



**Ontario Clean Water Agency  
Agence Ontarienne Des Eaux**

## **HURON WOODS WATER TREATMENT**

Small Municipal Residential Drinking Water System

### **SCHEDULE 22 SUMMARY REPORT**

**For the period of  
JANUARY 1, 2015 TO DECEMBER 31, 2015**

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

## 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, 2015 to December 31, 2015 for the Huron Woods 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 MOECC Drinking Water System Inspection was performed on September 6, 2015. On October 27, 2015 the report for this inspection was issued, the Huron Woods Drinking Water System received an inspection rating of 97.22%, and one non-compliance was issued.

The requirements of the Act, Regulations, System Approval(s) and any Order that the system failed to meet during the reporting period and the measures taken to correct each failure can be found in Table 1.

**Table 1.** Non-Compliances and Corrective Actions Taken for Huron Woods Drinking Water System

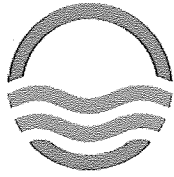
Non-Compliance	Details	Actions Required	Actions Taken
The owner had not ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.	It was noted during the inspection the pre-UV cartridge filters are required to be NSF 60/61 certified and the 5 micron cartridge filters are not NSF certified.	The OA ordered 5 micron NSF 60/61 replacement cartridge filters for the pumphouse. No action required at this time.	No actions required as replacement cartridge filters were ordered prior to issuing the inspection report.

## Assessment of Flowrates and Quantity of Water Supplied

The quantities and flowrates of water supplied during the reporting period covered by this report, including monthly average and maximum flowrates, flows and a comparison to the rated capacity can be found in Table 2. The rated capacity for the Huron Woods WTP is 743 m<sup>3</sup>/day as per the Municipal Drinking Water License. Average and maximum flows and flowrates for treated water are shown in Table 1 and were used to compare to the rated capacity of the plant.

**Table 2.** Average and Maximum Flowrate, Flow and Comparison to Rated Capacity by Month for 2015 for Treated Water

2015	Treated Water Flow				Treated Water Flowrate	
	Average Flow (m <sup>3</sup> /day)	Percent of Rated Capacity	Maximum Flow (m <sup>3</sup> /day)	Percent of Rated Capacity	Average Flowrate (l/s)	Maximum Flowrate (l/s)
January	28.27	4%	46.60	6%	0.40	5.91
February	22.05	3%	39.00	5%	0.34	2.64
March	21.90	3%	33.60	5%	0.34	2.85
April	29.58	4%	48.70	7%	0.42	3.34
May	33.30	4%	50.20	7%	0.46	2.87
June	36.98	5%	59.90	8%	0.50	3.43
July	46.32	6%	84.20	11%	0.61	26.48
August	50.54	7%	81.70	11%	0.63	26.48
September	34.95	5%	58.20	8%	0.48	4.05
October	27.33	4%	42.90	6%	0.40	4.09
November	22.97	3%	33.00	4%	0.35	2.62
December	28.28	4%	46.50	6%	0.40	3.14



**Ontario Clean Water Agency  
Agence Ontarienne Des Eaux**

## **HURON WOODS TREATMENT SYSTEM**

Small Municipal Residential Drinking Water System

### **SECTION 11 ANNUAL REPORT**

**For the period of  
JANUARY 1, 2015 TO DECEMBER 31, 2015**

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

<b>Drinking Water System Number:</b>	220007775
<b>Drinking Water System Name:</b>	Huron Woods Water Supply Works
<b>Drinking Water System Owner:</b>	Town of South Bruce Peninsula
<b>Drinking Water System Category:</b>	Small Municipal Residential
<b>Reporting Period:</b>	January 1, 2015 to December 31, 2015

**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  
 Warton, 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.

**Indicate 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:**

Class II Water Treatment  
 Class I Water Distribution

The Huron Woods drinking-water system in the Town of South Bruce Peninsula consists of four wells:

- Well No. W1 and old disused pump house
- Well No. W2
- Well No. W3
- Well No. W6 and existing pump house

As of September 2015, Well 1, 2 and 3 were monitored but kept offline.

