Blyth Drinking Water System
2025 Operation and Maintenance
Annual Report

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1.0 INTRODUCTION AND BACKGROUND

The purpose of the 2025 Annual Report is to document the operation and maintenance data for the Blyth Drinking Water System for review by the Ministry of the Environment conservation and parks in accordance with O. Reg. 170/03. This report covers January 1, 2025 to December 31, 2025. A copy of this report will be submitted to the owner to be uploaded to the Township's website and can be supplied, free of charge, to interested parties upon request.

2.0 DESCRIPTION OF WATER SYSTEM

The Blyth Drinking Water System (DWS # **220001496**), is characterized as a "secure ground water" system and is classified as a large municipal residential system. The system consists of three wells (1, 2 and 5) with a rated capacity of 2877 m3/day with the inclusion of Well 5 (1728 m3/d), put in operation December 21, 2016. Treatment consists of chlorination (sodium hypochlorite) and iron sequestration (sodium silicate) treatment. The Well 1 and 2 system is located at 201 Thuell St. Well #5 is located in the north east corner of 377 Gypsy Lane. The distribution system serves the community of Blyth with a population of approximately 1000 residents, 450 customer services, with 12.7 km of various size and material water main.

The system is owned by the Corporation of the Township of North Huron and operated by Veolia Water Canada, the Operating Authority.

The Wells 1 and 2 water supply system consists of two drilled wells fitted with pumps capable of pumping the volume specified in the Permit to Take Water. The raw water consistently has substantial naturally occurring hardness and relatively high iron content that requires sequestering to prevent discoloration in the distribution system which is typical of all drilled wells in the area. The raw water also has fluoride concentrations that hover at or just above the maximum allowable concentration in O.Reg 169/03 which is typical of the drilled wells in the area. Chlorine, (a critical process) and an iron sequestering agent are added to the raw water prior to entry into a baffled contact tank that satisfies the chlorine contact time required with adequate chlorine residual to disinfect.

From the contact tank/reservoir the water flows to the high lift building that houses two electrically driven high lift pumps, as well as a diesel engine driven fire pump, that are capable of maintaining adequate system pressure. The water level in the reservoir is maintained by a level controller that starts and stops the well pumps. Also housed in the building is a manually operated standby emergency generator that allows operation of the equipment during extended power interruptions. The building contains cushion tanks that absorb hydraulic shocks and maintain pressure during brief power interruptions. The treated drinking water is monitored for chlorine residual and turbidity by on-line equipment connected to an auto dialer. The monitoring system will alert the on-call operator to respond if the set points are breached. The chlorine and turbidity analysis data levels are stored on a data logger.

The distribution system has no elevated storage and relies on the pumps and cushion tanks to maintain pressure. Critical processes to ensure safe water are adequate chlorination and maintenance of system pressure. The monitors activate an alarm through the auto dialer if the set points are breached.

The raw water has abnormally high chlorine demand, coupled with sequestering agent and high background sodium levels that result in elevated sodium in the treated water just above the maximum allowable concentrations in O.Reg 169/03.

Well # 5 was put into service on December 21, 2016, as a second isolated source. It is a 175 mm drilled well, 83.5 m deep. Well # 5 is equipped with a submersible vertical turbine pump, a well level sensor to measure static level and to provide well level monitoring. At this stage of development of the system (phase 1 of 3), Well 5 has been designed to operate on a time-of-day basis to run twice per day during peak demand times and controlled with a variable speed drive to maintain the desired pressure set point in the distribution system as well as to provide additional volume of water during periods of high-water demand such as fire protection.

Although the well has not been in service long as long, average quality appears to be similar to that of Wells 1 & 2 with fluoride & sodium sitting at or above the limits, chlorine demand with similar hardness and alkalinities.

The well house is equipped with a back-up diesel generator, complete with auto transfer, sodium hypochlorite (2) and sodium silicate (2) pumps, a chlorine contact loop, on-line monitoring, alarm generation and auto-dialer.

The well house and its equipment have a daily maximum capacity to deliver 1728 m3 per day to the Blyth community.

The water from Well 5 is pumped through a main header where sodium hypochlorite and sodium silicate are added and directed to a chlorine contact loop to provide adequate chlorine concentration/contact time at maximum flow and before the first consumer.

The water quality is monitored and data-logged by a programmable logic controller with breaches of set-points going to an alarm dialer.

