



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

AMABEL-SAUBLE
DRINKING WATER SYSTEM

Large Municipal Residential

SCHEDULE 22
SUMMARY REPORT

For the period of
JANUARY 1, 2020 TO DECEMBER 31, 2020

Summary

This report is a summary of water quality and quantity information submitted in accordance with Schedule 22 of Ontario's Drinking Water System Regulation for the reporting period of January 1, 2020 to December 31, 2020 for the Amabel-Sauble Drinking Water System located in the Town of South Bruce Peninsula. The summary includes the following information:

- Any requirements of the Act and Regulation, Orders or System Approval(s) that the system failed to meet during the reporting period and the measures taken to correct each failure.
- A summary of the quantities and flow rates of water supplied during the reporting period, including monthly averages and maximum daily flows.
- A comparison of the average and monthly maximum daily flows to the approved capacity specified in the System Approval.

Issues of Non-Compliance

An MECP Drinking Water System Inspection was performed on November 27, 2020. On January 19, 2021 the report for this inspection was issued, the Amabel-Sauble Drinking Water System received an inspection rating of 100%.

The following is a summary of the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water license, and any orders applicable to the system that were not met at any time during the period covered by the report; as well as the duration of the failure and the measures that were taken to correct the failure:

- There were no non-compliances during the reporting period.

Refer to the Section 11 Annual Report for a summary of any Adverse Water Quality Incident(s) which occurred during the reporting period.

Assessment of Flowrates and Quantity of Water Supplied

The following tables summarize the quantities (Table 1) and flow rates (Table 2) of the water supplied during the period covered by the report, including monthly average and maximum daily flows as well as a comparison of the summary to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water license.

As per Municipal Drinking Water License (MDWL) 094-101 (Issue Number: 3) and the newly issued MDWL 094-101 (Issue Number: 4, expires March 6, 2025), the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed a rated capacity of 687 m³/day. There is no maximum allowable limit listed in the MDWL for the flowrate of water that flows into a treatment subsystem, however, raw water flowrate has been included in this report (Table 3, 4, 5).

Table 1. Treated Water Monthly Average and Maximum Daily Flows and Comparison to Rated Capacity for 2020

2020	Treated Water Flow			
	Average Flow (m ³ /day)	Percent of Rated Capacity (%)	Maximum Flow (m ³ /day)	Percent of Rated Capacity (%)
January	181.7	26.4%	195.6	28.5%
February	143.7	20.9%	186.9	27.2%
March	149.3	21.7%	173.7	25.3%
April	160.8	23.4%	180.2	26.2%
May	204.8	29.8%	488.5	71.1%
June	245.1	35.7%	330.0	48.0%
July	237.1	34.5%	354.6	51.6%
August	160.9	23.4%	218.2	31.8%
September	127.0	18.5%	174.1	25.3%
October	129.6	18.9%	331.0	48.2%
November	127.1	18.5%	264.3	38.5%
December	122.0	17.8%	146.5	21.3%

Table 2. Treated Water Monthly Average and Maximum Flowrates for 2020

2020	Treated Water	
	Average Flowrate (l/s)	Maximum Flowrate (l/s)
January	2.10	5.81
February	1.66	6.38
March	1.73	5.80
April	1.86	6.46
May	2.37	64.87
June	2.84	36.63
July	2.75	75.77
August	1.87	7.61
September	1.47	63.84
October	1.50	60.31
November	1.47	57.39
December	1.41	64.70

Table 3. Raw Water Monthly Average and Maximum Flowrates for 2020 (Well 1 PW1)

2020	Raw Water	
	Average Flowrate (l/s)	Maximum Flowrate (l/s)
January	3.90	4.79
February	3.90	4.72
March	3.90	4.76
April	3.90	4.75
May	3.90	4.79
June	3.90	4.74
July	3.87	4.94
August	3.91	4.84
September	3.94	4.88
October	3.93	4.83
November	3.94	4.84
December	3.93	4.85

Table 4. Raw Water Monthly Average and Maximum Flowrates for 2020 (Well 2 PW2)

