



North Island Laboratories

• 2755 B Moray Avenue, Courtenay, B.C. V9N 8M9 Tel: (250) 338-7786 Fax: (250) 338-7553

Certificate of Analysis

Report To: Union Bay Improvement District
PO Box 70
Union Bay BC
V0R 3B0

Lab Number: 108992
Date Reported: 27 Mar 14
Date Completed: 27 Mar 14
Date Received: 17 Mar 14 10:10

108992-01 McLeod Res. Raw 3.10 NTU

Sampled By: Dan
Sampling Date: 17 Mar 14 9:05

Test	Result	Units	Drinking Water Guideline
Alkalinity	<20	mg/L (CaCO ₃)	
Bromide	<0.02	mg/L	
Colour - Apparent	34	Colour Units	15
Colour - True	12	Colour Units	15
d-Aluminium	0.026	mg/L	
d-Antimony	<0.0002	mg/L	
d-Arsenic	<0.0002	mg/L	
d-Barium	0.006	mg/L	
d-Beryllium	<0.00004	mg/L	
d-Boron	0.009	mg/L	
d-Cadmium	<0.00001	mg/L	
d-Calcium	2.54	mg/L	
d-Chromium	<0.0004	mg/L	
d-Cobalt	<0.00002	mg/L	
d-Copper	0.002	mg/L	
d-Iron	0.031	mg/L	
d-Lead	0.0002	mg/L	
d-Lithium	<0.001	mg/L	
d-Magnesium	0.71	mg/L	
d-Manganese	0.003	mg/L	
d-Molybdenum	<0.00010	mg/L	
d-Nickel	<0.001	mg/L	
d-Potassium	0.2	mg/L	
d-Selenium	<0.0006	mg/L	
d-Silicon	2.15	mg/L	
d-Silver	<0.00001	mg/L	

AO = Aesthetic Objective; MAC = Max. Allowable Concentration; IMAC = Interim MAC

> = Greater than; < = Less than

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Canadian Drinking Water Guidelines as listed on Dec. 5th, 2005 and are subject to change. Method uncertainties for specified analyses are available upon request.

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Test	Result	Units	Drinking Water Guideline
d-Sodium	2.4	mg/L	
d-Strontium	0.016	mg/L	
d-Thallium	<0.00001	mg/L	
d-Tin	<0.0001	mg/L	
d-Titanium	<0.010	mg/L	
d-Uranium	<0.0004	mg/L	
d-Vanadium	<0.00010	mg/L	
d-Zinc	0.001	mg/L	
Hardness (CaCO ₃)	9	mg/L	
DOC - Dissolved Organic Carbon	2.3	mg/L	
pH at 25 C	6.5	pH Units	6.5-8.5
Total Organic Carbon	2.3	mg/L	
T-Aluminium	0.193	mg/L	0.1 Operational Std
T-Antimony	<0.0005	mg/L	0.006 MAC
T-Arsenic	<0.00025	mg/L	0.010 MAC
T-Barium	0.00657	mg/L	1.0 MAC
T-Beryllium	<0.00025	mg/L	
T-Boron	0.016	mg/L	5 MAC
T-Bismuth	<0.0005	mg/L	
T-Cadmium	<0.00005	mg/L	0.005 MAC
T-Calcium	3.06	mg/L	
T-Chromium	<0.0025	mg/L	0.05 MAC
T-Cobalt	<0.0005	mg/L	
T-Copper	0.0044	mg/L	1.0 AO
T-Iron	0.244	mg/L	0.3 AO
T-Lead	<0.0005	mg/L	0.010 MAC
T-Lithium	<0.0025	mg/L	
T-Magnesium	0.86	mg/L	
T-Manganese	0.0067	mg/L	0.05 AO
T-Molybdenum	<0.00025	mg/L	
T-Nickel	<0.0010	mg/L	
T-Potassium	<0.5	mg/L	
T-Selenium	<0.0005	mg/L	0.01 MAC
T-Silicon	2.75	mg/L	

