

A photograph of a water treatment plant building with a blue and yellow facade. The building has a sign that says "WATER PLANT". There are several trees in the foreground, including a large evergreen and a smaller tree with reddish-brown leaves. A white pickup truck is parked on the right side of the building. A sign on a post in the foreground has some text and a graphic. The sky is clear and blue.

City of Weyburn

**Public Water Treatment System Annual Report
2020**

Shabbir Sakrani P.Eng
Superintendent Water Plant

Annual Notice to Consumers

The Waterworks and Sewage Works Regulation states that at least once a year, every permittee of a waterworks supplying water intended or used for human consumptive or hygienic use shall provide consumers supplied by the waterworks with a notification of:

- a) The quality of water produced or supplied by the water works in comparison with levels set out in these regulations;

And

- b) The permittee's compliance with sample submission requirements described in the permittee's permit

Section 42 states as soon as possible after compiling with subsection (1), the permittee shall provide the Minister with written notice of the permittee's compliance.

Canadian Water Quality Guidelines

www.hc-sc.gc.ca/ehp/ehd/catalogue/bch_pubs/dwgsup_doc/wdgsup_doc.htm

This report has been developed to meet this regulation and is available for the public to review. The Waterworks Annual Report is located at www.veyburn.ca or paper copies are available at City Hall.

Introduction

The City of Weyburn's "Public Water Treatment System Annual Report" summarizes the water utility's ability to produce safe potable water and comply with provincial regulations.

Description of the Water System

The City of Weyburn Water Treatment Plant (WTP) facility provides potable drinking water to a population of approximately 10,679 (2016 census) residents, a number of business units and 330 rural connections. The City of Weyburn water treatment system fulfilled its obligation in 2020 in compliance with Waterworks and Sewage Works Regulations.

Water Supply Source & Process

The City of Weyburn currently operates a surface water treatment system to meet the potable water requirements of its residents. The raw water source is Nickle Lake, approximately 11 km southeast of the City. Nickle Lake is the impoundment on the Souris River formed by the Abe Douglas Dam, which was constructed in 1982. Raw water is pumped from the intake structure via a high lift pump through a 450 mm PVC pipeline to the City of Weyburn Water Treatment Plant which is located in the south east quadrant of the City. Treatment is achieved by the conventional method of addition of chemicals (oxidation), coagulation and flocculation, clarification, filtration, fluoridation and disinfection processes. There are two treatment trains at the Water Treatment Plant, denoted as Plant 100 and Plant 200. There are 3 cast in place concrete below ground potable water storage reservoirs with a total capacity of 20 million liters. The City added a 13 million liter reservoir adjacent to the existing 5 million liter storage reservoir and distribution system west of water plant in 2019. The First Avenue reservoir has a capacity of 2.2 million liters and is located in the City's northwest (First Avenue Storage Reservoir and Pumping Station). Vertical turbine pumps located at the Water Treatment Plant convey water to the distribution system and to the First Avenue Reservoir.

Parameters and Testing

The WTP treats surface water that focuses on the removal of suspended solids and the inactivation of pathogenic organisms through a multiple barrier approach i.e. chemical aided settling, filtration and disinfection. All limits that each parameter must be within compliance with the Environmental Protection Act 2002 and associated regulations to that Act (see Appendix 1 for parameters and results). These parameters can be found on the following website www.saskh20.ca.

Summary

The City of Weyburn Water Treatment Facility with two trains (Plant 100 and Plant 200), is a large municipal Residential Class 4 chemically assisted filtration plant capable of delivering approximately 10,000 cubic meters of treated water to the community each day.

The City has a population of 10,679 according to the 2016 census, based on 2016 data. The yearly average estimated daily volume was 4352 m³/day. Peak daily flow recorded up to 10,000 m³ in the summer and minimum daily flow recorded in the winter was 3,000 m³/per day. The chart below shows monthly distributed and raw water for the year 2020.

Treated (distributed) and Raw Water 2020

Month	Treated cubic meter	Raw cubic meter
January	113489	129620
February	107999	124506
March	121862	137639
April	120715	135074
May	156601	179599
June	189764	208438
July	150367	168884
August	183044	198574
September	135400	149448
October	108087	133574
November	100723	119853
December	100653	127154
Year Total	1588704 cubic meter	1812363 cubic meter

There were no difficulties encountered in meeting the treated water demand of the City. Water samples collected as required by the permit throughout the process, at varying frequencies, are tested for different parameters to evaluate treatment efficiency and to ensure finished water quality.

Test parameters include:

1. Critical indicators related to potential acute health effects such as *E. Coli*.
2. Trace contaminants typically associated with chronic long term effects such as heavy metals and synthetic organic compounds.
3. Non-health related parameters that aid in assessing process efficiency or the aesthetic quality of the drinking water such as alkalinity or p-H.

With the exception of marginal exceedance of the drinking water standards for Tri Halo Methane (THMs) and Halo Acetic Acid (HAAs) concentration, all test results from 2020 met the stringent requirements of the Saskatchewan Drinking Water Quality Standards. The City engaged MPE Engineering for a study to reduce THMs and HAAs. The study is complete and the City is implementing MPE recommendations in 2021 and 2022.