2020	Raw Water	
	Average Flowrate (l/s)	Maximum Flowrate (l/s)
January	3.98	4.90
February	3.98	4.99
March	3.99	4.95
April	3.99	4.96
May	3.98	4.96
June	3.99	4.98
July	4.02	5.09
August	3.97	5.00
September	3.95	4.94
October	3.95	4.97
November	3.95	4.96
December	3.95	4.94

Table 5. Raw Water Monthly Average and Maximum Flowrates for 2020 (W10-Winburk Well)

2020	Raw Water	
	Average Flowrate (l/s)	Maximum Flowrate (l/s)
January	3.92	4.14
February	4.01	4.17
March	3.75	4.17
April	3.90	4.17
May	3.86	4.17
June	3.90	4.15
July	3.38	4.13
August	3.76	4.15
September	3.83	4.14
October	3.83	4.14
November	3.82	4.16
December	3.80	4.17



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

**AMABEL-SAUBLE
DRINKING WATER SYSTEM**

Large Municipal Residential

**SECTION 11
ANNUAL REPORT**

**For the period of
JANUARY 1, 2020 TO DECEMBER 31, 2020**

Prepared by the Ontario Clean Water Agency
For The Town of South Bruce Peninsula

Drinking Water System Number:	220007917
Drinking Water System Name:	Amabel-Sauble Drinking Water System
Drinking Water System Owner:	Town of South Bruce Peninsula
Drinking Water System Category:	Large Municipal Residential
Reporting Period:	January 1, 2020 to December 31, 2020

Does the Drinking Water System serve more than 10,000 people?

No.

Is your annual report available to the public at no charge on a web site on the Internet?

Yes.

Location where the Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:

Town of South Bruce Peninsula
315 George Street
Wiarton, Ontario
N0H 2T0
519-534-1400

Drinking-Water Systems (if any), which receive all of their drinking water from your system:

n/a.

Did you provide a copy of the annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

n/a

How system users are notified that the annual report is available, and is free of charge:

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: _____

Description of Drinking Water System:

The Amabel-Sauble Well Supply Drinking Water System (DWS) is a Class II Treatment and a Class II Water Distribution System.

The Amabel-Sauble DWS is supplied by the following deep drilled GUDI wells:

- Well PW1
- Well PW2
- Winburk Well

The treatment system consists of:

- Sodium hypochlorite oxidation/disinfection system (for iron and manganese oxidation, primary disinfection and secondary disinfection/chemical top up)
- Filtration (for iron and manganese removal)
- Cartridge filtration (as pretreatment for ultra violet disinfection)
- UV disinfection
- Pressure tanks
- Backwash wastewater holding tank for residuals management (supernatant is discharged to a ditch and settled sludge is removed)
- SCADA Instrumentation and control systems (to control process equipment function within the plant and at each of the raw water wells)
- Reservoir/clearwell (for storage and to help achieve that required contact time for disinfection)

The distribution system for the Amabel-Sauble DWS has approximately 15.6 kilometers of distribution water mains.

List of water treatment chemicals used during the reporting period:

- Sodium Hypochlorite 12%

Significant expenses were incurred to:

- Install required equipment
- Repair required equipment
- Replace required equipment
- No significant expenses were incurred

Description of expenses:

- Replacement Diesel generator radiator
- Schedule 80 repair parts
Distribution system repair parts

Details on the notices submitted in accordance with subsection 18 (1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre:

