Ontario Clean Water A
Agence Ontarienne De

901 Main Street
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Geraldton, Ontario.
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Fax: 807-854-0483

February 2025

Reeve James Gibson and Council
The Township of Chapple
P.O. Box 4
Barwick, Ontario P0W 1A0

Re: O. Regulation 170 - 2024 Section 11 Annual Report for the Barwick Well Supply

Ontario's Drinking-Water Systems Regulation (O.Reg. 170/03), made under the *Safe Drinking Water Act, 2002*, requires that the owner of a drinking water system prepare an annual report on the operation of the system and the quality of its water.

The annual report must cover the period of January 1st to December 31st in a year and *must be prepared not later than February 28th* of the following year. Pursuant to the legislative requirements, enclosed for your records is the 2024 Annual Report for the Barwick Well Supply.

Pursuant to the legislative requirements, Section 11 (6): the annual report must:

(a) Contain a brief description of the drinking-water system, including a list of water treatment chemicals used by the system during the period covered by the report;

(b) Summarize any reports made to the Ministry under subsection 18 (1) of the Act or section 16-4 of Schedule 16 during the period covered by the report;

(c) Summarize the results of tests required under this Regulation, or an approval or order, including an OWRA order, during the period covered by the report and, if tests required under this Regulation in respect of a parameter were not required during that period, summarize the most recent results of tests of that parameter;

(d) Describe any corrective actions taken under Schedule 17 or 18 during the period covered by the report;

(e) Describe any major expenses incurred during the period covered by the report to install, repair or replace required equipment; and

(f) In the case of a large municipal residential system or a small municipal residential system, include a statement of where a report prepared under Schedule 22 will be available for inspection under subsection 12 (4). O. Reg. 170/03, s. 11 (6)
In addition, Section 11 (7) gives the direction that a copy of an annual report for the system is given, without charge, to every person who requests a copy and be made available for

inspection by any member of the public during normal business hours. The report should be made available at the office of the municipality, or at a location that is accessible to the users of the water system.

Yours truly,

Mike Dowhoszya

Mike Dowhoszya
Senior Operations Manager
Northwestern Ontario Regional Hub
807-271-1602

Copy to: Cindy Nielson - CAO, Clerk Treasurer
Operations Staff – Barwick Well Supply

Barwick Drinking Water System

Small Municipal Residential Drinking Water System

January 1 – December 31, 2024

O.Reg 170/03 Section 11 Annual Report

Issued: February 2025

Prepared by the

Ontario Clean Water A
Agence Ontarienne De

Section 11 ANNUAL REPORT

Drinking-Water System Number:	**220008140**
Drinking-Water System Name:	Barwick Well Supply
Drinking-Water System Owner:	The Corporation of the Township of Chapple
Drinking-Water System Category:	**Small Municipal Residential System**
Period being reported:	January 1 – December 31, 2024

Complete if your Category is Large Municipal Residential or Small Municipal Residential	***Complete for all other Categories.***
Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [X] **Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No [ ]** **Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.** Chapple Municipal Office Chapple Water Treatment Plant	**Number of Designated Facilities served:** N/A **Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]** **Number of Interested Authorities you report to:** N/A **Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]**

Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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

Drinking Water System Name	Drinking Water System Number
N/A	N/A

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

Yes [ ] No [ ]

Indicate how you notified system users that your annual report is available, and is free of charge.

[X] Public access/notice via the web
[X] Public access/notice via Government Office (Municipal)
[ ] Public access/notice via a newspaper
[ ] Public access/notice via Public Request
[ ] Public access/notice via a Public Library
[X] Public access/notice via other method
_____Newsletter_____

Describe your Drinking-Water System

Ground water treatment plant with softening, coagulation, flocculation, sedimentation, filtration, chlorination and pH adjustment

The Barwick Drinking Water System is comprised of four (4) non-GUDI groundwater wells, one (1) drinking water treatment plant and approximately 3 kilometers of watermains.

- Well 1 is located approximately 275m north of Highway 11, adjacent to the Chapple Township Administration building.
- Well 2 is located approximately 315m north of Highway 11.
- Well 4 is located approximately 167m north of Highway 11.
- Well 5 is located approximately 190m north of Highway 11.

All wells are drilled groundwater wells with 150mm diameter casing.

