



# Water Treatment Plant

## Quarterly Report March 2021

### Water Quality Summary

#### Acronyms

**MAC** = Maximum acceptable concentration established by Health Canada  
**AO** = Aesthetic objective (no health based limit) suggested by Health Canada  
**NTU** = Nephelometric Turbidity Unit  
**mg/L** = milligrams per litre or one part per million

#### Health Related

Parameter	Units	Result	MAC
Turbidity	NTU	0.052	0.3
Chloramines	mg/L	2.06	n/a <sup>1</sup>
Nitrate-N	mg/L	0.13	10
Fluoride	mg/L	0.75	1.5
Trihalomethanes	mg/L	0.009	0.1
Chromium	mg/L	< 0.0005	0.05
Lead	mg/L	< 0.0001	0.005
Manganese	mg/L	< 0.005	0.12

#### Non Health Related

Parameter	Units	Result	AO
pH		7.28	7.0 - 10.5
Hardness	mg/L	155	n/a <sup>2</sup>
TDS - total dissolved solids	mg/L	204	≤ 500
Sulfate	mg/L	48.6	≤ 500
Sodium	mg/L	14.8	≤ 200
Iron	mg/L	< 0.01	0.05
Manganese	mg/L	< 0.005	≤ 0.02
Aluminum	mg/L	0.027	n/a <sup>3</sup>

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<sup>1</sup> Guideline value not necessary due to low toxicity at concentrations found in drinking water. Chloramine residuals in most Canadian drinking water distribution systems are typically below 4 mg/L.

<sup>2</sup> Although hardness may have significant aesthetic effects, a guideline has not been established because public acceptance of hardness may vary considerably according to the local conditions; major contributor to hardness (calcium & magnesium) are not of direct public health concern

<sup>3</sup> Operational Guidance Value of < 0.1 mg/L total aluminum. There is no consistent, convincing evidence that aluminum in drinking water causes adverse health effects in humans.



City of Lethbridge  
Water Treatment Plant

## Treated Water - Distribution System

### BACTERIOLOGICAL / SECONDARY DISINFECTION

	Mar 2/2021		Mar 9/2021		Mar 15/2021		Mar 22/2021		Mar 29/2021	
	Sample Results		Sample Results		Sample Results		Sample Results		Sample Results	
	Cl <sub>2</sub>	Bac T	Cl <sub>2</sub>	Bac T	Cl <sub>2</sub>	Bac T	Cl <sub>2</sub>	Bac T	Cl <sub>2</sub>	Bac T
Sample 1 North Lethbridge			1.91	N			1.85	N	1.64	N
Sample 2 North Lethbridge										
Sample 3 North Lethbridge	2.27	N	2.00	N	2.20	N	2.18	N	1.85	N
Sample 4 North Lethbridge										
Sample 5 North Lethbridge	1.66	N	1.51	N	1.34	N	1.52	N	1.38	N
Sample 6 North Lethbridge										
Sample 7 North Lethbridge	1.90	N	2.01	N	1.93	N	1.93	N	1.71	N
Sample 8 North Lethbridge	1.97	N			2.00	N	1.91	N		
Sample 9 North Lethbridge										
Sample 10 North Lethbridge	2.00	N								
Sample 11 North Lethbridge	2.06	N	2.02	N	2.04	N	1.97	N	1.79	N
Sample 12 North Lethbridge										
Sample 13 North Lethbridge	1.84	N	1.86	N	1.59	N	1.72	N	1.57	N
Sample 14 North Lethbridge										
Sample 15 North Lethbridge	1.89	N	1.97	N	1.96	N	1.93	N	1.70	N
Sample 16 South Lethbridge	1.93	N	1.97	N	1.84	N	1.87	N	1.65	N
Sample 17 South Lethbridge	1.96	N	2.00	N	1.86	N			1.70	N
Sample 18 South Lethbridge	1.98	N	1.92	N	1.93	N	1.92	N	1.72	N
Sample 19 South Lethbridge	2.05	N	2.02	N	2.03	N	1.92	N	1.74	N
Sample 20 South Lethbridge			1.83	N	1.90	N	1.76	N	1.72	N
Sample 21 South Lethbridge										
Sample 22 South Lethbridge	2.27	N	2.02	N	2.15	N	2.17	N	2.05	N

	Mar 1/2021		Mar 8/2021		Mar 16/2021		Mar 23/2021		Mar 30/2021	
	Sample Results		Sample Results		Sample Results		Sample Results		Sample Results	
	Cl <sub>2</sub>	Bac T	Cl <sub>2</sub>	Bac T	Cl <sub>2</sub>	Bac T	Cl <sub>2</sub>	Bac T	Cl <sub>2</sub>	Bac T
Sample 23 West Lethbridge					1.38	N				
Sample 24 West Lethbridge	1.59	N	1.84	N					1.66	N
Sample 25 West Lethbridge	1.90	N							1.67	N
Sample 26 West Lethbridge										
Sample 27 West Lethbridge	1.92	N			1.97	N	1.91	N	1.63	N
Sample 28 West Lethbridge	1.86	N	1.93	N			1.84	N	1.65	N
Sample 29 West Lethbridge			1.94	N						
Sample 30 West Lethbridge	1.94	N	2.04	N	1.95	N	1.93	N	1.68	N
Sample 31 West Lethbridge	1.90	N	1.93	N	1.88	N	1.85	N	1.66	N
Sample 32 West Lethbridge										
Sample 33 West Lethbridge	1.94	N	1.98	N	1.91	N	1.87	N	1.71	N
Sample 34 West Lethbridge	1.90	N	1.95	N	1.85	N	1.90	N	1.70	N
Sample 35 West Lethbridge			1.91	N	1.80	N	1.83	N		
Sample 36 South Lethbridge					1.93	N	1.89	N		
Sample 37 South Lethbridge			1.92	N					1.59	N
Sample 38 South Lethbridge					1.51	N	1.61	N		
Sample 39 South Lethbridge										
Sample 40 South Lethbridge	1.99	N	2.01	N	2.07	N	1.96	N	1.83	N
Sample 41 South Lethbridge	1.97	N	2.01	N	1.88	N	1.75	N	1.77	N
Sample 42 South Lethbridge										
Sample 43 South Lethbridge	1.80	N	1.88	N	2.18	N	1.73	N	1.61	N
Sample 44 South Lethbridge										
Sample 45 South Lethbridge										
Sample 20 South Lethbridge	1.90	N								

Total Negative (N) = 125  
 Total Positive (P) = 0  
 Total Re-Samples = 0

Chlorine Residual Minimum = 1.34 mg/L  
 Chlorine Residual Maximum = 2.27 mg/L  
 Chlorine Residual Average = 1.86 mg/L