Date of Incident	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
July 8, 2020	Total Coliform	13	cfu/100mL	<ol style="list-style-type: none"> 1. Operations staff resampled at site of adverse upstream and downstream sites 2. Operations staff established that chlorine residuals were above 0.2 mg/L 3. Operations staff flushed lines 4. No boil water advisory issued after discussions with GBHU 	July 8, 2020 AWQI #150556
July 12, 2020	Total Coliform (re-sample)	4	cfu/100mL	<ol style="list-style-type: none"> 1. Operations staff resampled at site of adverse 2 upstream sites, as the adverse was the furthest downstream site and it was not "reasonably possible" to sample downstream 2. Operations staff established that chlorine residuals were above 0.2 mg/L 3. Operations staff flushed lines 4. No boil water advisory is to be issued after discussions with GBHU 	July 12, 2020 AWQI #150618
July 15, 2020	Total Coliform (re-sample)	4	cfu/100mL	<ol style="list-style-type: none"> 1. Operations staff resampled at site of adverse and 2 upstream sites, as the adverse was the furthest downstream site and it was not "reasonably possible" to sample downstream 2. Operations staff established that chlorine residuals were above 0.2 mg/L 3. Operations staff flushed lines 4. No boil water advisory issued after discussions with GBHU 5. OCWA staff to investigate 6. Resampling of adverse site and 3 upstream locations, 24-48 hours after July 15 sample 7. Resampling of adverse site and 2 upstream locations, 24-48 hours after July 16 sample 8. Laboratory results received from July 15 sample showing 0 cfu/100mL E. coli and 0 cfu/100mL Total Coliforms 9. Laboratory results received from July 16 sample showing 0 cfu/100mL E. coli and 0 cfu/100mL Total Coliforms 10. Laboratory results received from July 17 sample showing 0 cfu/100mL E. coli and 0 cfu/100mL Total Coliforms. Resolved. 	July 15, 2020 AWQI #150686
July 29, 2020	Total Coliform	8	cfu/100mL	<ol style="list-style-type: none"> 1. Operations staff resampled at site of adverse and 2 upstream sites, as the adverse was the furthest downstream site and it was not "reasonably possible" to sample downstream 2. Operations staff established that chlorine residuals were above 0.2 mg/L 3. Operations staff flushed lines 4. No boil water advisory issued after discussions with GBHU 5. Resampling of adverse site and 2 upstream locations, 24-48 hours after July 29 sample 6. Laboratory results received from July 29 sample showing 0 cfu/100mL E. coli and 0 cfu/100mL Total Coliforms 7. August 1 – Laboratory results received from July 30 sample showing 0 cfu/100mL E. coli and 0 cfu/100mL Total Coliforms. Resolved. 	July 29, 2020 AWQI #150982
September 2, 2020	Total Coliform	1	cfu/100mL	<ol style="list-style-type: none"> 1. Operations staff are resampling at site of adverse and 2 upstream sites, as the adverse was the furthest downstream site and it was not "reasonably possible" to sample downstream 2. Operations staff established that chlorine residuals were above 0.2 mg/L 3. Operations staff flushed lines 4. No boil water advisory is to be issued after discussions with GBHU 5. Resampling of adverse site and 2 upstream locations, 24-48 hours after July 29 sample 	September 2, 2020 AWQI #151745

				6. Laboratory results received from July 29 sample showing 0 cfu/100mL E. coli and 0 cfu/100mL Total Coliforms 7. Laboratory results received from July 30 sample showing 0 cfu/100mL E. coli and 0 cfu/100mL Total Coliforms. Resolved.	
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Table 1. Microbiological testing done under Schedule 10, 11 or 12 of Regulation 170/03 during this reporting Period

Location	Number of Samples	Range of E.coli Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Minimum	Maximum	Minimum	Maximum		Minimum	Maximum
Raw (Well 1)	53	0	0	0	0	n/a	n/a	n/a
Raw (Well 2)	53	0	0	0	0	n/a	n/a	n/a
Raw (Well 3)	53	0	0	0	0	n/a	n/a	n/a
Treated (TW)	53	0	0	0	0	53	0	290
Distribution (DW)	137	0	0	0	13*	53	0	20

* See “notices submitted in accordance with subsection 18 (1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre” for more details.

