

CERTIFICATE OF ANALYSIS

REPORTED TO	Genelle Improvement District Box 82 Genelle, BC V0G 1G0	WORK ORDER	24F1198
ATTENTION	Wendy Settle	RECEIVED / TEMP REPORTED	2024-06-11 08:25 / 12.1°C 2024-06-17 13:34
PO NUMBER		COC NUMBER	No Number
PROJECT	General Potability		
PROJECT INFO			

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

By engaging our services, you are agreeing to CARO Analytical Service's Standard Terms and Conditions outlined here: <https://www.caro.ca/terms-conditions>

If you have any questions or concerns, please contact me at TeamCaro@caro.ca

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TEST RESULTS

REPORTED TO PROJECT Genelle Improvement District
General Potability

WORK ORDER REPORTED 24F1198
2024-06-17 13:34

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
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Well 2 (24F1198-01) | Matrix: Water | Sampled: 2024-06-10 15:00

Anions

Chloride	4.50	AO ≤ 250	0.10 mg/L	2024-06-11	
Fluoride	< 0.10	MAC = 1.5	0.10 mg/L	2024-06-11	
Nitrate (as N)	0.709	MAC = 10	0.010 mg/L	2024-06-11	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2024-06-11	
Sulfate	17.7	AO ≤ 500	1.0 mg/L	2024-06-11	

Calculated Parameters

Hardness, Total (as CaCO3)	98.0	None Required	0.500 mg/L	N/A	
Solids, Total Dissolved	109	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	70.0	N/A	1.0 mg/L	2024-06-14	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2024-06-14	
Alkalinity, Bicarbonate (as CaCO3)	70.0	N/A	1.0 mg/L	2024-06-14	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2024-06-14	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2024-06-14	
Conductivity (EC)	205	N/A	2.0 µS/cm	2024-06-14	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2024-06-14	
pH	7.06	7.0-10.5	0.10 pH units	2024-06-14	HT2
Turbidity	0.67	OG < 1	0.10 NTU	2024-06-13	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2024-06-11	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2024-06-11	

Total Metals

Aluminum, total	< 0.0050	OG < 0.1	0.0050 mg/L	2024-06-14	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2024-06-14	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2024-06-14	
Barium, total	0.0314	MAC = 2	0.0050 mg/L	2024-06-14	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2024-06-14	
Cadmium, total	< 0.000010	MAC = 0.007	0.000010 mg/L	2024-06-14	
Calcium, total	31.1	None Required	0.20 mg/L	2024-06-14	
Chromium, total	0.00096	MAC = 0.05	0.00050 mg/L	2024-06-14	
Copper, total	< 0.00040	MAC = 2	0.00040 mg/L	2024-06-14	
Iron, total	0.031	AO ≤ 0.3	0.010 mg/L	2024-06-14	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2024-06-14	
Magnesium, total	4.92	None Required	0.010 mg/L	2024-06-14	
Manganese, total	0.00055	MAC = 0.12	0.00020 mg/L	2024-06-14	
Potassium, total	1.69	N/A	0.10 mg/L	2024-06-14	
Selenium, total	0.00139	MAC = 0.05	0.00050 mg/L	2024-06-14	
Sodium, total	3.18	AO ≤ 200	0.10 mg/L	2024-06-14	
Strontium, total	0.182	MAC = 7	0.0010 mg/L	2024-06-14	
Uranium, total	0.00349	MAC = 0.02	0.000020 mg/L	2024-06-14	



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Well 2 (24F1198-01) | Matrix: Water | Sampled: 2024-06-10 15:00, Continued

Total Metals, Continued

Zinc, total	< 0.0040	AO ≤ 5	0.0040	mg/L	2024-06-14	
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Volatile Organic Compounds (VOC)

Benzene	< 0.5	MAC = 5	0.5	µg/L	2024-06-13	
Ethylbenzene	< 1.0	AO ≤ 1.6	1.0	µg/L	2024-06-13	
Methyl tert-butyl ether	< 1.0	AO ≤ 15	1.0	µg/L	2024-06-13	
Styrene	< 1.0	N/A	1.0	µg/L	2024-06-13	
Toluene	< 1.0	MAC = 60	1.0	µg/L	2024-06-13	
Xylenes (total)	< 2.0	AO ≤ 20	2.0	µg/L	2024-06-13	
Surrogate: Toluene-d8	92		70-130	%	2024-06-13	
Surrogate: 4-Bromofluorobenzene	79		70-130	%	2024-06-13	