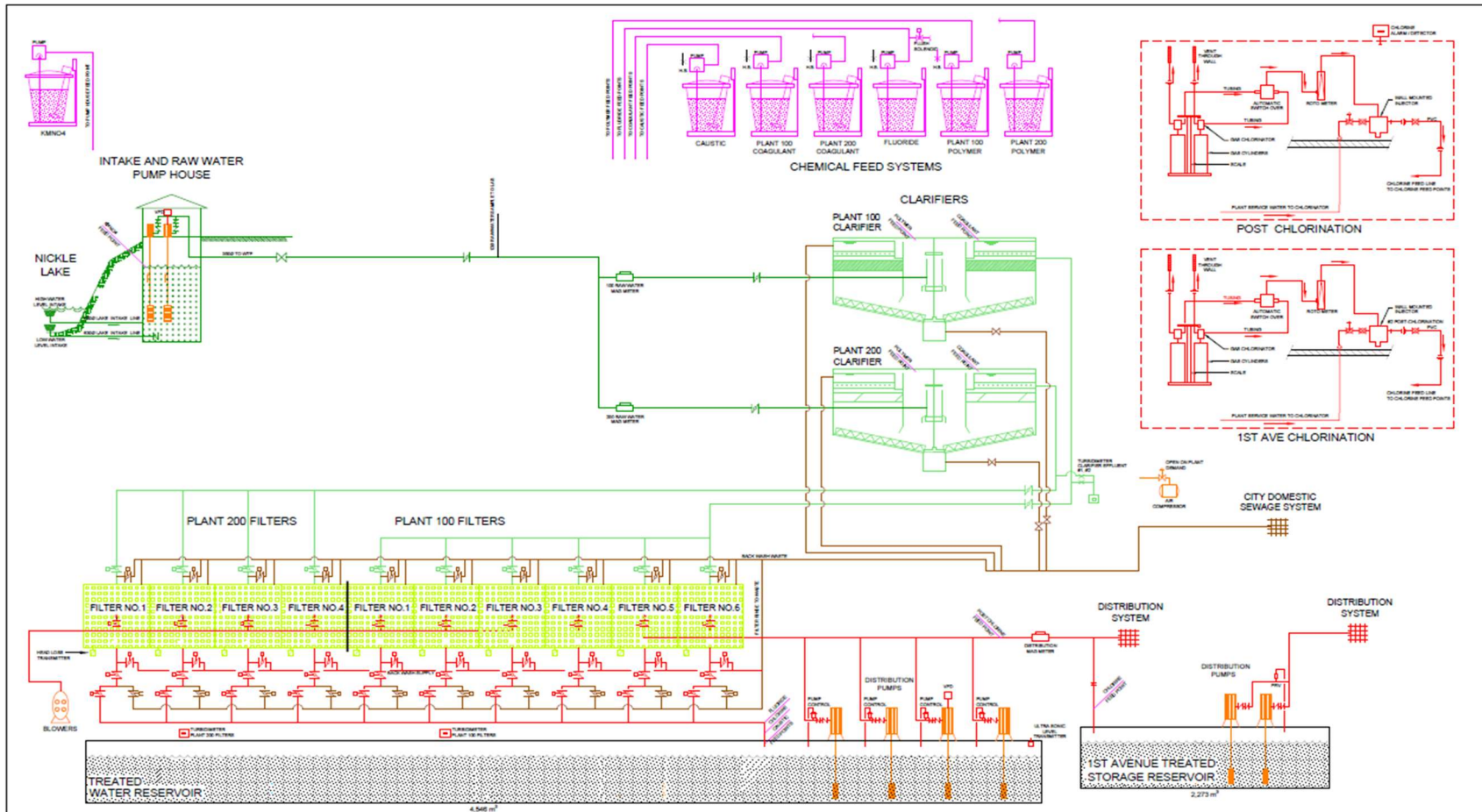


Figure 1 – Weyburn Water Treatment Plant Schematic

Appendix 1



**WATER TREATMENT PLANT
City of Weyburn
Waterworks Monitoring Schedule and Performance Report- Year 2020**

Parameters	Testing Required by Permit	Samples Collected	Water Plant Performance
Bacteriological	Three (3) samples every week from representative location of the distribution system	159	100%
Turbidity	Continuous monitoring and data recording	24 hours per day, 365 days	100%
Chlorine Residual	Continuous monitoring and data recording	24 hours per day, 365 days	100%
Fluoride	Twice per day at water plant	730	100%
	One (1) sample per week sent to accredited lab	52	
Chemical- General	One (1) sample every 3 months from the treated water at the water plant	4	100%
Chemical- Health	One (1) sample every year from the water plant	1	100%
Pesticides	Once (1) every 2 years from treated water at plant	1	100%
Tri halo methane (THMs)	Two (2) samples every 3 months from extremities of the distribution system	12	100%
Halo acetic Acids(HAAs)	Two (2) samples every 3 months from extremities of the distribution system	8	100%
Cyanide and Mercury	One (1) sample every year from treated water	1	100%
Organics	One (1) sample every 2 years	1	100%



WATER TREATMENT PLANT
City of Weyburn
Waterworks Monitoring Schedule and Performance Report- Year 2020