Disinfection is achieved on the Blyth well supply through the use of 12% sodium hypochlorite. In the well houses this chemical is added prior to the water entering the chlorine contact reservoir at a suitable dose rate to achieve both primary and secondary disinfection objectives.

The attached distribution system is constructed with a combination of ductile iron, cast iron, PVC and high-density polyethylene piping with polyethylene, copper and galvanized steel services. There are no known lead services. There is no elevated storage to maintain pressure and the system pressure is maintained using pressure tanks, 3 high lift pumps (2 electric and a diesel) and 1 variable speed submersible (Well 5).

The system has approximately 60 fire hydrants that with the additional 20L/s flow from the new Well 5 will provide much improved sustained fire flows.

The chlorine dosages range varies with the chlorine demand of the raw water.
The free chlorine residual is monitored at the point of entry to the distribution system, by an on-line chlorine analyzer, with a target residual of > 1.00 mg/l and < 1.30 mg/l.

The Blyth well supply has 1 PTTW (Permit to Take Water) # P-300-7355828769 with an expiry date of July 18, 2030, which allows 3504.960 cubic meters per day to be pumped from the combined wells.

The Blyth Drinking Water System has maximum flows as specified in the Municipal Drinking Water License (MDWL) 090-101, Issue 5 and Drinking Water Works Permit (DWWP) 090-201, Issue 6. The maximum rated capacity from the combined wells is 2877 cubic meters per day. Authorization to operate Well 5 is in a Form C addendum to the DWWP.

The pre-chlorine entering the contact facilities and treated water (point of entry to distribution) is monitored by on-line chlorine analyzers.

Typical system pressure ranges from 40 psi at the higher elevations to 85 psi at Wells 1 and 2 which is the lowest elevation of the system. Well 5 system pressure ranges between 53psi to 65psi under normal operating conditions

3.0 SUMMARY OF WATER QUALITY MONITORING

3.1 Water Treatment Equipment Operation and Monitoring

3.1.1 Point of Entry Chlorine Residual

Chlorine residuals are continuously measured using an online chlorine analyzer and verified for accuracy using hand-held HACH pocket colourimeters which accuracies are verified using known standards. **Table 1** shows the monthly average of free chlorine residual values on the treated water at the point of entry.

3.1.2 Distribution Chlorine Residual

Chlorine residuals in the distribution system are checked daily using a HACH pocket colourimeter. In 2025, 468 distribution chlorine residuals were recorded; the results can be found in **Table 1.**

Table 1 – *Treated and Distribution Chlorine Residuals for Blyth Drinking Water System*

Monthly Average Treated Water Chlorine Residuals			2025 Distribution Residual Summary			
Month	**AVG Well 1+2 TW (POE) Cl2 Residual**	**AVG Well 5 TW (POE) Cl2 Residual**	**Total Dist Sample**	**Min FCR**	**Max FCR**	**Avg FCR**
January	1.28	1.44	39	0.99	1.52	1.16
February	1.23	1.34	36	0.99	1.45	1.17
March	1.23	1.38	39	0.93	1.42	1.13
April	1.29	1.48	40	0.98	1.48	1.20
May	1.25	1.54	38	0.87	1.74	1.18
June	1.25	1.58	38	0.86	1.60	1.17
July	1.34	1.35	41	0.83	1.64	1.14
August	1.38	1.41	39	0.83	1.48	1.12
September	1.46	1.54	38	0.87	1.68	1.20
October	1.37	1.62	41	0.94	1.69	1.23
November	1.42	1.62	38	0.83	1.56	1.26
December	1.32	1.60	41	0.87	1.64	1.21
Total			468			
Min	1.23	1.34		0.83	1.42	1.12
Max	1.46	1.62		0.99	1.74	1.26
Avg	1.32	1.49		0.90	1.58	1.18

[a] – Results collected from January 1, 2025 – December 31, 2025

3.1.3 Turbidity

Treated Turbidity is measured daily using online turbidimeters at Wells 1&2 and weekly using a handheld at well 5. Raw water Turbidites are collected weekly from each well using handheld turbidimeters. **Table 2** provides a summary of raw and treated turbidity results. The maximum turbidity measured in the treated water at wells1&2 was 0.80 NTU and 0.29 at well 5.