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108992-01 McLeod Res. Raw 3.10 NTU

Sampled By: Dan

Sampling Date: 17 Mar 14 9:05

Test	Result	Units	Drinking Water Guideline
T-Silver	<0.00025	mg/L	
T-Sodium	3.1	mg/L	200 AO
T-Strontium	0.0181	mg/L	
T-Thallium	<0.00005	mg/L	
T-Tin	<0.0005	mg/L	
T-Titanium	0.0123	mg/L	
T-Uranium	<0.00005	mg/L	
T-Vanadium	0.0007	mg/L	
T-Zinc	0.0084	mg/L	5.0 AO
Hardness (CaCO ₃)	11	mg/L	80-100
Turbidity	2.8	NTU's	5 AO
UV Transmittance	78.3	%/cm	

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108992-01

Test	Method	Analyst	Date
Alkalinity	Titration to 4.5, APHA 2320 B -modified	NiSL	3/21/2014
Bromide	Exova Subcontract Exova Subcontract	EXL	3/21/2014
Colour - Apparent	Spectrophotometer, APHA 2120 C -modified	NiSL	3/20/2014
Colour - True	Spectrophotometer, APHA 2120 C -modified	NiSL	3/20/2014
d-Aluminium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Antimony	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Arsenic	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Barium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Beryllium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Boron	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Cadmium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Calcium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Chromium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Cobalt	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Copper	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Iron	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Lead	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Lithium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Magnesium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Manganese	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Molybdenum	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Nickel	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Potassium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Selenium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Silicon	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Silver	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Sodium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Strontium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Thallium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Tin	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Titanium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Uranium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Vanadium	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
d-Zinc	Exova Subcontract, ICP-AES, EPA 6010C -modified	EXL	3/21/2014
DOC - Dissolved Organic Carbo	Exova Subcontract Exova Subcontract	EXL	3/24/2014

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Hardness (CaCO ₃)	Hardness by Calculation, APHA 2340 B -modified	EXL	3/21/2014
pH at 25 C	Electrometric, APHA 4500 B -modified	NI&L	3/18/2014
T-Aluminium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Antimony	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Arsenic	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Barium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Beryllium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Bismuth	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Boron	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Cadmium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Calcium	Exova Subcontract, ICP, APHA 3120B -modified	EXL	3/24/2014
T-Chromium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Cobalt	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Copper	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Iron	Exova Subcontract, ICP, APHA 3120B -modified	EXL	3/24/2014
T-Lead	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Lithium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Magnesium	Exova Subcontract, ICP, APHA 3120B-modified	EXL	3/24/2014
T-Manganese	Exova Subcontract, ICP, APHA 3120B -modified	EXL	3/24/2014
T-Molybdenum	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Nickel	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Potassium	Exova Subcontract, ICP, APHA 3120B - modified	EXL	3/24/2014
T-Selenium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Silicon	Exova Subcontract, ICP, APHA 3120B - modified	EXL	3/24/2014
T-Silver	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Sodium	Exova Subcontract, ICP, APHA 3120B - modified	EXL	3/24/2014
T-Strontium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Thallium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Tin	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Titanium	Exova Subcontract, ICP, APHA 3120B - modified	EXL	3/24/2014
T-Uranium	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
T-Vanadium	Exova Subcontract, ICP, APHA 3120B - modified	EXL	3/24/2014
T-Zinc	Exova Subcontract, ICP-MS,USEPA 200.8-modified	EXL	3/24/2014
Total Organic Carbon	Exova Subcontract, Ch.34 SSSA BookSeries5-modified	EXL	3/21/2014
Turbidity	Nephelometric, APHA 2130 B -modified	NI&L	3/21/2014
UV Transmittance	APHA 5910 B -modified	NI&L	3/20/2014

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Melissa McIntosh, Lab Technician

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