Parameters	Testing Required by Permit	Samples Collected	Water Plant Performance
Microcystin LR	One (1) every month, May to October treated water and raw water	6	100%
Giardia and Cryptosporidium	One(1) every 6 months raw water	2	100%



WATER TREATMENT PLANT City of Weyburn Bacteriological Sampling Report- Year 2020

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
1	Jan	7	2020	HM	Leisure Centre	1.34	1.66	0.39	Regular	Not Detected	Not Detected
2	Jan	7	2020	HM	Subway	1.26	1.93	0.29	Regular	Not Detected	Not Detected
3	Jan	7	2020	HM	Tim Horton	0.84	1.17	0.56	Regular	Not Detected	Not Detected
4	Jan	14	2020	HM	7-Eleven	1.33	1.73	0.37	Regular	Not Detected	Not Detected
5	Jan	14	2020	HM	St. Michael School	1.17	1.52	0.51	Regular	Not Detected	Not Detected
6	Jan	14	2020	HM	McDonalds	0.88	1.46	0.36	Regular	Not Detected	Not Detected
7	Jan	21	2020	HM	Starbucks	0.52	1.32	0.86	Regular	Not Detected	Not Detected
8	Jan	21	2020	HM	Weyburn Comprehensive School	0.79	1.45	0.94	Regular	Not Detected	Not Detected
9	Jan	21	2020	HM	Ramada Hotel	0.81	1.53	1.98	Regular	Not Detected	Not Detected
10	Jan	28	2020	HM	Leisure Centre	1.04	1.81	0.49	Regular	Not Detected	Not Detected
11	Jan	28	2020	HM	City Hall	1.29	1.90	0.88	Regular	Not Detected	Not Detected
12	Jan	28	2020	HM	Terry's Yamaha	1.08	1.56	0.86	Regular	Not Detected	Not Detected
13	Feb	4	2020	HM	Welsh Kitchen	1.00	1.66	0.61	Regular	Not Detected	Not Detected
14	Feb	4	2020	HM	Public Library	1.02	1.70	0.48	Regular	Not Detected	Not Detected



WATER TREATMENT PLANT City of Weyburn Bacteriological Sampling Report- Year 2020

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
15	Feb	4	2020	HM	Souris School	1.01	1.53	0.33	Regular	Not Detected	Not Detected
16	Feb	11	2020	HM	Queen Elizabeth School	1.08	1.53	0.91	Regular	Not Detected	Not Detected
17	Feb	11	2020	HM	Comfort Café	1.07	1.70	0.82	Regular	Not Detected	Not Detected
18	Feb	11	2020	HM	Microtel	0.74	1.28	0.28	Regular	Not Detected	Not Detected
19	Feb	18	2020	HM	General Hospital	0.95	1.72	0.23	Regular	Not Detected	Not Detected
20	Feb	18	2020	HM	MNP Place	1.12	1.88	0.47	Regular	Not Detected	Not Detected
21	Feb	18	2020	HM	A&W	1.52	1.72	0.37	Regular	Not Detected	Not Detected
22	Feb	25	2020	HM	Travelodge	1.30	2.06	0.29	Regular	Not Detected	Not Detected
23	Feb	25	2020	HM	Public Library	0.52	1.31	0.16	Regular	Not Detected	Not Detected
24	Feb	25	2020	HM	Haig School	1.62	2.33	0.19	Regular	Not Detected	Not Detected
25	Mar	3	2020	HM	Leisure Centre	1.02	1.76	0.31	Regular	Not Detected	Not Detected
26	Mar	3	2020	HM	7-Eleven	0.94	1.69	0.57	Regular	Not Detected	Not Detected
27	Mar	3	2020	HM	Tim Horton	0.72	1.39	0.43	Regular	Not Detected	Not Detected
28	Mar	10	2020	HM	Zippy Mart	0.81	1.45	0.22	Regular	Not Detected	Not Detected



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S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
29	Mar	10	2020	HM	City Hall	0.75	1.40	0.62	Regular	Not Detected	Not Detected
30	Mar	10	2020	HM	Burger King	1.31	1.60	0.17	Regular	Not Detected	Not Detected
31	Mar	17	2020	HM	MNP Place	0.97	1.65	0.19	Regular	Not Detected	Not Detected
32	Mar	17	2020	HM	Public Library	1.11	1.90	0.79	Regular	Not Detected	Not Detected
33	Mar	17	2020	HM	Esso	1.06	1.64	0.45	Regular	Not Detected	Not Detected
34	Mar	24	2020	HM	Co-op Gas bar	0.95	1.70	0.37	Regular	Not Detected	Not Detected
35	Mar	24	2020	HM	City Hall	1.18	1.73	0.35	Regular	Not Detected	Not Detected
36	Mar	24	2020	HM	Subway	1.16	1.80	0.14	Regular	Not Detected	Not Detected
37	Mar	31	2020	MR	Co-op	1.01	1.81	0.19	Regular	Not Detected	Not Detected
38	Mar	31	2020	MR	7-Eleven	0.51	1.25	0.18	Regular	Not Detected	Not Detected
39	Mar	31	2020	MR	City Hall	1.09	1.93	0.13	Regular	Not Detected	Not Detected
40	Apr	7	2020	MR	Co-op	1.10	1.88	0.22	Regular	Not Detected	Not Detected
41	Apr	7	2020	MR	7-Eleven	1.07	1.85	0.14	Regular	Not Detected	Not Detected
42	Apr	7	2020	MR	City Hall	1.08	1.87	0.22	Regular	Not Detected	Not Detected