The Barwick pumphouse consists of the following:

- One (1) lime chemical feed system for water softening, one (1) lime slurry chemical feed pump with feed point at the clarifier tank, one (1) lime chemical solution tank and one (1) mixer
- One (1) solids contact unit 2.45m diameter x 2.6m high clarifier tank, which discharges sludge to domestic sewer
- Re-carbonation via carbon dioxide gas for pH control with a 100mm inlet/outlet piping re-carbonation tank 1.22m diameter x 2.2m high and a 19mm diameter gas inlet piping with diffuser
- Two (2) cell gravity sand filters (each 1.22m x 1.22m x 2.9m) Dual Media – Sand and Anthracite
- A filter backwash pump to backwash wastewater to domestic sewer
- One (1) sodium hypochlorite chemical feed pump with the feed line discharging to finished water line prior to discharge into the reservoir
- Two cell storage reservoir which provides chlorine contact time with a combined storage capacity of 259.1m3. Each cell is approximately 7.5m x 5.5m by 3.5m and equipped with a level sensor and alarm
- Two (2) pump wells with a storage capacity of 27.6m3 (Reservoir Pump Well East) and 25.2m3 (Reservoir Pump West Well) providing chlorine contact time.
- Two (2) vertical high lift turbine pumps, each rated at 193L/min at 42.2m TDH, one (1) fire high flow pump rated at 2085L/min at 40.2m TDH and one (1) high lift discharge line equipped with a sample tap and magnetic flow meter
- One (1) 4045L hydropneumatic tank
- One (1) 80kW emergency standby diesel generator
- One (1) turbidity meter to measure turbidity in the treated water flowing to the reservoir, complete with alarm system

List all water treatment chemicals used over this reporting period

- Lime
- Carbon dioxide gas
- Sodium hypochlorite

Were any significant expenses incurred to?

[ ] Install required equipment
[X] Repair required equipment
[X] Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

Install	Repair	Replace	Description	Expense
		X	Well Pump & Motor #4 Replacement	$ 25,073.81
	X	X	Well Pump & Motor Replacement; Well #1 Rehabilitation & Hydro Frac	$ 26,765.30
	X		WTP – Raw Water Header Repair	$ 4, 365.50
		X	WTP – Lime System Assembly & Implementation	$18, 270.37
		X	Water Assessment & Highlight Pumps	$ 20, 201.38
	X		WTP – MCC Assessment	$ 11, 098.45

Provide 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

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2024/03/19	THM Exceedance	122	ug/L		2024/03/19
2024/06/20	THM Exceedance	101.3	ug/L		2024/06/20
2024/10/02	THM Exceedance	108.4	ug/L		2024/10/02

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw					
Well 1	14	Not Detected	Not Detected	0	N/A
Well 2	13	Not Detected	Not Detected	0	N/A
Well 4	13	Not Detected	Not Detected	0	N/A
Well 5	7	Not Detected	Not Detected – Detected	0	N/A
Treated	0	N/A	N/A	0	N/A
Distribution	30	Not Detected	Not Detected	30	0 – 15

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity* **Treated**	8760	0.00 – 6.00 NTU
Chlorine* **Distribution**	8760	0 – 5.001
Fluoride (If the DWS provides fluoridation)	N/A	N/A

***NOTE**: For continuous monitors use 8760 as the number of samples.*

** Turbidity & chlorine Min/Max (lows/highs) are due to planned maintenance and not plant upset.*

***NOTE**: Record the unit of measure if it is **not** milligrams per litre.*

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

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
N/A	N/A	N/A	N/A	N/A

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date (yyyy/mm/dd)	Result Value	Unit of Measure	MAC	Exceedance	
					MAC	½ MAC
Antimony	2021/01/11	< 0.6	µg/L	6	No	No
Arsenic	2021/01/11	< 1.0	µg/L	10	No	No
Barium	2021/01/11	10.0	µg/L	1000	No	No
Boron	2021/01/11	266.0	µg/L	5000	No	No
Cadmium	2021/01/11	< 0.1	µg/L	5	No	No
Chromium	2021/01/11	< 1.0	µg/L	50	No	No
Mercury	2021/01/11	< 0.1	µg/L	1	No	No
Selenium	2021/01/11	< 1.0	µg/L	50	No	No
Uranium	2021/01/11	< 2.0	µg/L	20	No	No
Fluoride	2020/12/10	0.056	mg/L	1.5	No	No
Nitrate	2024/02/13	0.1	mg/L	10	No	No
	2024/04/22	0.165	mg/L	10	No	No
	2024/08/26	0.114	mg/L	10	No	No
	2024/11/14	0.101	mg/L	10	No	No
Nitrite	2024/02/13	< MDL 0.01	mg/L	1	No	No
	2024/04/22	< MDL 0.02	mg/L	1	No	No
	2024/08/26	< MDL 0.02	mg/L	1	No	No
	2024/11/14	< MDL 0.02	mg/L	1	No	No
Sodium	2022/01/12	93.9	mg/L	20**	No	Yes
***Lead**	*Refer to Summary Table Below*					

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems
**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.

