

CERTIFICATE OF ANALYSIS

CLIENT Regional District of Thompson Nicola
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ATTENTION Denise Roberts

RECEIVED / TEMP May-17-12 11:29 / 15.0 °C
REPORTED Jun-04-12
COC #(s) 15919

WORK ORDER 2050936
PROJECT Spences Bridge CWS
PROJECT INFO Semi Annual - Shawniken Sample Site

General Comments:

CARO Analytical Services employs methods which are based on those found in "Standard Methods for the Examination of Water and Wastewater", 21st Edition, 2005, published by the American Public Health Association (APHA); US EPA protocols found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846", 3rd Edition; protocols published by the British Columbia Ministry of Environment (BCMOE); and/or CCME Canada-wide Standard Reference methods.

Methods not described in these publications are conducted according to procedures accepted by appropriate regulatory agencies, and/or are done 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 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.

- All solids results are reported on a dry weight basis unless otherwise noted
- Units:
 - mg/kg = milligrams per kilogram, equivalent to parts per million (ppm)
 - mg/L = milligrams per litre, equivalent to parts per million (ppm)
 - ug/L = micrograms per litre, equivalent to parts per billion (ppb)
 - ug/g = micrograms per gram, equivalent to parts per million (ppm)
 - ug/m3 = micrograms per cubic meter of air
- "RDL" Reported detection limit
- "<" Less than reported detection limit
- "AO" Aesthetic objective
- "MAC" Maximum acceptable concentration (health-related guideline)
- "LAB" RMD = Richmond location, KEL = Kelowna location, EDM = Edmonton location, SUB = Subcontracted

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

CARO Analytical Services



Final Review Per: Sara Gulenchyn For Jennifer Shanko, ASCT
Administration Coordinator, Kelowna

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SAMPLE DATA



CLIENT Regional District of Thompson Nicola
PROJECT Spences Bridge CWS

WORK ORDER # 2050936
REPORTED Jun-04-12

Analyte	Result	Canadian DW Guideline (Dec 10)	RDL Units	Prepared	Analyzed	Notes
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General Parameters

Spences Bridge - Shawniken Sample Site (2050936-01) Matrix: Water Sampled: May-16-12

Alkalinity, Total as CaCO3	78		1 mg/L	May-17-12	May-18-12	
Alkalinity, Phenolphthalein as CaCO3	< 1		1 mg/L	May-17-12	May-18-12	
Alkalinity, Carbonate as CaCO3	< 1		1 mg/L	May-17-12	May-18-12	
Alkalinity, Bicarbonate as CaCO3	78		1 mg/L	May-17-12	May-18-12	
Alkalinity, Hydroxide as CaCO3	< 1		1 mg/L	May-17-12	May-18-12	
Chloride	4.05	AO ≤ 250	0.10 mg/L	May-17-12	May-19-12	
Colour, True	31	AO ≤ 15	5 Color Unit	May-18-12	May-24-12	
Conductivity (EC)	199		2 uS/cm	May-17-12	May-25-12	
Fluoride	0.21	MAC = 1.5	0.10 mg/L	May-17-12	May-19-12	
Hardness, Total (Total as CaCO3)	99.9		5.0 mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO3)	95.8		5.0 mg/L	N/A	N/A	
Nitrogen, Ammonia as N	0.023		0.020 mg/L	May-17-12	May-18-12	
Nitrogen, Nitrate+Nitrite as N	< 0.020		0.020 mg/L	N/A	N/A	
Nitrogen, Nitrate as N	< 0.010	MAC = 10	0.010 mg/L	May-17-12	May-19-12	
Nitrogen, Nitrite as N	< 0.010	MAC = 1	0.010 mg/L	May-17-12	May-19-12	
Solids, Total Dissolved	126	AO ≤ 500	5 mg/L	May-17-12	May-17-12	
Sulfate	4.2	AO ≤ 500	1.0 mg/L	May-17-12	May-19-12	
UV Transmittance @ 254nm	59.5		0.1 %	May-22-12	May-22-12	

Dissolved Metals

Spences Bridge - Shawniken Sample Site (2050936-01) Matrix: Water Sampled: May-16-12

