

**ANALYTICAL REPORT**

**Client:** Town of Killam  
 Box 189,  
 Killam, AB. T0B 2L0

**Attention:** Mark Skaar

<b>KaizenLAB JOB #:</b>	<b>345038</b>
<b>DATE RECEIVED:</b>	28-May-2025
<b>DATE REPORTED:</b>	11-Jun-2025
<b>PROJECT ID:</b>	
<b>LOCATION:</b>	

**KaizenLAB Sample #:** 345038\_001      **Sample ID:** Water Treatment Plant  
**Date Sampled:** 27-May-2025      **Matrix:** Water

Parameter Description	Units	Result	Detection Limit
<b>Routine Water Potability Analysis (Potability pkg #2)</b>			
pH		7.6	
Electrical Conductivity (EC) at 25°C	uS/cm	1560	10
<b>Alkalinity parameters of water</b>			
Alkalinity (total, as CaCO3)	mg/L	480.4	2.0
Alkalinity (phenolphthalein, as CaCO3) <sup>1</sup>	mg/L	<2.0	2.0
Bicarbonate (as HCO3) <sup>1</sup>	mg/L	585.8	2.5
Carbonate (as CO3) <sup>1</sup>	mg/L	<1.5	1.5
Hydroxide (as OH) <sup>1</sup>	mg/L	<0.5	0.5
<b>Potability package calculations</b>			
Total Dissolved Solids (calculated)	mg/L	1063	5
Ion Balance (calculated)	%	106.15	
<b>Anions in Water by IC</b>			
Fluoride	mg/L	0.46	0.10
Chloride	mg/L	7.56	0.50
Nitrite-N	mg/L	<0.005	0.005
Nitrate-N	mg/L	0.033	0.010
Nitrite-N + Nitrate-N	mg/L	0.033	0.015
Phosphate	mg/L	<0.10	0.10
Sulphate	mg/L	412.0	0.50
Bromide	mg/L	<0.10	0.10
<b>Cations in Water by ICP-OES</b>			
Dissolved Calcium	mg/L	82.3	0.1
Dissolved Magnesium	mg/L	40.0	0.1
Dissolved Potassium	mg/L	7.4	0.1
Dissolved Sodium	mg/L	224.5	0.1
Dissolved Iron <sup>1</sup>	mg/L	<0.05	0.05
Dissolved Manganese <sup>1</sup>	mg/L	<0.05	0.05

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Hardness (calculated, as CaCO <sub>3</sub> )	mg/L	370.2	0.2
Sodium Adsorption Ratio (calculated)		5.08	
True Colour	TCU	<4	4
Turbidity	NTU	0.35	0.10
Total Residual Chlorine	mg/L	2.84	0.05
Cyanide, Total	mg/L	<0.003	0.003
MCPA	mg/L	<0.002	0.002
Total Microcystins	mg/L	<0.00015	0.00015
Ammonia-N	mg/L	1.09	0.05
<b>Oxyhalides in water</b>			
<b>Oxyhalides in Water by IC</b>			
Bromate	mg/L	<0.005	0.005
Chlorite	mg/L	<0.05	0.05
Chlorate	mg/L	0.17	0.05
<b>Organic Chemicals &amp; Pesticides (Primary) in water</b>			
<b>Base/Neutral and Acid Extractable Organic Compounds in Water</b>			
Atrazine + Metabolites	mg/L	<0.001	0.001 *
Benzo(a)Pyrene	mg/L	<0.000005	0.000005
2,4,6-Trichlorophenol	mg/L	<0.002	0.002
Pentachlorophenol	mg/L	<0.002	0.002
Chlorpyrifos	mg/L	<0.002	0.002
Cyanazine	mg/L	<0.002	0.002
Omethoate	mg/L	<0.002	0.002
Dimethoate	mg/L	<0.002	0.002
Malathion	mg/L	<0.002	0.002
Methoxychlor	mg/L	<0.002	0.002
Metribuzin	mg/L	<0.002	0.002
Glyphosate	mg/L	<0.020	0.020
<b>Herbicides in Water</b>			
2,4-D	mg/L	<0.002	0.002
Dicamba	mg/L	<0.002	0.002
Nitilotriacetic Acid (NTA)	mg/L	<0.4	0.4
<b>Volatile Organic Compounds in Water</b>			
Benzene	mg/L	<0.001	0.001
Ethylbenzene	mg/L	<0.001	0.001
MTBE	mg/L	<0.004	0.004
Tetrachloroethene	mg/L	<0.001	0.001