Table 2. Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results	
		Minimum	Maximum
Turbidity, On-Line (NTU) – Filter	8760	0.026	0.286
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.95	1.68
Free Chlorine Residual, In-House (mg/L) - DW	422	0.89	1.63

NOTE: For continuous monitors 8760 is used as the number of samples

Table 3. Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Order of MDWL	Parameter	Date Sampled	Result (Annual Average)	MDWL Allowable Annual Average Concentration
January 12, 2018 094-101 (Issue 3)/ March 6, 2020 094-101 (Issue 4)	Total Suspended Solids (Filter backwash)	2020 (Monthly)	2.91 mg/L	25 mg/L
March 6, 2020 094-101 (Issue 4)	Total Chlorine Residual (Filter backwash)	2020 (Monthly)	0.01 mg/L	0.02 mg/L

NOTE: MDWL 094-101, Issue 3 required Quarterly samples of TSS; MDWL 094-101, Issue 4 2 requires Monthly samples of TSS, TCR (Monthly sampling initiated upon issuance of Issue 4 on March 6, 2020.)

Table 4. Summary of Inorganic parameters tested during this reporting period or most recent sample results

Parameter	Sample Date (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance
Antimony: Sb (µg/L) - TW	2020/01/06	<MDL 0.09	6.0	No
Arsenic: As (µg/L) - TW	2020/01/06	0.5	10.0	No
Barium: Ba (µg/L) - TW	2020/01/06	285.0	1000.0	No
Boron: B (µg/L) - TW	2020/01/06	95.0	5000.0	No
Cadmium: Cd (µg/L) - TW	2020/01/06	<MDL 0.003	5.0	No
Chromium: Cr (µg/L) - TW	2020/01/06	0.14	50.0	No
Mercury: Hg (µg/L) - TW	2020/01/06	<MDL 0.01	1.0	No
Selenium: Se (µg/L) - TW	2020/01/06	<MDL 0.04	50.0	No
Uranium: U (µg/L) - TW	2020/01/06	0.124	20.0	No
Fluoride (mg/L) - TW	2020/01/06	1.35	1.5	No
Nitrite (mg/L) - TW	2020/01/06	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2020/04/06	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2020/07/06	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW	2020/10/06	<MDL 0.003	1.0	No
Nitrate (mg/L) - TW	2020/01/06	0.019	10.0	No
Nitrate (mg/L) - TW	2020/04/06	0.021	10.0	No
Nitrate (mg/L) - TW	2020/07/06	0.039	10.0	No
Nitrate (mg/L) - TW	2020/10/06	0.019	10.0	No
Sodium: Na (mg/L) - TW	2020/01/06	14.3	20*	No

NOTE: There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

NOTE: Sodium and Fluoride samples are to be taken every 60 months. The most current sampling for Sodium and Fluoride was in January 2020; the next sampling session is scheduled for January 2025.

Table 5. Summary of lead testing under Schedule 15.1 during this reporting period.

Location Type	Number of Samples	Range of Lead Results		Number of Exceedances
		Minimum	Maximum	
Plumbing	n/a	n/a	n/a	n/a
Distribution (µg/L)	4	0.10	2.44	0
Alkalinity (mg/L CaCO ₃)	8	174	208	0

NOTE: This system qualifies for the plumbing exemption as per Ontario Regulation 170/03 Schedule 15.1-5 (9) (10). This system also qualifies for reduced distribution sampling. Every 36 months, 4 distribution samples are taken during each sampling period and sampled for lead. The most recent lead sampling session was in 2020 for the winter period (December 15th to April 15th). The next sampling session will be in 2022 for the summer period (June 15th to October 15th).

Table 6. Summary of Organic parameters sampled during this reporting period or most recent sample results.