The Well No. W1 is rated at 1.21 L/s at a TDH of 83.3 m. The Well No. W2 is rated at 0.6 L/s at a TDH of 74.2 m.. The Well No. W3 is rated at 1.51 L/s at a TDH of 105 m and the Well No. W6 is rates at 5.3

L/s at a TDH of 47.6 m.

The existing Pumphouse consists of a Ferrosand Filter system, cartridge filter system, ultraviolet (UV) disinfection system, chlorination system, filter backwash tank, jockey pump, flow control valves (hydraulic), and water meters.

The Ferrosand Filter system consists of two Ferrosand Filter units (one duty, one standby) connected to the common well discharge header, complete with PLC to control backwash cycles, hydropneumatic tank to drive hydropneumatic valves, and all necessary piping and appurtenances. An iron-oxidizing sodium hypochlorite feed system with injection point located prior to the Ferrosand Filter units, consisting of two feed pumps (one duty, one standby) with auto switchover. There are two submersible well pumps (one duty, one standby) each rated at 20.3 L/s at a TDH of 19.5 m for the purpose of backwashing Ferrosand Filter units.

The Cartridge Filter system located after the Ferrosand Filter units has a treatment capacity of 9.55 L/s, equipped with a 5-micron size cartridge.

The UV disinfection system has two UV disinfection reactors (one duty, one standby) located after the cartridge filter unit, capable of providing a minimum dose of 40 mJ/cm<sup>2</sup> at end of lamp life and each rated at 9.55 L/s. Each UV reactor has an automatic cleaning system and an on-line UV intensity monitor with alarm.

The Chlorination System has a secondary-chlorination sodium hypochlorite disinfection system with injection point located prior to the treated water entering the reservoir cells, consisting of two metering pumps (one duty, one standby) with auto switchover. There is also a post-chlorination sodium hypochlorite disinfection system with injection point located at the high lift header. It consists of two metering pumps (one duty, one standby) complete with all associated piping and alarms.

The Filter Backwash Tank is one in-ground cast-in-place concrete tank to clarify filter backwash waste with clarified supernatant discharged by gravity to an existing ditch.

The jockey pump is a submersible well pump rated at 5.67 L/s at a TDH of 56 m within Reservoir Cell No. 2.

One of the hydraulic flow control valves is located on the inlet piping from Well No. W1 and Well No. W2 set at 1.21 L/s. Another flow control valve is located in the inlet piping from Well No. W3 set at 1.51 L/s. One flow control valve is located on the inlet piping from Well No. W6 set at 5.3 L/s.

The last flow control valve is located on the combined piping from the two backwash pumps set at 20.3 L/s.

There are three water meters:

- One raw water meter for the raw water header
- One total raw water meter located after the common header from all four production wells
- On treated water meter prior to treated water exiting the pump house

The 80 kW diesel generator is set with a double-walled sub-base fuel tank with level gauge, low level float switch and leak sensor; all to be housed in the diesel generator building.

The Huron Woods System also contains one programmable logic controller (PLC) and associated

SCADA system for control of plant operations.

The last flow control valve is located on the combined piping from the two backwash pumps set at 20.3 L/s.

**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:**

n/a.

**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
n/a	n/a	n/a	n/a	n/a	n/a

**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 Water (Well 1)	9 <sup>1</sup>	0	0	0	0	n/a	n/a	n/a
Raw Water (Well 2)	9 <sup>1</sup>	0	0	0	2	n/a	n/a	n/a
Raw Water (Well 3)	9 <sup>1</sup>	0	0	0	0	n/a	n/a	n/a
Raw Water (Well 6)	12	0	0	0	0	n/a	n/a	n/a
Distribution (DW)	52	0	0	0	0	52	0	3

**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	0.01	0.06
Free Chlorine Residual, On-Line (mg/L) - TW	8760	1.09	1.55
Free Chlorine Residual, On-Line (mg/L) - DW	107	0.81	1.6

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

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

<sup>1</sup> As of September 2015, well 1, 2 and 3 were monitored but kept offline, as approved by MOECC officer Shayne Finlay.