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Toluene	mg/L	<0.0005	0.0005
Trichloroethene	mg/L	<0.00030	0.00030
Vinyl Chloride	mg/L	<0.001	0.001
m,p-Xylenes	mg/L	<0.002	0.002
o-Xylenes	mg/L	<0.001	0.001
Carbon Tetrachloride	mg/L	<0.0005	0.0005
1,4-Dichlorobenzene	mg/L	<0.0005	0.0005
1,2-Dichloroethane	mg/L	<0.002	0.002
Dichloromethane	mg/L	<0.002	0.002
Sulphide	mg/L	<0.010	0.010
Total Organic Carbon	mg/L	8.52	0.50
<b>Total Metals for Drinking Water</b>			
Total Mercury	ug/L	<0.001	0.001
<b>Total Metals in Water by ICP-MS</b>			
Total Aluminum	mg/L	0.006	0.005
Total Antimony	mg/L	<0.0006	0.0006
Total Arsenic	mg/L	0.00012	0.00008
Total Barium	mg/L	0.014	0.005
Total Boron	mg/L	0.12	0.03
Total Cadmium	mg/L	<0.00004	0.00004
Total Chromium	mg/L	<0.0008	0.0008
Total Copper	mg/L	0.0268	0.0008
Total Iron	mg/L	0.02	0.02
Total Lead	mg/L	<0.0003	0.0003
Total Manganese	mg/L	0.028	0.005
Total Selenium	mg/L	<0.0006	0.0006
Total Silver	mg/L	<0.00007	0.00007
Total Strontium	mg/L	0.622	0.001
Total Uranium	mg/L	0.00009	0.00005
Total Zinc	mg/L	0.010	0.007
UV Absorbance (254 nm)	Abs. unit	0.078	0.005

\* The detection limit has been adjusted due to sample matrix type and/or insufficient sample volume.

The theoretical holding time requirement for pH in Water of 15 minutes was not met.

The 15 minute recommended hold time for total residual chlorine (from sampling to analysis) has been exceeded - field analysis is recommended.

SAR results: "Incalculable" means calcium and magnesium concentrations are less than detection limits (zero), therefore the ratio is undefined and cannot be applied; "<DL" means the sodium concentration is less than detection limits and the ratio may only be calculated as less than the maximum of this limit.

#### Test Methodologies

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Alkalinity in Water: Modified from SM 2320 B  
Ammonia in Water: Modified from SM 4500-NH3 F  
Anions in Water: Modified from SM 4110 B  
Base/Neutral and Acid Extractable Organic Compounds in Water: Modified from EPA 3510C, EPA 8151A, and EPA 8270E  
Cations in Water by ICP-OES: Modified from SM 3030 B and SM 3120 B  
Cyanide, Total, in Water: Modified from ISO 14403:2012(E) and Skalar Analytical B.V., Catnr I295-004w/r issue 010421/99368551  
Electrical Conductivity in Water: Modified from SM 2510 B and CCME Guidance Manual Volume 4, 2016  
Glyphosate in Water: Modified from Journal of Chromatography A, 886 (2000) 207-216  
Herbicides in Water: Modified from EPA 1653, EPA 8151A, EPA 8270E, and Supelco Application Note 100  
Microcystin in Water: Modified from Microcystin-ADDA ELISA (Microtiter Plate) Instructional Booklet, Abraxis Inc.  
Nitrilotriacetic Acid in Water: Modified from Journal of Chromatography A, 690 (1995) 109-118  
Oxyhalides in Water: Modified from SM 4110 D and EPA 317.0  
pH of Water: Modified from SM 4500-H+ B  
Sulphide in Water: Modified from SM 4500-S2 D and C, and HACH Method 8131  
Total Dissolved Solids and Ion Sums/Ratios (calculation): Modified from SM 1030 E  
Total Mercury in Water: Modified from EPA 1631 Revision E  
Total Metals in Water by ICP-MS: Modified from EPA 200.2 and SM 3125 B  
Total Residual Chlorine in Water (Non-Accredited): Modified from SM 4500-Cl I  
Total/Dissolved Organic Carbon in Water: Modified from SM 5310 B  
True Colour in Water: Modified from SM 2120 C  
Turbidity in Water: Modified from SM 2130 B  
UV Absorbance/Transmittance in Water (Non-Accredited): Modified from SM 5910 B  
Volatile Organic Compounds in Water: Modified from EPA 8260D and EPA 5030C

Final Review by:



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Ivory Ringor  
Client Services Representative

Note: The results in this report relate only to the items tested and as received. Information is available for any items in 7.8.2.1 of ISO/IEC 17025:2017 that cannot be put on a test report. The report shall not be reproduced except in full without written approval of KaizenLAB. The validity of results may be affected if the information is provided by the customer.

Test methodologies are accredited in accordance with ISO/IEC 17025 via CALA, unless otherwise specified in the description of the methods.

\*This analyte is not accredited, even though analyzed by an accredited methodology.