Summary of lead testing under Schedule 15.1 during this reporting period
(applicable to the following drinking water systems; large municipal residential systems**,** small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing	N/A	N/A	N/A
Distribution	2	1 – 1	0

Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date (yyyy/mm/dd)	Result Value	Unit of Measure	MAC	Exceedance	
					MAC	½ MAC
Treated Water						
1,1-Dichloroethylene (ug/L)-TW	2021/01/11	< 0.5	µg/L	14	No	No
1,2-Dichlorobenzene (ug/L)-TW	2021/01/11	< 0.5	µg/L	200	No	No
1,2-Dichloroethane (ug/L)-TW	2021/01/11	< 0.5	µg/L	5	No	No
1,4-Dichlorobenzene (ug/L)-TW	2021/01/11	< 0.5	µg/L	5	No	No
2,3,4,6-Tetrachlorophenol (ug/L)-TW	2021/01/11	< 0.5	µg/L	100	No	No
2,4,6-Trichlorophenol (ug/L)-TW	2021/01/11	< 0.5	µg/L	5	No	No
2,4-Dichlorophenol (ug/L)-TW	2021/01/11	< 0.3	µg/L	900	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)-TW	2021/01/11	< 0.2	µg/L	100	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L)-TW	2021/01/11	< 0.2	µg/L	100	No	No
Alachlor (ug/L) -TW	2021/01/11	< 0.1	µg/L	5	No	No
Atrazine + N-dealkylated metabolites (ug/L)-TW	2021/01/11	< 0.2	µg/L	5	No	No
Azinphos-methyl (ug/L)-TW	2021/01/11	< 0.1	µg/L	20	No	No
Benzene (ug/L)-TW	2021/01/11	< 0.5	µg/L	1	No	No
Benzo(a)pyrene (ug/L)-TW	2021/01/11	< 0.005	µg/L	0.01	No	No
Bromoxynil (ug/L)-TW	2021/01/11	< 0.2	µg/L	5	No	No
Carbaryl (ug/L)-TW	2021/01/11	< 0.2	µg/L	90	No	No
Carbofuran (ug/L) -TW	2021/01/11	< 0.2	µg/L	90	No	No
Carbon Tetrachloride (ug/L) -TW	2021/01/11	< 0.2	µg/L	2	No	No
Chlorpyrifos (ug/L) -TW	2021/01/11	< 0.1	µg/L	90	No	No
Diazinon (ug/L)-TW	2021/01/11	< 0.1	µg/L	20	No	No
Dicamba (ug/L)-TW	2021/01/11	< 0.2	µg/L	120	No	No

Dichloromethane (Methylene Chloride) (ug/L)-TW	2021/01/11	< 5.0	µg/L	50	No	No
Diclofop-methyl (ug/L)-TW	2021/01/11	< 0.2	µg/L	9	No	No
Dimethoate (ug/L)-TW	2021/01/11	< 0.1	µg/L	20	No	No
Diquat (ug/L)-TW	2021/01/11	< 1.0	µg/L	70	No	No
Diuron (ug/L)-TW	2021/01/11	< 1.0	µg/L	150	No	No
Glyphosate (ug/L)-TW	2021/01/11	< 5.0	µg/L	280	No	No
Malathion (ug/L)-TW	2021/01/11	< 0.1	µg/L	190	No	No
Metolachlor (ug/L)-TW	2021/01/11	< 0.1	µg/L	50	No	No
Metribuzin (ug/L)-TW	2021/01/11	< 0.1	µg/L	80	No	No
Monochlorobenzene (Chlorobenzene) (ug/L)-TW	2021/01/11	< 0.5	µg/L	80	No	No
Paraquat (ug/L)-TW	2021/01/11	< 1.0	µg/L	10	No	No
PCB (ug/L)-TW	2021/01/11	< 0.035	µg/L	3	No	No
Pentachlorophenol (ug/L)-TW	2021/01/11	< 0.5	µg/L	60	No	No
Phorate (ug/L)-TW	2021/01/11	< 0.1	µg/L	2	No	No
Picloram (ug/L)-TW	2021/01/11	< 0.2	µg/L	190	No	No
Prometryne (ug/L)-TW	2021/01/11	< 0.1	µg/L	1	No	No
Simazine (ug/L)-TW	2021/01/11	< 0.1	µg/L	10	No	No
Terbufos (ug/L)-TW	2021/01/11	< 0.2	µg/L	1	No	No
Tetrachloroethylene (ug/L)-TW	2021/01/11	< 0.5	µg/L	10	No	No
Triallate (ug/L) -TW	2021/01/11	< 0.1	µg/L	230	No	No
Trichloroethylene (ug/L)-TW	2021/01/11	< 0.5	µg/L	5	No	No
Trifluralin (ug/L)-TW	2021/01/11	< 0.1	µg/L	45	No	No
Vinyl Chloride (ug/L)-TW	2021/01/11	< 0.2	µg/L	1	No	No
Distribution Water						
THM	2024/11/14	159	µg/L	N/A		
(NOTE**:** show latest annual average**)**	**2024 Average**	**119.7**	µg/L	100	Yes	Yes
Haloacetic acids (HAA)	2024/11/14	11.9	µg/L	N/A		
(NOTE**:** show latest annual average**)**	**2024 Average**	**14.2**	µg/L	80	No	No