



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: North Cedar Improvement District
Heather Sarchuck

Lab Number: 98389
Date Reported: 15 Oct 12
Date Completed: 15 Oct 12
Date Received: 3 Oct 12 10:47

98389-01 Well 1

Sampled By:

Sampling Date: 3 Oct 12 10:20

Test	Result	Units	Drinking Water Guideline
Total Coliforms (DES)	<1.0	MPN/100mL	<1
E. coli (DES)	<1.0	MPN/100mL	<1
Colour - Apparent	<1	Colour Units	15
pH	6.7	pH Units	6.5-8.5
Fluoride	<0.05	mg/L	1.5 MAC
Chloride	12.5	mg/L	250 AO
Nitrate (N)	0.11	mg/L	10 MAC
Nitrite (N)	<0.05	mg/L	1 MAC
Sulphate	3.4	mg/L	500 AO
T-Aluminium	0.003	mg/L	0.1 Operational Std.
T-Antimony	<0.0001	mg/L	0.006 MAC
T-Arsenic	0.00005	mg/L	0.010 MAC
T-Barium	0.00561	mg/L	1.0 MAC
T-Beryllium	<0.00005	mg/L	
T-Bismuth	<0.0001	mg/L	
T-Boron	0.028	mg/L	5 IMAC
T-Cadmium	<0.00001	mg/L	0.005 MAC
T-Calcium	6.73	mg/L	
T-Chromium	<0.0005	mg/L	0.05 MAC
T-Cobalt	<0.0001	mg/L	
T-Copper	0.0017	mg/L	1.0 AO
T-Iron	0.01	mg/L	0.3 AO
T-Lead	0.0006	mg/L	0.010 MAC
T-Lithium	0.0017	mg/L	
T-Magnesium	0.82	mg/L	
T-Manganese	0.001	mg/L	0.05 AO
T-Molybdenum	0.00015	mg/L	

AO = Aesthetic Objective; MAC = Max. Allowable Concentration; IMAC = Interim MAC
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Canadian Drinking Water Guidelines as listed on Dec. 5th, 2005 and are subject to

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98389-01 Well 1

Sampled By:

Sampling Date: 3 Oct 12 10:20

Test	Result	Units	Drinking Water Guideline
T-Nickel	<0.0002	mg/L	
T-Potassium	0.2	mg/L	
T-Selenium	<0.0001	mg/L	0.01 MAC
T-Silicon	2.69	mg/L	
T-Silver	<0.00001	mg/L	
T-Sodium	8.4	mg/L	200 AO
T-Strontium	0.043	mg/L	
T-Thallium	<0.00001	mg/L	
T-Tin	0.0002	mg/L	
T-Titanium	0.0083	mg/L	
T-Uranium	<0.00001	mg/L	0.02 MAC
T-Vanadium	0.0003	mg/L	
T-Zinc	0.0037	mg/L	5 AO
Hardness (CaCO ₃)	20	mg/L	
Tannins & Lignins	<0.1	mg/L	0.4 AO
Alkalinity	<20	mg/L (CaCO ₃)	
Turbidity	<0.5	NTU's	5 AO
Total Dissolved Solids (conductivity ca	57	mg/L	500 AO
Total Kjeldahl Nitrogen	0.15	mg/L	

98389-02 Well 3

Sampled By:

Sampling Date: 3 Oct 12 10:15

Test	Result	Units	Drinking Water Guideline
Total Coliforms (DES)	<1.0	MPN/100mL	<1
E. coli (DES)	<1.0	MPN/100mL	<1
Colour - Apparent	<1	Colour Units	15
pH	6.7	pH Units	6.5-8.5
Fluoride	<0.05	mg/L	1.5 MAC
Chloride	12.4	mg/L	250 AO
Nitrate (N)	0.12	mg/L	10 MAC
Nitrite (N)	<0.05	mg/L	1 MAC
Sulphate	3.4	mg/L	500 AO

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98389-02 Well 3

Sampled By:

Sampling Date: 3 Oct 12 10:15

Test	Result	Units	Drinking Water Guideline
T-Aluminium	0.004	mg/L	0.1 Operational Std.
T-Antimony	<0.0001	mg/L	0.006 MAC
T-Arsenic	<0.00005	mg/L	0.010 MAC
T-Barium	0.00541	mg/L	1.0 MAC
T-Beryllium	<0.00005	mg/L	
T-Bismuth	<0.0001	mg/L	
T-Boron	0.028	mg/L	5 IMAC
T-Cadmium	<0.00001	mg/L	0.005 MAC
T-Calcium	6.79	mg/L	
T-Chromium	<0.0005	mg/L	0.05 MAC
T-Cobalt	<0.0001	mg/L	
T-Copper	0.0029	mg/L	1.0 AO
T-Iron	0.006	mg/L	0.3 AO
T-Lead	0.0007	mg/L	0.010 MAC
T-Lithium	0.0017	mg/L	
T-Magnesium	0.82	mg/L	
T-Manganese	0.0009	mg/L	0.05 AO
T-Molybdenum	0.00013	mg/L	
T-Nickel	<0.0002	mg/L	
T-Potassium	0.2	mg/L	
T-Selenium	<0.0001	mg/L	0.01 MAC
T-Silicon	2.7	mg/L	
T-Silver	<0.00001	mg/L	
T-Sodium	8.4	mg/L	200 AO
T-Strontium	0.0438	mg/L	
T-Thallium	<0.00001	mg/L	
T-Tin	0.0002	mg/L	
T-Titanium	0.0087	mg/L	
T-Uranium	<0.00001	mg/L	0.02 MAC
T-Vanadium	0.0004	mg/L	
T-Zinc	0.0051	mg/L	5 AO
Hardness (CaCO ₃)	20	mg/L	
Tannins & Lignins	<0.1	mg/L	0.4 AO
Alkalinity	<20	mg/L (CaCO ₃)	