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S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
43	Apr	14	2020	SS	2/880 5th Ave	0.88	1.55	0.12	Regular	Not Detected	Not Detected
44	Apr	14	2020	MR	7-Eleven	0.58	1.37	0.16	Regular	Not Detected	Not Detected
45	Apr	14	2020	MR	Co-op	1.20	2.04	0.18	Regular	Not Detected	Not Detected
46	Apr	21	2020	KH	711 5th Street	0.93	1.62	0.15	Regular	Not Detected	Not Detected
47	Apr	21	2020	MR	Co-op	1.20	1.90	0.17	Regular	Not Detected	Not Detected
48	Apr	21	2020	MR	7-Eleven	0.54	1.29	0.22	Regular	Not Detected	Not Detected
49	Apr	28	2020	MR	Co-op	1.21	1.99	0.18	Regular	Not Detected	Not Detected
50	Apr	28	2020	MR	7-Eleven	0.73	1.84	0.199	Regular	Not Detected	Not Detected
51	Apr	28	2020	KH	711 5th Street	1.30	2.07	0.14	Regular	Not Detected	Not Detected
52	May	5	2020	MR	7-Eleven	1.00	1.75	0.17	Regular	Not Detected	Not Detected
53	May	5	2020	MR	Esso	1.15	1.94	0.13	Regular	Not Detected	Not Detected
54	May	12	2020	KH	711 5th Street	0.86	1.14	0.25	Regular	Not Detected	Not Detected
55	May	12	2020	SS	Unit #2 880 5th St	0.67	1.28	0.11	Regular	Not Detected	Not Detected
56	May	12	2020	SI	7-Eleven	0.54	1.44	0.47	Regular	Not Detected	Not Detected



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City of Weyburn
Bacteriological Sampling Report- Year 2020

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
57	May	19	2020	CM/SI	7-Eleven	0.50	1.18	0.12	Regular	Not Detected	Not Detected
58	May	19	2020	CM/SI	Shell	1.08	1.89	0.08	Regular	Not Detected	Not Detected
59	May	19	2020	CM/SI	Esso	1.12	1.86	0.09	Regular	Not Detected	Not Detected
60	May	26	2020	CM/HM	Co-op Gas bar	1.19	1.85	0.09	Regular	Not Detected	Not Detected
61	May	26	2020	CM/HM	7-Eleven	0.87	1.54	0.12	Regular	Not Detected	Not Detected
62	May	26	2020	CM/HM	Esso	1.04	1.90	0.12	Regular	Not Detected	Not Detected
64	June	2	2020	CM/HM	Co-op Gas Station	1.48	2.21	0.08	Regular	Not Detected	Not Detected
65	June	2	2020	CM/HM	7-Eleven	1.31	1.98	0.19	Regular	Not Detected	Not Detected
66	June	2	2020	CM/HM	Tim Hortons	0.56	1.24	0.13	Regular	Not Detected	Not Detected
68	June	9	2020	SI	Subway	0.89	1.63	0.31	Regular	Not Detected	Not Detected
69	June	9	2020	SI	Shell	1.05	1.02	0.19	Regular	Not Detected	Not Detected
70	June	9	2020	SI	McDonalds	0.60	1.41	0.13	Regular	Not Detected	Not Detected
71	June	16	2020	MR	Co-op Gas	1.79	2.47	0.16	Regular	Not Detected	Not Detected
72	June	16	2020	MR	7-Eleven	0.92	1.63	0.17	Regular	Not Detected	Not Detected



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City of Weyburn
Bacteriological Sampling Report- Year 2020

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
73	June	16	2020	MR	Esso	1.26	2.09	0.22	Regular	Not Detected	Not Detected
74	June	23	2020	SI	Canalta	0.52	1.23	0.52	Regular	Not Detected	Not Detected
75	June	23	2020	SI	Shell	1.25	1.93	0.22	Regular	Not Detected	Not Detected
76	June	23	2020	SI	City Hall	1.36	2.13	0.17	Regular	Not Detected	Not Detected
77	June	30	2020	CM	Ramada Hotel	0.22	0.87	0.13	Regular	Not Detected	Not Detected
78	June	30	2020	CM	7- Eleven	0.13	0.73	0.12	Regular	Not Detected	Not Detected
79	June	30	2020	CM	Shell	1.09	1.81	0.10	Regular	Not Detected	Not Detected
80	July	7	2020	HM	Terry's Yamaha	1.11	1.74	0.35	Regular	Not Detected	Not Detected
81	July	7	2020	HM	City Hall	1.29	2.02	0.18	Regular	Not Detected	Not Detected
82	July	7	2020	HM	Leisure Centre	1.34	1.97	3.35	Regular	Not Detected	Not Detected
83	July	14	2020	CM	Tim Hortons	0.68	1.34	0.14	Regular	Not Detected	Not Detected
84	July	14	2020	CM	Subway	1.05	1.68	0.10	Regular	Not Detected	Not Detected
85	July	14	2020	CM	Leisure Centre	0.31	0.89	0.78	Regular	Not Detected	Not Detected
86	July	22	2020	CM	Ramada Hotel	0.61	1.16	0.11	Regular	Not Detected	Not Detected