Aluminum, dissolved	0.09		0.05 mg/L	May-22-12	May-23-12	
Antimony, dissolved	< 0.001		0.001 mg/L	May-22-12	May-23-12	
Arsenic, dissolved	< 0.005		0.005 mg/L	May-22-12	May-23-12	
Barium, dissolved	< 0.05		0.05 mg/L	May-22-12	May-23-12	
Beryllium, dissolved	< 0.001		0.001 mg/L	May-22-12	May-23-12	
Bismuth, dissolved	< 0.001		0.001 mg/L	May-22-12	May-23-12	
Boron, dissolved	< 0.04		0.04 mg/L	May-22-12	May-23-12	
Cadmium, dissolved	< 0.0001		0.0001 mg/L	May-22-12	May-23-12	
Calcium, dissolved	28		2 mg/L	May-22-12	May-23-12	
Chromium, dissolved	< 0.005		0.005 mg/L	May-22-12	May-23-12	
Cobalt, dissolved	< 0.0005		0.0005 mg/L	May-22-12	May-23-12	
Copper, dissolved	< 0.002		0.002 mg/L	May-22-12	May-23-12	
Iron, dissolved	< 0.1		0.1 mg/L	May-22-12	May-23-12	
Lead, dissolved	< 0.001		0.001 mg/L	May-22-12	May-23-12	
Lithium, dissolved	< 0.001		0.001 mg/L	May-22-12	May-23-12	
Magnesium, dissolved	6.2		0.1 mg/L	May-22-12	May-23-12	
Manganese, dissolved	0.005		0.002 mg/L	May-22-12	May-23-12	
Mercury, dissolved	< 0.0002		0.0002 mg/L	May-22-12	May-23-12	
Molybdenum, dissolved	0.001		0.001 mg/L	May-22-12	May-23-12	
Nickel, dissolved	< 0.002		0.002 mg/L	May-22-12	May-23-12	
Phosphorus, dissolved	< 0.2		0.2 mg/L	May-22-12	May-23-12	
Potassium, dissolved	0.8		0.2 mg/L	May-22-12	May-23-12	
Selenium, dissolved	0.007		0.005 mg/L	May-22-12	May-23-12	
Silicon, dissolved	7		5 mg/L	May-22-12	May-23-12	
Silver, dissolved	< 0.0005		0.0005 mg/L	May-22-12	May-23-12	

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Dissolved Metals, Continued

Spences Bridge - Shawniken Sample Site (2050936-01) Matrix: Water Sampled: May-16-12, Continued

Sodium, dissolved	6.7		0.2	mg/L	May-22-12	May-23-12	
Strontium, dissolved	0.09		0.01	mg/L	May-22-12	May-23-12	
Sulfur, dissolved	20		10	mg/L	May-22-12	May-23-12	
Tellurium, dissolved	< 0.002		0.002	mg/L	May-22-12	May-23-12	
Thallium, dissolved	< 0.0002		0.0002	mg/L	May-22-12	May-23-12	
Thorium, dissolved	< 0.001		0.001	mg/L	May-22-12	May-23-12	
Tin, dissolved	< 0.002		0.002	mg/L	May-22-12	May-23-12	
Titanium, dissolved	< 0.05		0.05	mg/L	May-22-12	May-23-12	
Uranium, dissolved	0.0002		0.0002	mg/L	May-22-12	May-23-12	
Vanadium, dissolved	< 0.01		0.01	mg/L	May-22-12	May-23-12	
Zinc, dissolved	< 0.04		0.04	mg/L	May-22-12	May-23-12	
Zirconium, dissolved	< 0.001		0.001	mg/L	May-22-12	May-23-12	

Total Recoverable Metals

Spences Bridge - Shawniken Sample Site (2050936-01) Matrix: Water Sampled: May-16-12