**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	MDWL Allowable Annual Average Concentration
March 19, 2015 094-103 (Issue 2)	Total Suspended Solids (Filter backwash - composite)	Quarterly, 2015	6.25 mg/L	25 mg/L

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

Parameter	Sample Date (mm/dd/yyyy)	Sample Result	Exceedance
Antimony: Sb (ug/L) - TW	1/10/2011	< 0.02	No
Arsenic: As (ug/L) - TW	1/10/2011	0.2	No
Barium: Ba (ug/L) - TW	1/10/2011	21.6	No
Boron: B (ug/L) - TW	1/10/2011	14	No
Cadmium: Cd (ug/L) - TW	1/10/2011	< 0.003	No
Chromium: Cr (ug/L) - TW	1/10/2011	< 0.5	No
Mercury: Hg (ug/L) - TW	1/10/2011	< 0.02	No
Selenium: Se (ug/L) - TW	1/10/2011	< 1.0	No
Uranium: U (ug/L) - TW	1/10/2011	0.034	No
Fluoride (mg/L) - TW	2012/01/16	0.17	No
Nitrite (mg/L) - TW	1/12/2015	<MDL 0.003	No
Nitrite (mg/L) - TW	4/13/2015	<MDL 0.003	No
Nitrite (mg/L) - TW	7/13/2015	<MDL 0.003	No
Nitrite (mg/L) - TW	10/19/2015	<MDL 0.003	No
Nitrate (mg/L) - TW	1/12/2015	0.007	No
Nitrate (mg/L) - TW	4/13/2015	0.008	No
Nitrate (mg/L) - TW	7/13/2015	0.007	No
Nitrate (mg/L) - TW	10/19/2015	0.007	No
Sodium: Na (mg/L) - TW	2012/01/16	5.72	

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: Schedule 23, Sodium and Fluoride samples are to be taken every 60 months. The most current sampling session was in January 2011 for Schedule 23, the next sampling session is scheduled for January 2016. The most current sampling session for Sodium was in January 2012, the next sampling session is scheduled for January 2017. The most current sampling session for Fluoride was in January 2012, the next sampling session is scheduled for January 2017.

**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 (ug/L)	4	0.16	0.43	0

NOTE: This system qualifies for the plumbing exemption as per Ontario Regulation 170/03 Schedule 15.1-5 (9) (10). Two (2) distribution lead samples are taken during each sampling periods (i.e. 4 distribution samples for the year). Distribution lead sampling occurs every 36 months. The most current distribution lead sampling occurred in 2015. The next round of lead sampling is scheduled for 2018.

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

Parameter	Sample Date	Result Value	Exceedance
Alachlor (ug/L) - TW	1/10/2011	< 0.02	No
Aldicarb (ug/L) - TW	1/10/2011	< 0.01	No
Aldrin+Dieldrin (ug/L) - TW	1/10/2011	< 0.01	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	1/10/2011	< 0.01	No
Azinphos-methyl (ug/L) - TW	1/10/2011	< 0.02	No
Bendiocarb (ug/L) - TW	1/10/2011	< 0.01	No
Benzene (ug/L) - TW	1/10/2011	< 0.32	No