WATER TREATMENT PLANT City of Weyburn Bacteriological Sampling Report- Year 2020

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
87	July	22	2020	CM	Burger King	1.50	2.13	0.05	Regular	Not Detected	Not Detected
88	July	22	2020	CM	7-Eleven	0.49	1.11	0.09	Regular	Not Detected	Not Detected
89	July	28	2020	CM	Canalta Hotel	1.28	1.98	0.08	Regular	Not Detected	Not Detected
90	July	28	2020	CM	Subway	1.74	2.44	0.08	Regular	Not Detected	Not Detected
91	July	28	2020	CM	Co-op Gas Station	1.71	2.47	0.10	Regular	Not Detected	Not Detected
92	August	4	2020	CM	Tim Hortons	1.15	1.84	0.11	Regular	Not Detected	Not Detected
93	August	4	2020	CM	Shell	1.59	2.30	0.08	Regular	Not Detected	Not Detected
94	August	4	2020	CM	7-Eleven	0.75	1.43	0.09	Regular	Not Detected	Not Detected
95	August	11	2020	MR	Co-op Gas Station	1.99	2.85	0.33	Regular	Not Detected	Not Detected
96	August	11	2020	MR	7-Eleven	0.65	1.31	0.30	Regular	Not Detected	Not Detected
97	August	11	2020	MR	Esso	1.67	2.45	0.19	Regular	Not Detected	Not Detected
98	August	18	2020	MR	Co-op Gas Station	1.95	2.68	0.141	Regular	Not Detected	Not Detected
99	August	18	2020	MR	7-Eleven	0.64	1.33	0.227	Regular	Not Detected	Not Detected
100	August	18	2020	MR	Esso	1.41	2.21	0.173	Regular	Not Detected	Not Detected



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City of Weyburn
Bacteriological Sampling Report- Year 2020

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
101	August	24	2020	CM	7-Eleven	0.36	1.02	0.15	Regular	Not Detected	Not Detected
102	August	24	2020	CM	Burger King	1.30	2.00	0.09	Regular	Not Detected	Not Detected
103	August	24	2020	CM	Tim Hortons	0.72	1.43	0.12	Regular	Not Detected	Not Detected
104	September	1	2020	CM	Ramada Hotel	0.13	0.75	0.15	Regular	Not Detected	Not Detected
105	September	1	2020	CM	Subway	0.83	1.49	0.11	Regular	Not Detected	Not Detected
106	September	1	2020	CM	Co-op Gas	1.09	1.85	0.09	Regular	Not Detected	Not Detected
107	September	8	2020	HM	Leisure Centre	1.08	1.82	0.25	Regular	Not Detected	Not Detected
108	September	8	2020	HM	City Hall	0.96	1.65	0.19	Regular	Not Detected	Not Detected
109	September	8	2020	HM	A&W	1.07	1.82	0.17	Regular	Not Detected	Not Detected
110	September	15	2020	HM	7-Eleven	0.47	1.15	0.24	Regular	Not Detected	Not Detected
111	September	15	2020	HM	Subway	1.22	2.01	0.39	Regular	Not Detected	Not Detected
112	September	15	2020	HM	Tim Hortons	0.51	1.22	0.18	Regular	Not Detected	Not Detected
113	September	22	2020	HM	Leisure Centre	0.97	1.61	0.34	Regular	Not Detected	Not Detected
114	September	22	2020	HM	Welsh Kitchen	1.21	2.00	0.29	Regular	Not Detected	Not Detected



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Bacteriological Sampling Report- Year 2020

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
115	September	22	2020	HM	Ramada Hotel	0.64	1.19	0.29	Regular	Not Detected	Not Detected
116	September	29	2020	CM	Esso	1.45	2.15	0.14	Regular	Not Detected	Not Detected
117	September	29	2020	CM	Burger King	1.32	2.06	0.15	Regular	Not Detected	Not Detected
118	September	29	2020	CM	Co-op Gas	1.50	2.22	0.13	Regular	Not Detected	Not Detected
119	October	6	2020	HM	7-Eleven	0.96	1.73	0.46	Regular	Not Detected	Not Detected
120	October	6	2020	FM	Subway	1.30	1.94	0.18	Regular	Not Detected	Not Detected
121	October	6	2020	FM	Tim Hortons	0.54	1.17	0.69	Regular	Not Detected	Not Detected
122	October	13	2020	HM	Leisure Centre	0.95	1.71	0.77	Regular	Not Detected	Not Detected
123	October	13	2020	HM	City Hall	1.34	2.16	0.39	Regular	Not Detected	Not Detected
124	October	13	2020	HM	Terry's Yamaha	1.24	1.96	0.21	Regular	Not Detected	Not Detected
125	October	20	2020	HM	Coop Gas Bar	1.16	1.92	0.44	Regular	Not Detected	Not Detected
126	October	20	2020	HM	Public Library	1.18	1.92	0.17	Regular	Not Detected	Not Detected
127	October	20	2020	HM	Tim Hortons	0.5	1.17	0.23	Regular	Not Detected	Not Detected
128	October	27	2020	FM	Canalta	0.26	0.96	0.38	Regular	Not Detected	Not Detected