Table 2 – *Raw and Treated Water Turbidities for Blyth Drinking Water System*

Monthly Average Raw Water Turbidity				Treated Water Turbidity Well 1/2				Treated Water Turbidity Well 5			
Month	Well 1	Well 2	Well 5	Min	Max	Average	Count	Min	Max	Average	Count
January	0.19	0.25	0.22	0.04	0.25	0.11	31	0.14	0.21	0.16	4
February	0.14	0.16	0.17	0.10	0.32	0.23	28	0.14	0.19	0.16	4
March	0.20	0.28	0.19	0.11	0.29	0.18	31	0.14	0.24	0.20	4
April	0.16	0.21	0.25	0.09	0.18	0.13	30	0.11	0.18	0.15	5
May	0.29	0.26	0.24	0.05	0.16	0.09	31	0.16	0.21	0.19	4
June	0.24	0.30	0.17	0.06	0.16	0.09	30	0.12	0.29	0.20	4
July	0.19	0.25	0.21	0.06	0.14	0.09	31	0.15	0.22	0.18	5
August	0.18	0.25	0.23	0.05	0.45	0.21	31	0.14	0.18	0.17	4
September	0.23	0.26	0.22	0.19	0.45	0.31	30	0.17	0.24	0.20	4
October	0.21	0.25	0.16	0.22	0.37	0.30	31	0.08	0.22	0.15	5
November	0.20	0.29	0.20	0.15	0.31	0.20	30	0.15	0.18	0.17	4
December	0.15	0.14	0.19	0.13	0.80	0.21	31	0.09	0.15	0.12	5
Min	0.14	0.14	0.16	0.04		0.09		0.08		0.12	
Max	0.29	0.30	0.25		0.80	0.31			0.29	0.20	
Average	0.20	0.24	0.20			0.18				0.17	
Count	53	53	52				365				52

[a] – Results collected from January 1, 2025 – December 31, 2025

3.2 Microbiological Sampling

3.2.1 Raw Water Samples

Raw water samples are taken every week from all 3 wells (1, 2 and 5). In 2025, a total of 156 samples were collected and analyzed for each E. Coli and Total Coliforms. All E. Coli and Total Coliform results obtained were 0 cfu/100 ml in the raw water.

3.2.2 Treated Water (Point of Entry) Samples

One treated water sample from the point of entry from Well 1+2 and Well 5 is taken every week and analyzed for E. Coli, Total Coliforms and for Heterotrophic Plate Count (HPC). A total of 104 treated water samples were collected and analyzed at Wells 1+2 and well 5 for both E.Coli and Total Coliforms. Each E. Coli and total coliform result from the treated water was 0 cfu/100 ml. There were also 104 HPC samples collected from the Point of, all samples were found to be safe. Currently, there is no limit on HPC samples, HPC samples can be used as an indication of interior pipe conditions where flushing is required when there are positive results. All (104) samples were found to be safe, with 3 results >50cfu/100ml. The range of HPC results were <10-550 cfu/100 ml.

3.2.3 Distribution System Samples

Distribution samples are collected every week and tested for E.Coli, Total Coliform and for Heterotrophic Plate Count (HPC).
In 2025, a total of 157 distribution samples were collected and analyzed for both Total Coliforms and E.Coli; All samples were found to be safe. All E.Coli results from the treated water were 0cfu/100 ml. All Total Coliform Sample results were 0cfu/100ml, we had 0 AWQI results in 2025. There were a total of 53 HPC samples with ranges between <10-10 cfu/100 ml.

Table 3 *– Summary of Microbiological Results for Raw Water, Treated water and Distribution System*

Annual Sample Summary								
Sample Type	**TC Count**	**TC Adverse**	**EC count**	**EC Adverse**	**HPC count**	**HPC >50 (not adverse)**	**Total # Samples**	**Total Adverse**
Raw Water	156	0	156	0	N/A	N/A	312	0
Treated Water	104	0	104	0	104	0	312	0
Distribution	157	0	157	0	53	0	367	0
						Total	**991**	**0**

[a] – Results collected from January 1, 2025 – December 31, 2025

3.3 Chemical Sampling & Testing

3.3.1 Haloacetic Acids (HAA5)

In 2025 samples for HAA5's were collected at the beginning of every quarter, Maximum acceptable concentration for HAA5's is 80 ug/L all samples were compliant to the limit in 2025. 2025 HAA5 Sample results can be found in **Table 4**.