Parameter	Sample Date	Result Value	MAC	Exceedance
Alachlor (µg/L) - TW	2020/01/06	<MDL 0.02	5.0	No
Atrazine + N-dealkylated metabolites (µg/L) - TW	2020/01/06	<MDL 0.01	5.0	No
Azinphos-methyl (µg/L) - TW	2020/01/06	<MDL 0.05	20.0	No
Benzene (µg/L) - TW	2020/01/06	<MDL 0.32	1.0	No
Benzo(a)pyrene (µg/L) - TW	2020/01/06	<MDL 0.004	0.01	No
Bromoxynil (µg/L) - TW	2020/01/06	<MDL 0.33	5.0	No
Carbaryl (µg/L) - TW	2020/01/06	<MDL 0.05	90.0	No
Carbofuran (µg/L) - TW	2020/01/06	<MDL 0.01	90.0	No
Carbon Tetrachloride (µg/L) - TW	2020/01/06	<MDL 0.17	2.0	No
Chlorpyrifos (µg/L) - TW	2020/01/06	<MDL 0.02	90.0	No
Diazinon (µg/L) - TW	2020/01/06	<MDL 0.02	20.0	No
Dicamba (µg/L) - TW	2020/01/06	<MDL 0.2	120.0	No
1,2-Dichlorobenzene (µg/L) - TW	2020/01/06	<MDL 0.41	200.0	No
1,4-Dichlorobenzene (µg/L) - TW	2020/01/06	<MDL 0.36	5.0	No
1,2-Dichloroethane (µg/L) - TW	2020/01/06	<MDL 0.35	5.0	No
1,1-Dichloroethylene (µg/L) - TW	2020/01/06	<MDL 0.33	14.0	No
Dichloromethane (Methylene Chloride) (µg/L) - TW	2020/01/06	<MDL 0.35	50.0	No
2,4-Dichlorophenol (µg/L) - TW	2020/01/06	<MDL 0.15	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW	2020/01/06	<MDL 0.19	100.0	No
Diclofop-methyl (µg/L) - TW	2020/01/06	<MDL 0.4	9.0	No
Dimethoate (µg/L) - TW	2020/01/06	<MDL 0.06	20.0	No
Diquat (µg/L) - TW	2020/01/06	<MDL 1.0	70.0	No
Diuron (µg/L) - TW	2020/01/06	<MDL 0.03	150.0	No
Glyphosate (µg/L) - TW	2020/01/06	<MDL 1.0	280.0	No
Malathion (µg/L) - TW	2020/01/06	<MDL 0.02	190.0	No
Metolachlor (µg/L) - TW	2020/01/06	<MDL 0.01	50.0	No
Metribuzin (µg/L) - TW	2020/01/06	<MDL 0.02	80.0	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW	2020/01/06	<MDL 0.3	80.0	No
Paraquat (µg/L) - TW	2020/01/06	<MDL 1.0	10.0	No
PCB (µg/L) - TW	2020/01/06	<MDL 0.04	3.0	No
Pentachlorophenol (µg/L) - TW	2020/01/06	<MDL 0.15	60.0	No
Phorate (µg/L) - TW	2020/01/06	<MDL 0.01	2.0	No
Picloram (µg/L) - TW	2020/01/06	<MDL 1.0	190.0	No
Prometryne (µg/L) - TW	2020/01/06	<MDL 0.03	1.0	No
Simazine (µg/L) - TW	2020/01/06	<MDL 0.01	10.0	No
Terbufos (µg/L) - TW	2020/01/06	<MDL 0.01	1.0	No
Tetrachloroethylene (µg/L) - TW	2020/01/06	<MDL 0.35	10.0	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW	2020/01/06	<MDL 0.2	100.0	No
Triallate (µg/L) - TW	2020/01/06	<MDL 0.01	230.0	No
Trichloroethylene (µg/L) - TW	2020/01/06	<MDL 0.44	5.0	No
2,4,6-Trichlorophenol (µg/L) - TW	2020/01/06	<MDL 0.25	5.0	No
Trifluralin (µg/L) - TW	2020/01/06	<MDL 0.02	45.0	No
Vinyl Chloride (µg/L) - TW	2020/01/06	<MDL 0.17	1.0	No
Trihalomethane: Total (µg/L) Running Annual Average - DW	2020 (Quarterly)	30.0	100.0	No
HAA Total (µg/L) Running Annual Average - DW	2020 (Quarterly)	6.4	80.0	No

Table 7. List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Fluoride	1.35	mg/L	2020/01/06

NOTE: This is required only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, small municipal non-residential, large non municipal non-residential