WATER TREATMENT PLANT City of Weyburn Bacteriological Sampling Report- Year 2020

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
129	October	27	2020	FM	7 Eleven	1.45	2.26	0.30	Regular	Not Detected	Not Detected
130	October	27	2020	FM	Subway	1.29	2.05	0.37	Regular	Not Detected	Not Detected
131	November	3	2020	JK	Coop Gas Bar	1.35	2.04	0.26	Regular	Not Detected	Not Detected
132	November	3	2020	JK	City Hall	1.04	1.66	0.22	Regular	Not Detected	Not Detected
133	November	3	2020	JK	Tim Hortons	0.86	1.44	0.19	Regular	Not Detected	Not Detected
134	November	10	2020	FM	7 Eleven	1.33	2.09	0.19	Regular	Not Detected	Not Detected
135	November	10	2020	FM	ESSO Gas Station	1.32	1.96	0.16	Regular	Not Detected	Not Detected
136	November	10	2020	FM	Subway	1.31	2.08	0.18	Regular	Not Detected	Not Detected
137	November	17	2020	JK	Coop Gas Bar	1.21	1.92	0.27	Regular	Not Detected	Not Detected
138	November	17	2020	JK	Leisure Centre	1.34	2.07	0.27	Regular	Not Detected	Not Detected
139	November	17	2020	JK	Terry's Yamaha	0.75	1.49	0.24	Regular	Not Detected	Not Detected
140	November	24	2020	JK	Sgi	1.54	2.15	0.12	Regular	Not Detected	Not Detected
141	November	24	2020	JK	Public Library	1.17	1.88	0.13	Regular	Not Detected	Not Detected
142	November	24	2020	JK	Canalta	0.54	0.93	0.18	Regular	Not Detected	Not Detected



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City of Weyburn
Bacteriological Sampling Report- Year 2020

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
143	December	1	2020	JK	Coop Gas Bar	1.36	2.03	0.16	Regular	Not Detected	Not Detected
144	December	1	2020	JK	City Hall	0.59	1.43	0.18	Regular	Not Detected	Not Detected
145	December	1	2020	JK	Tim Hortons	0.50	1.14	0.18	Regular	Not Detected	Not Detected
146	December	8	2020	JK	I-Zan Tire	1.64	2.30	0.11	Regular	Not Detected	Not Detected
147	December	8	2020	JK	Leisure Centre	1.30	2.01	0.23	Regular	Not Detected	Not Detected
148	December	8	2020	JK	Minard's Leisure World	1.18	1.78	0.14	Regular	Not Detected	Not Detected
149	December	15	2020	JK	SGI	1.50	2.15	0.16	Regular	Not Detected	Not Detected
150	December	15	2020	JK	Terry's Yamaha	0.85	1.56	0.15	Regular	Not Detected	Not Detected
151	December	15	2020	JK	Public Library	1.38	2.03	0.13	Regular	Not Detected	Not Detected
152	December	21	2020	FM	Coop Gas Bar	1.12	1.90	0.18	Regular	Not Detected	Not Detected
153	December	21	2020	FM	7 Eleven	0.54	1.22	0.29	Regular	Not Detected	Not Detected
154	December	21	2020	FM	Tim Hortons	0.48	1.05	0.21	Regular	Not Detected	Not Detected
155	December	29	2020	SH	Knight Dodge	1.35	2.24	0.16	Regular	Not Detected	Not Detected
156	December	29	2020	SH	221 5th Street	1.23	2.03	0.15	Regular	Not Detected	Not Detected



**WATER TREATMENT PLANT
City of Weyburn
Bacteriological Sampling Report- Year 2020**

S.No.	Month	Day	Year	Location	Free Chlorine	Total Chlorine	Turbidity	Type Of Analysis	Provincial Lab Results		
									Total Coli-Form / 100ml	E. Coli / 100ml	Fluoride mg/l
157	December	29	2020	SH	Co-op Gas Bar	0.72	1.25	0.29	Regular	Not Detected	Not Detected