***Table 4** – Haloacetic Acids*

HAA5	Ug/L									
Date	Jan 14-25		Apr 15-25		Jul 8-25		Oct 14-25			
	Well 1&2 DW	Well 5 DW	Well 1&2 DW	Well 5 DW	Well 1&2 DW	Well 5 DW	Well 1&2 DW	Well 5 DW	Average Well 1&2	Average Well 5
Total HAA5	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Chloroacetic Acid	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Bromoacetic Acid	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Dichloroacetic Acid	2.6	3.3	2.6	3.6	3	3.1	2.6	2.6	2.7	3.15
Dibromoacetic Acid	2	2	2	2	2	2	2	2	2	2
Trichloroacetic Acid	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Min	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Max	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Average	3.8	3.9	3.8	4.0	3.9	3.9	3.8	3.8	3.8	3.9

[a] – Samples collected from Jan 11, Apr 15, Jul 8, and Oct 14, 2025 respectively

3.3.2 Lead, Alkalinity and pH

Schedule 15.1 of Ontario Regulation 170/03 requires that samples be taken during two seasons: once between December 15 and April 15 and once between June 15 and October 15. With Lead we are on a reduced schedule and are required to sample every 3 years, Lead samples will be gathered again in 2028. The Maximum Allowable Concentration for Lead is 10 ug/L. In 2025 Samples were collected on March 6, 2025 and September 9, 2025 for lead, alkalinity and pH. All samples were below the AO/OG (Aesthetic Objective/ Operational Guideline). 2025 results can be found in **Table 5.** The Lead analysis completed In 2025 were within compliance limits.

***Table 5** – Lead Sampling Program Distribution Results for Blyth Drinking Water System*

DW Lead/pH /Alkalinity		Blyth		
Date	Location	pH	Alkalinitymg/L as CaCo3	Lead ug/L
Mar 6-25	McConnel and Morris Hydrant	7.84	214	0.06
Mar 6-25	King and Gypsy Hydrant	7.83	215	0.04
Sept 9-25	McConnel and Morris Hydrant	7.27	226	0.11
Sept 9-25	King and Gypsy Hydrant	7.36	218	0.37
	MACS	6.5	30-500	
*Lead every 3 years due 2028				

[a] – Samples collected on March 6, 2025 and September 9, 2025 respectively

3.3.3 Inorganics

One treated water sample is taken every 36 months and tested for inorganics. Schedule 23 will be collected and analyzed next in May 2027. The most recent sample for the Blyth Drinking Water System was collected on May 21, 2024. All parameters were found to be within compliance. Results from 2024 can be found in **Table 6.**

Table 6 *– Schedule 23 Results for Blyth Drinking Water System*

Water Works Name:	Blyth Drinking Water System
Well No. (if applicable):	Well # 1 # 2 & #5
Year:	**2024**
Serviced Population:	1000
Laboratories Which Performer Analyses:	SGS Lakefield Research
Water Works #:	220001496

Schedule 23	Analysis			1/2 MAC	Maximum Allowable Level
	Date	Well #1&2	Well # 5		
Parameter	(MM/DD/YY)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Antimony	May 21-24	0.6	0.6	3	6
Arsenic	May 21-24	0.9	2.7	5	10
Barium	May 21-24	124	237	500	1000
Boron	May 21-24	60	57	2500	5000
Cadmium	May 21-24	0.004	0.003	2.5	5
Chromium	May 21-24	0.08	0.08	25	50
Mercury	May 21-24	0.01	0.05	0.5	1
Selenium	May 21-24	0.04	0.04	25	50
Uranium	May 21-24	0.067	0.152	10	20

[a] – Samples collected on May 21, 2024

3.3.4 Organics

One treated water sample is taken every 36 months and tested for Schedule 24 organic parameters. The most recent samples were collected on May 21, 2024. Schedule 24 samples will be collected and analyzed for next in May of 2027. All parameters were found to be within compliance. 2024 sample results can be found in **Table 7.**

***Table 7** – Schedule 24 Results for Blyth Drinking Water System*

Water Works Name:	Blyth Drinking Water System
Well No. (if applicable):	Well # 1, # 2 & #5
Year:	**2024**
Serviced Population:	1000
Laboratories Which Performer Analyses:	SGS Lakefield Research
Water Works #:	220001496