Well 3 (24F1198-02) | Matrix: Water | Sampled: 2024-06-10 15:00

Anions

Chloride	6.43	AO ≤ 250	0.10	mg/L	2024-06-12	
Fluoride	< 0.10	MAC = 1.5	0.10	mg/L	2024-06-12	
Nitrate (as N)	0.142	MAC = 10	0.010	mg/L	2024-06-12	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2024-06-12	
Sulfate	16.8	AO ≤ 500	1.0	mg/L	2024-06-12	

Calculated Parameters

Hardness, Total (as CaCO3)	111	None Required	0.500	mg/L	N/A	
Solids, Total Dissolved	116	AO ≤ 500	1.00	mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	75.2	N/A	1.0	mg/L	2024-06-14	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2024-06-14	
Alkalinity, Bicarbonate (as CaCO3)	75.2	N/A	1.0	mg/L	2024-06-14	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2024-06-14	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2024-06-14	
Conductivity (EC)	214	N/A	2.0	µS/cm	2024-06-14	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2024-06-14	
pH	7.07	7.0-10.5	0.10	pH units	2024-06-14	HT2
Turbidity	0.12	OG < 1	0.10	NTU	2024-06-13	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2024-06-11	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2024-06-11	

Total Metals

Aluminum, total	< 0.0050	OG < 0.1	0.0050	mg/L	2024-06-14	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2024-06-14	
Arsenic, total	0.00094	MAC = 0.01	0.00050	mg/L	2024-06-14	



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Well 3 (24F1198-02) Matrix: Water Sampled: 2024-06-10 15:00, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0465	MAC = 2	0.0050 mg/L	2024-06-14	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2024-06-14	
Cadmium, total	< 0.000010	MAC = 0.007	0.000010 mg/L	2024-06-14	
Calcium, total	35.3	None Required	0.20 mg/L	2024-06-14	
Chromium, total	0.00076	MAC = 0.05	0.00050 mg/L	2024-06-14	
Copper, total	< 0.00040	MAC = 2	0.00040 mg/L	2024-06-14	
Iron, total	0.030	AO ≤ 0.3	0.010 mg/L	2024-06-14	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2024-06-14	
Magnesium, total	5.57	None Required	0.010 mg/L	2024-06-14	
Manganese, total	0.00458	MAC = 0.12	0.00020 mg/L	2024-06-14	
Potassium, total	2.04	N/A	0.10 mg/L	2024-06-14	
Selenium, total	0.00147	MAC = 0.05	0.00050 mg/L	2024-06-14	
Sodium, total	3.21	AO ≤ 200	0.10 mg/L	2024-06-14	
Strontium, total	0.191	MAC = 7	0.0010 mg/L	2024-06-14	
Uranium, total	0.00807	MAC = 0.02	0.000020 mg/L	2024-06-14	
Zinc, total	0.0064	AO ≤ 5	0.0040 mg/L	2024-06-14	

Volatile Organic Compounds (VOC)

Benzene	< 0.5	MAC = 5	0.5 µg/L	2024-06-13	
Ethylbenzene	< 1.0	AO ≤ 1.6	1.0 µg/L	2024-06-13	
Methyl tert-butyl ether	< 1.0	AO ≤ 15	1.0 µg/L	2024-06-13	
Styrene	< 1.0	N/A	1.0 µg/L	2024-06-13	
Toluene	< 1.0	MAC = 60	1.0 µg/L	2024-06-13	
Xylenes (total)	< 2.0	AO ≤ 20	2.0 µg/L	2024-06-13	
Surrogate: Toluene-d8	90		70-130 %	2024-06-13	
Surrogate: 4-Bromofluorobenzene	78		70-130 %	2024-06-13	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Genelle Improvement District
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Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2021)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2020)	Ion Chromatography	✓	Kelowna
BTEX in Water	EPA 5030B / EPA 8260D	Purge&Trap / GC-MSD (SIM)	✓	Richmond
Coliforms, Total in Water	SM 9222* (2015)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Conductivity in Water	SM 2510 B (2021)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
E. coli in Water	SM 9222* (2015)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
pH in Water	SM 4500-H+ B (2021)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2021)	SM 1030 E		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2020)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µg/L	Micrograms per litre
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



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General Comments:

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