Aluminum, total	0.56	AO ≤ 0.1	0.05	mg/L	May-22-12	May-23-12	
Antimony, total	< 0.001	MAC = 0.006	0.001	mg/L	May-22-12	May-23-12	
Arsenic, total	< 0.005	MAC = 0.01	0.005	mg/L	May-22-12	May-23-12	
Barium, total	< 0.05	MAC = 1	0.05	mg/L	May-22-12	May-23-12	
Beryllium, total	< 0.001		0.001	mg/L	May-22-12	May-23-12	
Bismuth, total	< 0.001		0.001	mg/L	May-22-12	May-23-12	
Boron, total	< 0.04	MAC = 5	0.04	mg/L	May-22-12	May-23-12	
Cadmium, total	< 0.0001	MAC = 0.005	0.0001	mg/L	May-22-12	May-23-12	
Calcium, total	29		2	mg/L	May-22-12	May-23-12	
Chromium, total	< 0.005	MAC = 0.05	0.005	mg/L	May-22-12	May-23-12	
Cobalt, total	< 0.0005		0.0005	mg/L	May-22-12	May-23-12	
Copper, total	< 0.002	AO ≤ 1	0.002	mg/L	May-22-12	May-23-12	
Iron, total	0.4	AO ≤ 0.3	0.1	mg/L	May-22-12	May-23-12	
Lead, total	< 0.001	MAC = 0.01	0.001	mg/L	May-22-12	May-23-12	
Lithium, total	< 0.001		0.001	mg/L	May-22-12	May-23-12	
Magnesium, total	6.7		0.1	mg/L	May-22-12	May-23-12	
Manganese, total	0.023	AO ≤ 0.05	0.002	mg/L	May-22-12	May-23-12	
Mercury, total	< 0.0002	MAC = 0.001	0.0002	mg/L	May-22-12	May-23-12	
Molybdenum, total	< 0.001		0.001	mg/L	May-22-12	May-23-12	
Nickel, total	< 0.002		0.002	mg/L	May-22-12	May-23-12	
Phosphorus, total	< 0.2		0.2	mg/L	May-22-12	May-23-12	
Potassium, total	0.5		0.2	mg/L	May-22-12	May-23-12	
Selenium, total	< 0.005	MAC = 0.01	0.005	mg/L	May-22-12	May-23-12	
Silicon, total	8		5	mg/L	May-22-12	May-23-12	
Silver, total	< 0.0005		0.0005	mg/L	May-22-12	May-23-12	
Sodium, total	7.0	AO ≤ 200	0.2	mg/L	May-22-12	May-23-12	
Strontium, total	0.10		0.01	mg/L	May-22-12	May-23-12	
Sulfur, total	15		10	mg/L	May-22-12	May-23-12	
Tellurium, total	< 0.002		0.002	mg/L	May-22-12	May-23-12	
Thallium, total	< 0.0002		0.0002	mg/L	May-22-12	May-23-12	
Thorium, total	< 0.001		0.001	mg/L	May-22-12	May-23-12	

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Total Recoverable Metals, Continued

Spences Bridge - Shawniken Sample Site (2050936-01) Matrix: Water Sampled: May-16-12, Continued

Tin, total	< 0.002		0.002	mg/L	May-22-12	May-23-12	
Titanium, total	< 0.05		0.05	mg/L	May-22-12	May-23-12	
Uranium, total	0.0002	MAC = 0.02	0.0002	mg/L	May-22-12	May-23-12	
Vanadium, total	< 0.0002		0.0002	mg/L	May-22-12	May-23-12	
Zinc, total	< 0.04	AO ≤ 5	0.04	mg/L	May-22-12	May-23-12	
Zirconium, total	< 0.001		0.001	mg/L	May-22-12	May-23-12	

Volatile Organic Compounds

Spences Bridge - Shawniken Sample Site (2050936-01) Matrix: Water Sampled: May-16-12

Bromodichloromethane	< 0.001		0.001	mg/L	May-22-12	May-22-12	
Bromoform	< 0.001		0.001	mg/L	May-22-12	May-22-12	
Chloroform	0.036		0.001	mg/L	May-22-12	May-22-12	
Dibromochloromethane	< 0.001		0.001	mg/L	May-22-12	May-22-12	
Total Trihalomethanes	0.036	0.1	0.004	mg/L	N/A	N/A	
Total Trihalomethanes (as CHCl ₃)	0.036		0.003	mg/L	N/A	N/A	
Surrogate: Toluene-d ₈	97 %		80-120		May-22-12	May-22-12	
Surrogate: 4-Bromofluorobenzene	97 %		80-120		May-22-12	May-22-12	