Schedule 24	Analysis				Maximum Allowable Level
	Date	Well #1&2	Well # 5		
Parameter	(MM/DD/YY)	(ug/L)	(ug/L)		(ug/L)
Benzene	May 21-24	0.32	0.32	<MDL	1
Carbon Tetrachloride	May 21-24	0.17	0.17	<MDL	2
1,2-Dichlorobenzene	May 21-24	0.41	0.41	<MDL	200
1,4-Dichlorobenzene	May 21-24	0.36	0.36	<MDL	5
1,1-Dichloroethylene	May 21-24	0.33	0.33	<MDL	14
1,2-Dichloroethane	May 21-24	0.35	0.35	<MDL	5
Dichloromethane	May 21-24	0.35	0.35	<MDL	50
Monochlorobenzene	May 21-24	0.3	0.3	<MDL	80
Tetrachloroethylene	May 21-24	0.35	0.35	<MDL	10
Trichloroethylene	May 21-24	0.44	0.44	<MDL	5
Vinyl Chloride	May 21-24	0.17	0.17	<MDL	1
Diquat	May 21-24	1	1	<MDL	70
Paraquat	May 21-24	1	1	<MDL	10
Glyphosate	May 21-24	1	1	<MDL	280
Polychlorinated Biphenyls	May 21-24	0.04	0.04	<MDL	3
Benzo(a)pyrene	May 21-24	0.004	0.004	<MDL	0.01
Alachlor	May 21-24	0.02	0.02	<MDL	5
Atrazine+N-dealkylated metabolites	May 21-24	0.01	0.01	<MDL	5
Atrazine	May 21-24	0.01	0.01	<MDL	
De-ethylated atrazine	May 21-24	0.01	0.01	<MDL	
Azinphos-methyl	May 21-24	0.05	0.05	<MDL	20
Carbaryl	May 21-24	0.05	0.05	<MDL	90
Carbofuran	May 21-24	0.01	0.01	<MDL	90
Chlorpyrifos	May 21-24	0.02	0.02	<MDL	90

Schedule 24	Analysis				Maximum Allowable Level
	Date	Well #1&2	Well # 5		
Parameter	(MM/DD/YY)	(ug/L)	(ug/L)		(ug/L)
Diazinon	May 21-24	0.02	0.02	<MDL	20
Dimethoate	May 21-24	0.06	0.06	<MDL	20
Diuron	May 21-24	0.03	0.03	<MDL	150
Malathion	May 21-24	0.02	0.02	<MDL	190
Metolachlor	May 21-24	0.01	0.01	<MDL	50
Metribuzin	May 21-24	0.02	0.02	<MDL	80
Phorate	May 21-24	0.01	0.01	<MDL	2
Prometryne	May 21-24	0.03	0.03	<MDL	1
Simazine	May 21-24	0.01	0.01	<MDL	10
Terbufos	May 21-24	0.01	0.01	<MDL	1
Triallate	May 21-24	0.01	0.01	<MDL	230
Trifluralin	May 21-24	0.02	0.02	<MDL	45
2,4-dichlorophenoxyacetic acid	May 21-24	0.19	0.19	<MDL	100
Bromoxynil	May 21-24	0.33	0.33	<MDL	5
Dicamba	May 21-24	0.2	0.2	<MDL	120
Diclofop-methyl	May 21-24	0.4	0.4	<MDL	9
MCPA	May 21-24	0.00012	0.00012	<MDL	0.1
Picloram	May 21-24	1	1	<MDL	190
2,4-dichlorophenol	May 21-24	0.15	0.15	<MDL	900
2,4,6-trichlorophenol	May 21-24	0.25	0.25	<MDL	5
2,3,4,6-tetrachlorophenol	May 21-24	0.2	0.2	<MDL	100
Pentachlorophenol	May 21-24	0.15	0.15	<MDL	60

[a] – Samples collected on May 21, 2024

3.3.5 Nitrate & Nitrite

One treated water sample is taken every 3 months (usually at the start of every quarter) and tested for nitrate and nitrite. In 2025, samples were collected during the months of January, April, July and October. The Ontario Drinking Water Quality Standard (ODWQS) has set a Maximum Allowable Concentration (MAC) of 1 mg/L for nitrites and 10 mg/L for nitrates. The results were found to be within compliance. Refer to **Table 8** for the summary of nitrate and nitrite results.

3.3.6 Trihalomethanes

One distribution sample is taken every 3 months (usually at the start of every quarter) from a point in the distribution system and tested for Trihalomethanes (THMs). In 2025, samples were collected during the months of January, April, July and October. The Ontario Drinking Water Quality Standard (ODWQS) has set a Maximum Allowable Concentration (MAC) of 100 µg/L for this parameter and it is expressed as a running annual average. In 2025, the average THM was found to be 15.8µg/L, which is within compliance. Refer to **Table 8** for the summary of trihalomethane results.

