



# Town of Cornwall

so much to offer...

## Water & Sewer Utility

### WATER ANALYSIS REPORT 2020

Drinking water quality in the Town of Cornwall is maintained according to the standards set out in the *Guidelines for Canadian Drinking Water Quality*. Throughout the year, our Utility staff sample the Town's water distribution and wastewater treatment plant to ensure residents continue to receive the highest quality of water and wastewater treatment.

### Bacteria Testing Results

In the Town's commitment to service and keeping a sustainable environment, our sampling procedures exceed provincial standards.

Samples from Distribution System						
Month	# of Samples	Positive TC Test (TC ≤ 10)	# of Non-Compliant (TC > 10)	Ecoli	Positive BG Tests (BG ≤ 200)	# of Non-Compliant (BG > 200)
January	18	0	0	0	0	0
February	13	1	0	0	0	0
March	10	0	0	0	0	0
April	8	0	0	0	0	0
May	7	0	0	0	0	0
June	12	0	0	0	0	0
July	17	1	0	0	0	0
August	11	0	0	0	0	0
September	18	1	2	0	0	0
October	12	0	0	0	0	0
November	13	1	0	0	0	0
December	18	0	0	0	0	0
<b>Total</b>	<b>157</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>

\*All retests reported negative.

Drinking water within the Town is chlorinated to have a minimum Free Chlorine Residual of at least 0.2 mg/L or higher at all points in the system at all times. This level of chlorination is an industry standard for drinking water disinfection and is recommended by the Guidelines for Canadian Drinking Water Quality.

In accordance with the *Drinking Water and Wastewater Facility Operating Regulations*, a water sample is collected from each source of supply (well) on a monthly basis and analyzed for the presence of coliform bacteria and E.coli.

Following collection, all water samples are sent to the Provincial Department of Environment Analytical Laboratory in Charlottetown. Each sample is tested for Total Coliforms DC and Escherichia Coli DC (E. Coli). In addition to the bacteria tests which are performed at the Provincial Lab, the Free Chlorine Residual is analyzed and recorded by Utility Staff at the time of sample collection, as required by section 11(1)(e) of the *Drinking Water and Wastewater Facility Operating Regulations*.

Untreated Water (Samples from Wells)										
Month	Meadowbank	Northgate	East Wiltshire	River Point	# of Samples	Positive TC Test (TC ≤ 10)	# of Non-Compliant (TC > 10)	Ecoli	Positive BG Tests (BG ≤ 200)	# of Non-Compliant (BG > 200)
January	6	2	4	2	14	3	0	0	0	0
February	3	1	2	1	7	1	0	0	0	0
March	3	1	2	1	7	4	0	0	1	0
April	3	1	2	1	7	1	0	0	0	0
May	3	1	2	1	7	1	0	0	0	0
June	3	1	2	1	7	0	0	0	0	0
July	3	1	2	1	7	0	0	0	0	0
August	3	1	2	2	8	0	0	0	1	0
September	3	1	2	1	7	0	0	0	0	0
October	3	1	2	1	7	0	0	0	0	0
November	3	0	2	1	6	0	0	0	0	0
December	6	2	4	2	14	2	0	0	0	0
<b>Total</b>	<b>42</b>	<b>13</b>	<b>28</b>	<b>15</b>	<b>98</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>

\*All retests reported negative.

For each non-compliant sample at Meadowbank, Northgate and East Wiltshire, the well is isolated from the system and is flushed and resampled until clear samples are obtained. At River Point the Town uses a UV disinfection system along with chlorine disinfection together to provide safe drinking water.

In 2020, the Town of Cornwall pumped an average of 2,078 cubic meters of water per day. During the summer months the utility pumped an average of 2,330 cubic meters of water per day.

## Chemistry Analysis

The Drinking Water and Wastewater Facility Operating Regulations require all active wells to be subject to chemical analysis. A general chemical analysis of each well must be performed annually, and all water chemistry analysis for Town of Cornwall is performed at the Provincial Analytical Laboratory. The Guidelines for Canadian Drinking Water Quality set a Maximum Allowable Concentration (MAC) for various chemical contents of drinking water.

The Town of Cornwall drew samples from each active well on May 20, 2020 for general chemical analysis.

The results showed that all active wells were within the Guidelines for Canadian Drinking Water Quality.

Chemical Analysis Report						
Chemical	Meadowbank (avg) Concentration (mg/L)	Northgate (avg) Concentration (mg/L)	East Wiltshire (avg) Concentration (mg/L)	River Point (avg) Concentration (mg/L)	MAC* (mg/L)	AO* (mg/L)
Alkalinity Total	117	130	152	144	--	--
Arsenic	0.003	0.001	0.001	0.001	0.01	--
Barium	0.4255	0.5668	0.8365	0.238	1.0	--
Calcium	27.7	34.11	34.56	36.66	--	--
Chloride	89.87	18.7	17.3	18	--	≤250
Copper	0.006	0.01	0.002	0.002	--	≤1.0
Iron	<0.002	<0.002	<0.002	0.028	--	≤0.3
Lead	0.0001	<0.0001	<0.0001	<0.0001	0.01	--
Magnesium	16.29	17.75	18.36	18.38	--	--
Manganese	<0.0005	0.0006	<0.0005	<0.0005	--	≤0.05
Nitrate-N	1.46	4.7	2.1	3.6	10.0	--
pH	8.1	7.9	7.9	7.7	--	6.5-8.5
Phosphorus	0.02	0.04	0.03	0.07	--	--
Potassium	2.11	1.76	1.795	1.45	--	--
Selenium	0.005	0.0002	0.002	<0.0002	0.05	--
Sodium	54.25	6.86	10.14	8.3	--	≤200
Sulfate	11.17	5.33	4.96	5.97	--	≤500
Uranium	0.012	0.0045	0.01	0.0001	0.02	--
Zinc	0.004	0.013	0.002	0.003	--	≤5
Total Hardness	136	158.2	161.9	167.2	--	≤200

\*MAC - Maximum Acceptable Concentration

\* AO - Aesthetic Objective - as per *Guidelines for Canadian Drinking Water Quality*, Health Canada

## WASTEWATER EFFLUENT

In accordance with regulations, the Town of Cornwall's two lagoons are sampled quarterly, and the results are shown in the table below. Due to an operational lowering of the North River Lagoon to replace an outfall manhole; there has been limited discharge of effluent from the lagoon in November and December, and no sample was taken.

WASTEWATER TREATMENT REPORT						
North River Lagoon				Cornwall Lagoon		
Month	Suspended Solids (MG/L)	CBOD (mg/L)	Average Faecal Coliform (MPN/100ml)	Suspended Solids (MG/L)	cBOD (mg/L)	Average Faecal Coliform (MPN/100ml)
January	N/A	N/A	N/A	N/A	N/A	N/A
February	N/A	N/A	N/A	N/A	N/A	N/A
March	17	12	12	16	22	79
April	N/A	N/A	8	N/A	N/A	4
May	N/A	N/A	N/A	N/A	N/A	N/A
June	<2	<10	4	<10	14	17
July	N/A	N/A	N/A	N/A	N/A	N/A
August	N/A	N/A	N/A	N/A	N/A	N/A
September	<2	< 10	5	<10	4	4
October	N/A	N/A	N/A	N/A	N/A	N/A
November	N/A	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	<10	23	20

The Town of Cornwall is required not to exceed 25mg/L of Carbonaceous Biochemical Oxygen Demand (CBOD) and 25 mg/L of Total Suspended Solids (TSS) with Faecal Coliform of 200 Most Probable Number (MPN) / 100ml.