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98389-02 Well 3

Sampled By:

Sampling Date: 3 Oct 12 10:15

Test	Result	Units	Drinking Water Guideline
Turbidity	<0.5	NTU's	5 AO
Total Dissolved Solids (conductivity ca	56	mg/L	500 AO
Total Kjeldahl Nitrogen	0.12	mg/L	

98389-03 Well 6

Sampled By:

Sampling Date: 3 Oct 12 10:25

Test	Result	Units	Drinking Water Guideline
Total Coliforms (DES)	<1.0	MPN/100mL	<1
E. coli (DES)	<1.0	MPN/100mL	<1
Colour - Apparent	<1	Colour Units	15
pH	6.6	pH Units	6.5-8.5
Fluoride	<0.05	mg/L	1.5 MAC
Chloride	5.0	mg/L	250 AO
Nitrate (N)	0.11	mg/L	10 MAC
Nitrite (N)	<0.05	mg/L	1 MAC
Sulphate	1.9	mg/L	500 AO
T-Aluminium	0.007	mg/L	0.1 Operational Std.
T-Antimony	<0.0001	mg/L	0.006 MAC
T-Arsenic	<0.00005	mg/L	0.010 MAC
T-Barium	0.00554	mg/L	1.0 MAC
T-Beryllium	<0.00005	mg/L	
T-Bismuth	<0.0001	mg/L	
T-Boron	0.016	mg/L	5 IMAC
T-Cadmium	<0.00001	mg/L	0.005 MAC
T-Calcium	6.12	mg/L	
T-Chromium	<0.0005	mg/L	0.05 MAC
T-Cobalt	<0.0001	mg/L	
T-Copper	0.0059	mg/L	1.0 AO
T-Iron	0.013	mg/L	0.3 AO
T-Lead	0.0005	mg/L	0.010 MAC
T-Lithium	0.0007	mg/L	
T-Magnesium	0.89	mg/L	

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98389-03 Well 6

Sampled By:

Sampling Date: 3 Oct 12 10:25

Test	Result	Units	Drinking Water Guideline
T-Manganese	0.002	mg/L	0.05 AO
T-Molybdenum	0.00009	mg/L	
T-Nickel	<0.0002	mg/L	
T-Potassium	0.2	mg/L	
T-Selenium	<0.0001	mg/L	0.01 MAC
T-Silicon	3.42	mg/L	
T-Silver	<0.00001	mg/L	
T-Sodium	4.3	mg/L	200 AO
T-Strontium	0.0309	mg/L	
T-Thallium	<0.00001	mg/L	
T-Tin	0.0003	mg/L	
T-Titanium	0.0076	mg/L	
T-Uranium	<0.00001	mg/L	0.02 MAC
T-Vanadium	0.0003	mg/L	
T-Zinc	0.0036	mg/L	5 AO
Hardness (CaCO ₃)	19	mg/L	
Tannins & Lignins	<0.1	mg/L	0.4 AO
Alkalinity	<20	mg/L (CaCO ₃)	
Turbidity	<0.5	NTU's	5 AO
Total Dissolved Solids (conductivity ca	40	mg/L	500 AO
Total Kjeldahl Nitrogen	0.09	mg/L	

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98389-01

Test	Method	Analyst	Date
Alkalinity	Titration to 4.5, APHA 2320 B -modified	NIsL	10/5/2012
Chloride	Ion Chromatography, EPA 300.1 -modified	NIsL	10/9/2012
Colour - Apparent	Spectrophotometer, APHA 2120 C -modified	NIsL	10/4/2012
E. coli (DES)	Enzyme Substrate, APHA 9223 B -modified	NIsL	10/3/2012
Fluoride	Ion Chromatography, EPA 300.1 -modified	NIsL	10/9/2012
Hardness (CaCO ₃)	Hardness by Calculation, APHA 2340 B -modified	NIsL	
Hardness (CaCO ₃)	Hardness by Calculation, APHA 2340 B -modified	NIsL	10/15/2012
Nitrate (N)	Ion Chromatography, EPA 300.1 -modified	NIsL	10/9/2012
Nitrite (N)	Ion Chromatography, EPA 300.1 -modified	NIsL	10/9/2012
pH	Electrometric, APHA 4500 B -modified	NIsL	10/4/2012
Sulphate	Ion Chromatography, EPA 300.1 -modified	NIsL	10/9/2012
T-Aluminium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Antimony	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Arsenic	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Barium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Beryllium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Bismuth	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Boron	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Cadmium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Calcium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Chromium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Cobalt	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Copper	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Iron	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Lead	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Lithium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Magnesium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Manganese	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Molybdenum	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Nickel	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Potassium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Selenium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Silicon	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Silver	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Sodium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012

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T-Strontium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Thallium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Tin	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Titanium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Uranium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Vanadium	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
T-Zinc	Exova Subcontract, ICP-AES,EPA6010C,200.8-modified	EXL	10/9/2012
Tannins & Lignins	Exova Subcontract,Colorimetric,APHA 5550B-modified	EXL	10/10/2012
Total Coliforms (DES)	Enzyme Substrate, APHA 9223 B -modified	NiSL	10/3/2012
Total Dissolved Solids (conducti	Conductivity @25C, APHA 2510 A -modified	NiSL	10/4/2012
Total Kjeldahl Nitrogen	Exova Subcontract, ISO/TR 11905-2 -modified	EXL	10/9/2012
Turbidity	Nephelometric, APHA 2130 B -modified	NiSL	10/4/2012

Approved By:

Catherine Black, Owner/Operator

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