Table 8 *– Nitrate, Nitrite and THM Results at Blyth Drinking Water System*

Treated Drinking Water - Nitrites and Nitrates POE Well 1&2												O.Reg 169	
Date		Jan 14-25		Apr 15-25		Jul 8-25		Oct 14-25	Min	Max	Avg	MAC	1/2 MAC
NO2	<	0.003	<	0.003	<	0.003	<	0.003	**0.003**	**0.003**	**0.003**	1	0.5
NO3		0.008		0.009		0.008		0.008	**0.008**	**0.009**	**0.008**	10	5
NO2+NO3		0.008		0.009		0.008		0.008	**0.008**	**0.009**	**0.008**	10	5

Treated Drinking Water - Nitrites and Nitrates POE Well 5												O.Reg 169	
Date		Jan 14-25		Apr 15-25		Jul 8-25		Oct 14-25	Min	Max	Avg	MAC	1/2 MAC
NO2	<	0.003	<	0.003	<	0.003	<	0.003	**0.003**	**0.003**	**0.003**	1	0.5
NO3		0.006		0.007	<	0.006		0.008	**0.006**	**0.008**	**0.007**	10	5
NO2+NO3		0.006		0.007	<	0.006		0.008	**0.006**	**0.008**	**0.007**	10	5

Distribution Drinking Water - Trihalomethanes													
Date		Jan 14-25		Apr 15-25		Jul 8-25		Oct 14-25	Min	Max	Avg	MAC	1/2 MAC
THMs (total)		17		11		17		18	**11.0**	**18.0**	**15.8**	100	50
Bromodichloromethane		3		2		2.6		2.8	**2.0**	**3.0**	**2.6**		
Bromoform	<	0.34	<	0.34	<	0.34	<	0.34	**0.340**	**0.340**	**0.340**		
Chloroform		13		8.8		14.0		15.0	**8.8**	**15.0**	**12.7**		
Dibromochloromethane		0.73		0.57		0.64		0.67	**0.57**	**0.73**	**0.65**		

[a] – Samples collected from Jan 14, Apr 15, Jul 8 and Oct 14, 2025 respectively

3.3.7 Sodium

One water sample is collected annually for raw water at Wells 1, 2 and 5 and tested for Sodium due to naturally elevated levels. O. Reg 170/03 has set a Maximum Acceptable concentration (MAC) of 20 mg/L on the Treated Water for Sodium which requires the Medical Office of Health be notified if the concentration exceeds the MAC. The Raw water samples were collected on August 5, 2025 at Wells 1, 2 and 5 (Raw Water), results can be found in **Table 9**.

Treated water samples were collected on January 10, 2023. Well 1&2 POE was 25.2mg/L, well 5 POE was 25.2mg/L. Both of the wells exceeding the MAC; AWQI #161167 & AWQI 161169 were issued and resamples were collected on January 16, 2023. The resample results were; Well 1&2 POE 24mg/L and Well 5 POE 25.2mg/L. Both still exceeded the 20mg/L MAC. Results for 2025 treated sodium samples can be found in **Table 10.** The Huron County Health Unit provided the Township of North Huron with a Notification to be distributed to all water system users.

3.3.8 Fluoride

One water sample is collected annually and tested for Fluoride from the raw water due to naturally elevated levels. The Ontario Drinking Water Quality Standards (ODWQS) have set a MAC of 1.5 mg/L on Treated Water. On August 5, 2025, Raw water samples were collected for this analysis. The samples can be found in **Table 9.** Wells 2 & 5 raw water Fluoride analysis are greater than the treated water MAC 1.5 mg/L.

Treated Water samples were collected on January 10, 2023. Well 1&2 POE was 1.66mg/L and Well 5 POE was 1.48mg/L. Well 1&2 POE results were in exceedance of the 1.5mg/ L MAC. AWQI # 161149 was issued and resamples were collected for Well 1&2. The resample result was 1.69mg/L at well 1&2 and 1.73mg/L in the distribution; Still in exceedance of the 1.5mg/L MAC. Results for 2025 treated fluoride samples can be found in **Table 9.** The Huron County Health Unit provided the Township of North Huron a Notice to be Distributed to all Water system users.