WATER TREATMENT PLANT City of Weyburn Chemistry General Report- Year 2020

Sample Description		Raw Water	Treated Water	Raw Water	Treated Water	Raw Water	Treated Water	Raw Water	Treated Water
Date Sampled		28-Jan-20	28-Jan-20	13-May-20	13-May-20	7-Jul-20	7-Jul-20	13-Oct-20	13-Oct-20
Parameters	Unit								
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	224	155	199	116	200	124	220	150
Bicarbonate (HCO ₃)	mg/L	274	189	242	141	218	151	260	183
Dissolved Calcium	mg/L	57.9	58.2	48.80	48.60	46.80	47.00	56.20	53.70
Carbonate (CO ₃)	mg/L	<5.0	<5.0	<5.0	<5.0	13.1	<5.0	<5.0	<5.0
Chloride	mg/L	25.2	31.2	25.1	30.7	27.1	32.6	31.5	37
Conductivity	uS/cm	770	841	712	786	727	805	816	922
Fluoride	mg/L	0.178	0.778	0.153	0.653	0.144	0.632	0.140	0.570
Hardness	mg CaCO ₃ /L	241	243	214	214	213	216	254	248
Dissolved Magnesium	mg/L	23.3	23.6	22.40	22.40	23.40	24.00	27.50	27.60
Nitrate-N	mg/L	0.454	0.462	0.211	0.287	0.020	0.056	<0.040	<0.040
Nitrite-N	mg/L	0.022	<0.010	0.011	<0.010	<0.010	<0.010	<0.020	<0.020
pH	pH	8.00	7.65	8.3	7.74	8.66	7.88	8.42	7.74
Dissolved Sodium	mg/L	71.0	84.1	64.7	74.2	62.3	71.2	77.6	95.7
Sulphate (SO ₄)	mg/L	138	219	136	232	143	233	164	270
Total Dissolved Solids	mg/L	486	530	496	557	506	544	470	576



WATER TREATMENT PLANT City of Weyburn Chemical Health Report- Year 2020

Sample Description		Treated Water	MAC	Other Value
Date Sampled		13-May-20		
Parameter	Unit			
Aluminum (Al)-Total	mg/L	0.0334		OG <0.1
Antimony (Sb)-Total	mg/L	0.00018	0.006	
Arsenic (As)-Total	mg/L	0.00056		0.01 ALARA
Barium (Ba)-Total	mg/L	0.0294	1.0	
Boron (B)-Total	mg/L	0.07	5	
Cadmium (Cd)-Total	mg/L	<0.000050	0.005	
Chromium (Cr)-Total	mg/L	0.00014	0.05	
Copper (Cu)-Total	mg/L	0.00146	2	AO: 1
Iron (Fe)-Total	mg/L	<0.010		AO: ≤0.3
Lead (Pb)-Total	mg/L	<0.000050		0.005 ALARA
Manganese (Mn)-Total	mg/L	0.0031	0.12	AO: ≤0.02
Selenium (Se)-Total	mg/L	0.000213	0.05	
Silver (Ag)-Total	mg/L	0.000010	None	
Uranium (U)-Total	mg/L	0.000057	0.02	
Zinc (Zn)-Total	mg/L	<0.0030		AO: ≤5

Note:

MAC- Maximum Allowable Concentration



WATER TREATMENT PLANT
City of Weyburn
Pesticides and Herbicides Sampling Report- Year 2020

Sample Description		Treated Water	
Date Sampled		16-Jun-20	
Parameter	Unit		MAC mg/L
Herbicides (Water)			
Bromoxynil	mg/L	<0.00010	0.005
2,4-D	mg/L	0.00015	
Dicamba	mg/L	<0.00010	0.12
MCPA	mg/L	<0.00010	0.1
Picloram	mg/L	<0.00050	0.190
Diclofop-methyl	mg/L	<0.00010	
Pesticides (Water)			
Atrazine	mg/L	<0.00010	0.005
Carbofuran	mg/L	<0.00010	0.090
Chlorpyrifos	mg/L	<0.00010	0.090
Dimethoate	mg/L	<0.00010	0.020
Malathion	mg/L	<0.00010	0.19
Pentachlorophenol	mg/L	<0.50	
Trifluralin	mg/L	<0.00010	0.045

Note:

MAC- Maximum Allowable Concentration



WATER TREATMENT PLANT City of Weyburn Tri halo methane Sampling Report- Year 2020

Sample Description		Leisure Centre	City Hall	Terry's Yamaha	Terry's Yamaha	7-Eleven	Unit #2 5th Str.	Treated Water	Terry's Yamaha	City Hall	Leisure Centre	7-Eleven	Unit #2 5th Str.	City Hall	Terry's Yamaha
Date Sampled		28-Jan-20	28-Jan-20	28-Jan-20	13-May-20	13-May-20	13-May-20	07-Jul-20	07-Jul-20	07-Jul-20	7-Jul-20	7-Jul-20	7-Jul-20	13-Oct-20	13-Oct-20
Parameters	Unit														
Chloroform	mg/L	0.139	0.148	0.144	0.0664	0.0846	0.0735	0.064	0.079	0.077	0.0804	0.1100	0.0934	0.0745	0.0746
Bromodichloromethane	mg/L	0.0191	0.0199	0.0195	0.0130	0.0147	0.0146	0.0174	0.0184	0.0199	0.0196	0.0209	0.0211	0.0200	0.0203
Dibromochloromethane	mg/L	0.0026	0.0027	0.0027	0.0027	0.0027	0.0028	0.0034	0.0037	0.0039	0.0037	0.0037	0.004	0.0037	0.0038
Bromoform	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,4-Difluorobenzene	%	101.7	102.2	102.1	99.9	100	100.2	100.4	99.8	99.2	100	98.3	99.8	94	92.7
4-Bromofluorobenzene	%	102.8	103.3	101.7	96.5	94.2	96.1	92.1	92.0	94.7	91.7	98.3	91.8	89.5	89.6
Total Trihalomethanes	mg/L	0.161	0.171	0.166	0.0821	0.1020	0.0909	0.085	0.102	0.101	0.1040	0.1350	0.1190	0.0982	0.0987

Note:

The average Tri halo methane level for 2020 is 0.1154 mg/L.



