/L	N/A	2016-12-13	
Alkalinity, Hydroxide (as CaCO3)	< 1	N/A	2	mg/L	N/A	2016-12-13	
Ammonia, Total (as N)	0.029	N/A	0.020	mg/L	N/A	2016-12-13	
Colour, True	< 5	AO ≤ 15	5	CU	N/A	2016-12-09	
Conductivity (EC)	104	N/A	2	µS/cm	N/A	2016-12-13	
UV Transmittance @ 254nm	94.1	N/A	0.1	% T	N/A	2016-12-09	

**Calculated Parameters**

Total Trihalomethanes	0.039	MAC = 0.1	0.004	mg/L	N/A	N/A	
Hardness, Total (as CaCO3)	35.1	N/A	0.50	mg/L	N/A	N/A	
Nitrate+Nitrite (as N)	0.046	N/A	0.020	mg/L	N/A	N/A	
Solids, Total Dissolved	53	AO ≤ 500	10	mg/L	N/A	2016-12-16	

**Dissolved Metals**

Aluminum, dissolved	0.006	N/A	0.005	mg/L	N/A	2016-12-14	
Antimony, dissolved	< 0.0001	N/A	0.0001	mg/L	N/A	2016-12-14	
Arsenic, dissolved	< 0.0005	N/A	0.0005	mg/L	N/A	2016-12-14	
Barium, dissolved	0.008	N/A	0.005	mg/L	N/A	2016-12-14	
Beryllium, dissolved	< 0.0001	N/A	0.0001	mg/L	N/A	2016-12-14	
Bismuth, dissolved	< 0.0001	N/A	0.0001	mg/L	N/A	2016-12-14	
Boron, dissolved	< 0.004	N/A	0.004	mg/L	N/A	2016-12-14	
Cadmium, dissolved	< 0.00001	N/A	0.00001	mg/L	N/A	2016-12-14	
Calcium, dissolved	10.9	N/A	0.2	mg/L	N/A	2016-12-14	
Chromium, dissolved	< 0.0005	N/A	0.0005	mg/L	N/A	2016-12-14	
Cobalt, dissolved	< 0.00005	N/A	0.00005	mg/L	N/A	2016-12-14	
Copper, dissolved	0.0023	N/A	0.0002	mg/L	N/A	2016-12-14	
Iron, dissolved	< 0.010	N/A	0.010	mg/L	N/A	2016-12-14	
Lead, dissolved	< 0.0001	N/A	0.0001	mg/L	N/A	2016-12-14	
Lithium, dissolved	0.0006	N/A	0.0001	mg/L	N/A	2016-12-14	
Magnesium, dissolved	1.95	N/A	0.01	mg/L	N/A	2016-12-14	
Manganese, dissolved	0.0004	N/A	0.0002	mg/L	N/A	2016-12-14	
Mercury, dissolved	< 0.00002	N/A	0.00002	mg/L	2016-12-14	2016-12-14	
Molybdenum, dissolved	0.0006	N/A	0.0001	mg/L	N/A	2016-12-14	
Nickel, dissolved	0.0002	N/A	0.0002	mg/L	N/A	2016-12-14	
Phosphorus, dissolved	< 0.02	N/A	0.02	mg/L	N/A	2016-12-14	
Potassium, dissolved	0.75	N/A	0.02	mg/L	N/A	2016-12-14	
Selenium, dissolved	< 0.0005	N/A	0.0005	mg/L	N/A	2016-12-14	

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**Sample ID: Pritchard CWS - SP Gerella (6120710-01) [Water] Sampled: 2016-12-08 14:40, Continued**

F1

***Dissolved Metals, Continued***

Silicon, dissolved	2.8	N/A	0.5	mg/L	N/A	2016-12-14	
Silver, dissolved	< 0.00005	N/A	0.00005	mg/L	N/A	2016-12-14	
Sodium, dissolved	4.49	N/A	0.02	mg/L	N/A	2016-12-14	
Strontium, dissolved	0.066	N/A	0.001	mg/L	N/A	2016-12-14	
Sulfur, dissolved	1	N/A	1	mg/L	N/A	2016-12-14	
Tellurium, dissolved	< 0.0002	N/A	0.0002	mg/L	N/A	2016-12-14	
Thallium, dissolved	< 0.00002	N/A	0.00002	mg/L	N/A	2016-12-14	
Thorium, dissolved	< 0.0001	N/A	0.0001	mg/L	N/A	2016-12-14	
Tin, dissolved	< 0.0002	N/A	0.0002	mg/L	N/A	2016-12-14	
Titanium, dissolved	< 0.005	N/A	0.005	mg/L	N/A	2016-12-14	
Uranium, dissolved	0.00040	N/A	0.00002	mg/L	N/A	2016-12-14	
Vanadium, dissolved	< 0.001	N/A	0.001	mg/L	N/A	2016-12-14	
Zinc, dissolved	0.006	N/A	0.004	mg/L	N/A	2016-12-14	
Zirconium, dissolved	< 0.0001	N/A	0.0001	mg/L	N/A	2016-12-14	