Table 9 *– Sodium and Fluoride Raw and Treated*

RW Sodium/ Fluoride mg/L			
Date	**Location**	**Fluoride**	**Sodium**
Aug 5-25	**Well 1**	1.28	16.8
Aug 5-25	**Well 2**	1.87	18
Aug 5-25	**Well 5**	1.51	21.1
*note this is not over the limit as it is a raw water sample the MAC is set for Treated water- Annual monitoring due to historically high sodium and fluoride in Blyth (TW every 5 yrs)			
Treated MAC		1.5	**20**
	Min	1.28	16.8
	Max	1.87	21.1
	Average	1.55	18.6

TW Sodium/ Fluoride mg/L			
Date	**Location**	**Fluoride**	**Sodium**
Jan 10-23	**Well 1&2 POE**	1.66	25.2
	Well 5 POE	1.48	25.2
Jan 13-23	**Well 1&2 POE**	1.69	
downstream	**united church**	1.73	
Jan 16-23	**Well 1&2 POE**		24
	Well 5 POE		25.2
AWQI 161149 Fluoride AWQI 161167 Well 1/2 sodium AWQI 161169 Well 5 Sodium			
Treated MAC		1.5	**20**
	Min	1.48	24
	Max	1.73	25.2
	Average	1.64	24.9

[a] – Results for raw water Aug 5, 2025, treated water results Jan 10, 2023

3.3.8 Strontium and Calcium

Strontium and calcium monitoring is on-going in the Blyth Drinking Water System, in 2021 quarterly samples were collected and the Huron Perth Public Health unit distributed notices of the elevated levels to the Township for the Blyth Drinking water system users. Since that one-year program we are required to sample once annually to continue to monitor the levels the results from samples collected on July 18, 2025 can be found in **Table 10** Below.

The total strontium has a health Mac of 7000ug/L, currently there is not a regulatory limit for Strontium in Ontario, however the Health Unit recommends a Mac of 7000ug/L

Table 10 *– Strontium and Calcium*

Strontium & Calcium monitoring			
Date	**Location**	**Strontium ug/L**	**Calcium mg/L**
Jul 18-25	Well 1 RW	9080	72.2
	Well 2 RW	58000	178
	Well 5 RW	45600	153
	Well 1&2 POE	49700	42.4
	Well 5 POE	36300	38.9
	347 Dinsley St	47100	42.5
Min		9080	38.9
Max		58000	178
Average		40963.3	87.8

[a] – Samples Collected July 18, 2025

4.0 WATER AND CHEMICAL USAGE

4.1 Chemical Usage

Refer to **Table 11.** From January 1, 2025 to December 31, 2025, 879.0kg of chlorine (in 12% sodium hypochlorite) was used to ensure proper disinfection in the distribution system with an average dosage of 5.60 mg/L between the three wells. Refer to **Table 11.** Due to elevated iron content, sodium silicate is used to maintain the iron in a non-oxidized state to prevent excessive discoloration. The average dose rate as active silicate was 4.2mg/L between the three wells.

Table 11 *– Chemical Usage at Blyth Drinking Water System*

Township of North Huron - Blyth Well Supply - 2025 Chemical Usage Summary												
	Well 1				Well 2				Well 5			
Month	Chl'n used (Kg)	Cl Dose	Si (L)	Si Dose	Chl'n used (Kg)	Cl Dose	Si (L)	Si Dose	Chl'n used (Kg)	Cl Dose	Si (L)	Si Dose
January	14.3	4.91	30.34	4.0	13.6	5.53	21.95	3.5	31.3	5.16	54.66	3.6
February	12.7	4.71	28.29	4.0	14.7	5.26	26.88	3.7	31.1	5.16	56.36	3.7
March	13.8	4.72	31.16	4.2	15.8	5.49	28.90	3.9	34.5	5.22	64.66	3.9
April	10.9	4.56	25.01	4.3	14.7	5.35	25.76	3.8	32.2	5.17	56.36	3.6
May	15.2	4.86	32.19	4.0	21.7	5.26	18.90	3.7	29.7	5.24	52.22	3.7
June	15.5	4.79	34.44	4.2	26.1	5.41	46.59	3.9	36.4	5.29	63.44	3.5
July	16.3	5.22	37.72	4.8	50.5	10.91	126.56	11.8	36.7	5.26	65.15	3.7
August	18.1	5.33	41.00	4.8	34.5	5.54	53.54	3.4	41.5	5.45	70.52	3.6
September	13.0	5.44	29.52	4.8	29.4	5.71	53.76	4.4	32.3	5.42	54.17	3.5
October	13.2	4.89	31.78	4.4	44.0	12.34	41.89	3.7	34.8	5.47	62.71	3.8
November	8.4	4.72	22.35	5.4	28.3	5.27	49.28	3.5	23.4	5.10	40.75	3.5
December	10.0	4.78	25.63	4.8	24.3	5.15	44.13	3.8	36.0	7.45	43.92	3.7
Total	161.5	58.92	369.41	53.7	317.6	77.22	538.14	53.2	399.9	65.40	684.91	43.6
Min	8.4	4.56	22.35	4.0	13.6	5.15	18.90	3.4	23.4	5.10	40.75	3.5
Max	18.1	5.44	41.00	5.4	50.5	12.34	126.56	11.8	41.5	7.45	70.52	3.9
Avg	13.5	4.91	30.78	4.5	26.5	6.43	44.84	4.4	33.3	5.45	57.08	3.6