Parameter	Sample Date	Result Value	Exceedance
Benzo(a)pyrene (ug/L) - TW	1/10/2011	< 0.004	No
Bromoxynil (ug/L) - TW	1/10/2011	< 0.33	No
Carbaryl (ug/L) - TW	1/10/2011	< 0.01	No
Carbofuran (ug/L) - TW	1/10/2011	< 0.01	No
Carbon Tetrachloride (ug/L) - TW	1/10/2011	< 0.16	No
Chlordane: Total (ug/L) - TW	1/10/2011	< 0.01	No
Chlorpyrifos (ug/L) - TW	1/10/2011	< 0.02	No
Cyanazine (ug/L) - TW	1/10/2011	< 0.03	No
Diazinon (ug/L) - TW	1/10/2011	< 0.02	No
Dicamba (ug/L) - TW	1/10/2011	< 0.2	No
1,2-Dichlorobenzene (ug/L) - TW	1/10/2011	< 0.41	No
1,4-Dichlorobenzene (ug/L) - TW	1/10/2011	< 0.36	No
DDT + metabolites (ug/L) - TW	1/10/2011	< 0.01	No
1,2-Dichloroethane (ug/L) - TW	1/10/2011	< 0.35	No
1,1-Dichloroethylene (ug/L) - TW	1/10/2011	< 0.33	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	1/10/2011	< 0.35	No
2,4-Dichlorophenol (ug/L) - TW	1/10/2011	< 0.15	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	1/10/2011	< 0.19	No
Diclofop-methyl (ug/L) - TW	1/10/2011	< 0.4	No
Dimethoate (ug/L) - TW	1/10/2011	< 0.03	No
Dinoseb (ug/L) - TW	1/10/2011	< 0.36	No
Diquat (ug/L) - TW	1/10/2011	< 1.0	No
Diuron (ug/L) - TW	1/10/2011	< 0.03	No
Glyphosate (ug/L) - TW	1/10/2011	< 6.0	No
Heptachlor+hepachlor epoxide (ug/L) - TW	1/10/2011	< 0.01	No
Lindane (ug/L) - TW	1/10/2011	< 0.01	No
Malathion (ug/L) - TW	1/10/2011	< 0.02	No
Methoxychlor (ug/L) - TW	1/10/2011	< 0.01	No
Metolachlor (ug/L) - TW	1/10/2011	< 0.01	No
Metribuzin (ug/L) - TW	1/10/2011	< 0.02	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	1/10/2011	< 0.3	No
Paraquat (ug/L) - TW	1/10/2011	< 1.0	No
Parathion (ug/L) - TW	1/10/2011	< 0.02	No
PCB (ug/L) - TW	1/10/2011	< 0.04	No
Pentachlorophenol (ug/L) - TW	1/10/2011	< 0.15	No
Phorate (ug/L) - TW	1/10/2011	< 0.01	No
Picloram (ug/L) - TW	1/10/2011	< 0.25	No
Prometryne (ug/L) - TW	1/10/2011	< 0.03	No
Simazine (ug/L) - TW	1/10/2011	< 0.01	No
Temephos (ug/L) - TW	1/10/2011	< 0.01	No
Terbufos (ug/L) - TW	1/10/2011	< 0.01	No
Tetrachloroethylene (ug/L) - TW	1/10/2011	< 0.35	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	1/10/2011	< 0.14	No
Triallate (ug/L) - TW	1/10/2011	< 0.01	No
Trichloroethylene (ug/L) - TW	1/10/2011	< 0.43	No
2,4,6-Trichlorophenol (ug/L) - TW	1/10/2011	0.9	No
2,4,5-T (ug/L) - TW	1/10/2011	< 0.22	No
Trifluralin (ug/L) - TW	1/10/2011	< 0.02	No
Vinyl Chloride (ug/L) - TW	1/10/2011	< 0.17	No
Trihalomethane: Total (ug/L) Annual Average - DW	2015 (Quarterly)	55.5	No

\*Annual average of THMs

NOTE: Schedule 24 samples are to be taken every 60 months. The most current sampling session was in January 2011 for Schedule 24, the next sampling session is scheduled for January 2016.



**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
Trihalomethane (ug/L) - DW	51	ug/L	1/12/2015
Trihalomethane (ug/L) - DW	54	ug/L	4/13/2015
Trihalomethane (ug/L) - DW	51	ug/L	7/13/2015
Trihalomethane (ug/L) - DW	66	ug/L	10/19/2015

*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)*