WATER TREATMENT PLANT City of Weyburn Halo Acetic Acids Sampling Report- Year 2020

Sample Description		Leisure Centre	City Hall	Terry's Yamaha	7-Eleven	Terry's Yamaha	City Hall	Leisure Centre	Terry's Yamaha
Date Sampled	Unit	28-Jan-20	28-Jan-20	13-May-20	13-May-20	7-Jul-20	7-Jul-20	13-Oct-20	13-Oct-20
Parameters									
2,3-Dibromopropionic Acid	%	115.4	112.1						
Monobromoacetic Acid	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Monochloroacetic Acid	mg/L	0.0059	<0.0050	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050
Trichloroacetic Acid	mg/L	0.0809	0.0914	0.0322	0.0442	0.0361	0.0355	0.0374	0.0328
Bromochloroacetic Acid	mg/L	0.0065	0.0067	0.0061	0.0075	0.0038	0.0037	0.0063	0.0053
Dibromoacetic Acid	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dichloroacetic Acid	mg/L	0.0449	0.0453	0.0298	0.0418	0.0222	0.0209	0.0258	0.0246
Total Haloacetic Acids	mg/L	0.1320	0.1370	0.0620	0.0860	0.0583	0.0564	0.0632	0.0574

Note:

The average Halo Acetic Acid level for 2020 is **0.0815375 mg/L**.



**WATER TREATMENT PLANT
City of Weyburn
Cyanide and Mercury Report- Year 2020**

Sample Description		Treated Water
Date Sampled		13-May-20
Parameter	Unit	
Mercury (Hg)-Total	mg/L	<0.0000050
Cyanide, Total	mg/L	<0.0020



WATER TREATMENT PLANT City of Weyburn Organics Report- Year 2020

Date Sampled	13-May-20			
Parameters	Unit	Treated Water	MAC (mg/L)	Other Value (mg/L)
Benzene	mg/L	<0.00050	0.005	
Benzo(a)pyrene	mg/L	<0.000050	0.00004	
Carbon Tetrachloride	mg/L	<0.00050		
1,2-Dichlorobenzene	mg/L	<0.00050	0.2	AO: ≤0.003
1,4-Dichlorobenzene	mg/L	<0.00050	0.005	AO: ≤0.001
1,2-Dichloroethane	mg/L	<0.00050	0.005	
1,1-Dichloroethene	mg/L	<0.00050		
Methylene Chloride	mg/L	<0.0050		
2,4-Dichlorophenol	mg/L	<0.00020		
Ethylbenzene	mg/L	<0.00050	0.14	AO: ≤0.0016
Chlorobenzene	mg/L	<0.00050		
Perfluorooctane Sulfonic Acid (PFOS)	mg/L	<0.000010	0.0006	
Perfluorooctanoic Acid (PFOA)	mg/L	<0.000010	0.0002	
Tetrachloroethene	mg/L	<0.00050		
2,3,4,6-Tetrachlorophenol	mg/L	<0.00050	0.1	AO: ≤0.001
Toluene	mg/L	<0.00050	0.06	AO: ≤0.024
Trichloroethene	mg/L	<0.0010		
2,4,6-Trichlorophenol	mg/L	<0.00030	0.005	AO: ≤0.002
Vinyl Chloride	mg/L	<0.00050		0.002 ALARA
o-Xylene	mg/L	<0.00050		

Note:

MAC- Maximum Allowable Concentration

ALARA- As Low As Reasonably Achievable

AO- Aesthetic Objective



**WATER TREATMENT PLANT
City of Weyburn
Microcystin Sampling Report- Year 2020**

Sample Description	Unit	Raw Water	Treated Water	Raw Water	Treated Water	Raw Water	Treated Water	Raw Water	Treated Water	Raw Water
Date Sampled		13-May-20	13-May-20	16-Jun-20	16-Jun-20	7-Jul-20	7-Jul-20	11-Aug-20	11-Aug-20	1-Sep-20
Microcystin LR	mg/L	<0.20	<0.20	0.23	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20



WATER TREATMENT PLANT
City of Weyburn
Cryptosporidium & Giardia Sampling Report- Year 2020

Date Sampled			16-Jun-2020	17-Nov-2020
Parameter	Lowest Detection Limit	Units	Raw Water	Raw Water
Cryptosporidium	0.1	oocysts/L	<0.1	<0.1
Cryptosporidium Volume Filtered	0.1	L		
Total Cryptosporidium	1	oocyst/vol		
Giardia	0.1	cysts/L	<0.1	<0.1
Giardia Volume Filtered	0.1	L	9.3	10.0
Total Giardia	1	cysts/vol	<1	<1
Nonviable Giardia	1	cysts	<1	<1
Viable Cysts	1	cysts	<1	<1
Viable oocysts		oocysts	0	0