***Total Metals***

Aluminum, total	0.012	OG < 0.1	0.005	mg/L	2016-12-14	2016-12-15	
Antimony, total	< 0.0001	MAC = 0.006	0.0001	mg/L	2016-12-14	2016-12-15	
Arsenic, total	< 0.0005	MAC = 0.01	0.0005	mg/L	2016-12-14	2016-12-15	
Barium, total	0.010	MAC = 1	0.005	mg/L	2016-12-14	2016-12-15	
Beryllium, total	< 0.0001	N/A	0.0001	mg/L	2016-12-14	2016-12-15	
Bismuth, total	< 0.0001	N/A	0.0001	mg/L	2016-12-14	2016-12-15	
Boron, total	< 0.004	MAC = 5	0.004	mg/L	2016-12-14	2016-12-15	
Cadmium, total	< 0.00001	MAC = 0.005	0.00001	mg/L	2016-12-14	2016-12-15	
Calcium, total	12.1	N/A	0.2	mg/L	2016-12-14	2016-12-15	
Chromium, total	0.0006	MAC = 0.05	0.0005	mg/L	2016-12-14	2016-12-15	
Cobalt, total	< 0.00005	N/A	0.00005	mg/L	2016-12-14	2016-12-15	
Copper, total	0.0038	AO ≤ 1	0.0002	mg/L	2016-12-14	2016-12-15	
Iron, total	0.02	AO ≤ 0.3	0.01	mg/L	2016-12-14	2016-12-15	
Lead, total	0.0002	MAC = 0.01	0.0001	mg/L	2016-12-14	2016-12-15	
Lithium, total	0.0006	N/A	0.0001	mg/L	2016-12-14	2016-12-15	
Magnesium, total	2.25	N/A	0.01	mg/L	2016-12-14	2016-12-15	
Manganese, total	0.0019	AO ≤ 0.05	0.0002	mg/L	2016-12-14	2016-12-15	
Mercury, total	< 0.00002	MAC = 0.001	0.00002	mg/L	2016-12-14	2016-12-14	
Molybdenum, total	0.0006	N/A	0.0001	mg/L	2016-12-14	2016-12-15	
Nickel, total	0.0004	N/A	0.0002	mg/L	2016-12-14	2016-12-15	
Phosphorus, total	< 0.02	N/A	0.02	mg/L	2016-12-14	2016-12-15	
Potassium, total	0.86	N/A	0.02	mg/L	2016-12-14	2016-12-15	
Selenium, total	< 0.0005	MAC = 0.05	0.0005	mg/L	2016-12-14	2016-12-15	
Silicon, total	3.0	N/A	0.5	mg/L	2016-12-14	2016-12-15	
Silver, total	< 0.00005	N/A	0.00005	mg/L	2016-12-14	2016-12-15	
Sodium, total	5.01	AO ≤ 200	0.02	mg/L	2016-12-14	2016-12-15	
Strontium, total	0.079	N/A	0.001	mg/L	2016-12-14	2016-12-15	
Sulfur, total	2	N/A	1	mg/L	2016-12-14	2016-12-15	
Tellurium, total	< 0.0002	N/A	0.0002	mg/L	2016-12-14	2016-12-15	
Thallium, total	< 0.00002	N/A	0.00002	mg/L	2016-12-14	2016-12-15	

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F1

**Total Metals, Continued**

Thorium, total	< 0.0001	N/A	0.0001	mg/L	2016-12-14	2016-12-15	
Tin, total	< 0.0002	N/A	0.0002	mg/L	2016-12-14	2016-12-15	
Titanium, total	< 0.005	N/A	0.005	mg/L	2016-12-14	2016-12-15	
Uranium, total	<b>0.00045</b>	MAC = 0.02	0.00002	mg/L	2016-12-14	2016-12-15	
Vanadium, total	< 0.001	N/A	0.001	mg/L	2016-12-14	2016-12-15	
Zinc, total	<b>0.009</b>	AO ≤ 5	0.004	mg/L	2016-12-14	2016-12-15	
Zirconium, total	< 0.0001	N/A	0.0001	mg/L	2016-12-14	2016-12-15	

**Volatile Organic Compounds (VOC)**

Bromodichloromethane	< 0.001	N/A	0.001	mg/L	N/A	2016-12-15	
Bromoform	< 0.001	N/A	0.001	mg/L	N/A	2016-12-15	
Chloroform	<b>0.039</b>	N/A	0.001	mg/L	N/A	2016-12-15	
Dibromochloromethane	< 0.001	N/A	0.001	mg/L	N/A	2016-12-15	
Surrogate: Toluene-d8	113		70-130	%	N/A	2016-12-15	
Surrogate: 4-Bromofluorobenzene	110		70-130	%	N/A	2016-12-15	

**Sample / Analysis Qualifiers:**

F1 The sample was not field-filtered and was therefore filtered through a 0.45 µm membrane in the laboratory and preserved with HNO3 prior to analysis for dissolved metals.