[a] – Results collected from January 1, 2025 – December 31, 2025

4.2 Annual Flows

A summary of the water supplied to the distribution system in 2025 is provided in **Table 12.** This Table provides a breakdown of the monthly flow provided to the distribution system. Flow meters were calibrated in June 2025 by Advanced Meter Service and were found to be acceptable. **Table 13** is a summary of the annual flows in relation to the PTTW and the MDWL.

Table 12 *– Treated Water Flows for Blyth Drinking Water System*

Blyth Water - 3 Wells Combined Totals			Blyth Water - Max Flow Summary		
Month	**Total Flow m3**	**Max Daily Flow**	**Well 1**	**Well 2**	**Well 5**
January	11419	469	151	124	255
February	11415	992	143	332	517
March	12460	483	152	137	299
April	11246	564	140	149	473
May	12904	518	192	218	296
June	14820	740	207	294	423
July	15835	627	236	285	348
August	16955	786	168	348	416
September	13518	590	163	258	315
October	13563	644	165	296	357
November	11620	566	152	358	292
December	11439	498	117	221	252
Total	157194	7477	1986	3020	4243
Min	11246	469	117	124	252
Max	16955	992	236	358	517
Avg	13100	623	166	252	354

Table 13 *– Annual Flows: Permit to Take Water/ Capacity Breakdown*

Permit to Take Water P-300-7355828769 Compliance Report - 2025					
Maximum Amount of Taking Permitted					
	Max/Day on Permit		Peak Flow	% of Limit	
Well #1 (in m3)	653	m3	236	36.1	%
Well #2 (in m3)	1123	m3	358	31.9	%
Well #5 (in m3)	1728	m3	517	29.9	%
Average Annual Amount of Taking Permitted					
	m3/year		m3/year		
Well #1 (in m3)	238345	m3	32683	13.7	%
Well #2 (in m3)	409968	m3	51195	12.5	%
Well #5 (in m3)	630720	m3	73316	11.6	%
Municipal Drinking Water Licence 090-101 Issue 5 - Capacity Report - 2025					
Total Peak Flow and average daily flow of all wells combined					
	Maximum		Actual	%of Cap	
Capacity (m3/d)	3504	m3	992	28.3	%
Average Daily flow (m3/Day)	3504	m3	623	17.8	%

[a] – Results collected from January 1, 2025 – December 31, 2025

5.0 IMPROVEMENTS TO SYSTEM + ROUTINE AND PREVENTATIVE MAINTENANCE

The following summarizes water system improvements and routine and preventative maintenance for the Blyth Drinking Water System:

- Routine and preventative maintenance performed as per the computerized maintenance program
    - Hydrant Flushing
    - Analyzer calibrations and cleanings
    - Flow meter verifications
    - Alarm testing
    - Generator test runs
- Well 5 Chemical Pumps Repaired
- Level sensor rewired
- Well 1+2 fire pump water pump rebuilt
- New hydro meter installed by hydro one

6.0 MINISTRY OF THE ENVIRONMENT INSPECTIONS AND REGULATORY ISSUES

The most recent Ministry of Environment inspection was completed by David Dominelli from Sept 24 2025 - November 25, 2025.

There were no non compliances noted and the final Inspection Rating was 100%

7.0 EMERGENT ISSUES

There are no emergency issues to report at this time

Report Completed by: Veolia Water
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