

OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	DWS220002690
Drinking-Water System Name:	Walkerton Drinking Water System
Drinking-Water System Owner:	Municipality of Brockton
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2019 to December 31, 2019

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [x]</p> <p>Is your annual report available to the public at no charge on a website on the Internet? Yes [x] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Municipality of Brockton 100 Scott St., Box 68 Walkerton, ON N0G 2V0 (519) 881-2223</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to:</p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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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	

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 [x] No []

Indicate how you notified system users that your 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**

Describe your Drinking-Water System

The Walkerton Water System consists of two wells referred to as Well #7 and Well #9. Well #7 is a 76.2m drilled well is a line-shaft type vertical turbine pump rated at 56.8L/s at 66m head. Well #9 is a 79.3m drilled well fitted with a submersible pump rated at 56.8L/s at 66m head. Water flows through a UV unit for primary disinfection, followed by chlorination. Water storage and pressure is maintained by two standpipes each equipped with mixers. There are three pressure zones, two equipped with booster stations to maintain adequate pressure. The system has a standby diesel generator for emergency situations.

List all water treatment chemicals used over this reporting period

NSF Certified Chlorine Gas

Were any significant expenses incurred to?

- Install required equipment**
- Repair required equipment**
- Replace required equipment**

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

The motor for Well #9 failed and was replaced. The check valve and wear ring for the pump were also replaced

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
NA					

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 #7	48	0 - 0	0 - 0		
Raw Well #9	48	0 - 0	0 - 75		
Treated	53	0 - 0	0 - 0	52	0 - 2
Distribution	183	0 - 0	0 - 0	108	0 - 9

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 Analyzer	365	0.03 - 0.45 ntu
Chlorine Analyzer	365	1.02 - 1.74
Chlorine Dist.	468	0.30 - 1.12
Fluoride (If the DWS provides fluoridation)		

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				

Summary of Inorganic parameters tested during this reporting period or the most recent sample results (Average results from Well 7 & Well 9)

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony # 7	Dec. 11/18	<0.6	ug/L	
Antimony # 9	Dec.11//18	<0.6	ug/L	
Arsenic #7	Dec. 11/18	<1.0	ug/L	
Arsenic #9	Dec.11/18	<1.0	ug/L	
Barium #7	Dec.11/18	102	ug/L	
Barium #9	Dec.11/18	109	ug/L	
Boron #7	Dec.11/18	<50	ug/L	
Boron #9	Dec.11/18	<50	ug/L	
Cadmium #7	Dec.11/18	<0.10	ug/L	
Cadmium #9	Dec.11/18	<0.10	ug/L	
Chromium #7	Dec.11/18	<1.0	ug/L	
Chromium #9	Dec.11/18	<1.0	ug/L	
Lead (Distribution)	Oct. 15/19	1.0	ug/L	
Mercury #7	Dec.11/18	<0.10	ug/L	
Mercury #9	Dec.11/18	<0.10	ug/L	
Selenium #7	Jan. 15, 2019	11	ug/L	Yes, sample quarterly Our Reg. limit 50
1 st Quarter	Jan. 15, 2019	11		
2 nd Quarter	April 16, 2019	11		
3 rd Quarter	July 16, 2019	13		
4 th Quarter	Nov. 12, 2019	10		
Schedule 23/24	Dec. 11, 2018	9.9		
Selenium #9	Jan. 15, 2019	11	ug/L	Yes, sample quarterly Our Reg. limit 50
1 st Quarter	Jan. 15, 2019	11		
2 nd Quarter	April 16, 2019	14		
3 rd Quarter	July 16, 2019	14		
4 th Quarter	Oct. 15, 2019	10		
Schedule 23/24	Dec. 11, 2018	13.4		
Sodium #7	Oct. 16 2018	6.75	mg/L	
Sodium #9	Oct. 16 2018	11.4	mg/l	
Uranium #7	Jan. 15, 2019	11.90	ug/L	
1 st Quarter	Jan. 15, 2019	11.90		
2 nd Quarter	April 16, 2019	13.30		
3 rd Quarter	July 16, 2019	13.20		
4 th Quarter	Nov. 12, 2019	12.30		
Schedule 23/24	Dec. 11, 2018	12.7		
Uranium #9	Jan. 15, 2019	14.90	ug/L	
1 st Quarter	Jan. 15, 2019	14.90		
2 nd Quarter	April 16, 2019	17.60		
3 rd Quarter	July 16, 2019	15.70		
4 th Quarter	Oct. 15, 2019	15.90		
Schedule 23/24	Dec. 11, 2018	16.8		
Fluoride#7	Oct. 16 2018	0.65	mg/L	
Fluoride#9	Oct. 16 2018	0.53	mg/L	
Nitrite #7				
1 st Quarter	Jan. 15, 2019	<0.01		

2 nd Quarter	April 16, 2019	<0.01	mg/L	
3 rd Quarter	July 16, 2019	<0.01		
4 th Quarter	Nov. 12, 2019	<0.01		
Nitrite #9			mg/L	
1 st Quarter	Jan. 15, 2019	<0.01		
2 nd Quarter	April 16, 2019	<0.01		
3 rd Quarter	July 16, 2019	<0.01		
4 th Quarter	Oct. 15, 2019	<0.01		
Nitrate #7			mg/L	
1 st Quarter	Jan. 15, 2019	1.75		
2 nd Quarter	April 16, 2019	1.19		
3 rd Quarter	July 16, 2019	1.65		
4 th Quarter	Nov. 12, 2019	1.29		
Nitrate #9			mg/L	
1 st Quarter	Jan. 15, 2019	1.47		
2 nd Quarter	April 16, 2019	1.87		
3 rd Quarter	July 16, 2019	1.46		
4 th Quarter	Oct. 15, 2019	1.45		

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor #7	Dec.11/18	<0.10	ug/L	
Alachlor #9	Dec.11/18	<0.10	ug/L	
Atrazine + N-dealkylated metabolites #7	Dec. 11/18	<0.2	ug/L	
Atrazine + N-dealkylated metabolites #9	Dec. 11/18	<0.2	ug/L	
Azinphos-methyl #7	Dec.11/18	<0.10	ug/L	
Azinphos-methyl #9	Dec.11/18	<0.10	ug/L	
Benzene #7	Dec.11/18	<0.5	ug/L	
Benzene #9	Dec.11/18	<0.5	ug/L	
Benzo(a)pyrene #7	Dec.11/18	<0.010	ug/L	
Benzo(a)pyrene #9	Dec.11/18	<0.010	ug/L	
Bromoxynil #7	Dec.11/18	<0.2	ug/L	
Bromoxynil #9	Dec.11/18	<0.2	ug/L	
Carbaryl #7	Dec.11/18	<0.2	ug/L	
Carbaryl #9	Dec.11/18	<0.2	ug/L	
Carbofuran #7	Dec.11/18	<0.2	ug/L	
Carbofuran #9	Dec.11/18	<0.2	ug/L	
Carbon Tetrachloride #7	Dec.11/18	<0.2	ug/L	
Carbon Tetrachloride #9	Dec.11/18	<0.2	ug/L	
Chlorpyrifos #7	Dec.11/18	<0.1	ug/L	
Chlorpyrifos #9	Dec.11/18	<0.1	ug/L	

Diazinon #7	Dec.11/18	<0.1	ug/L	
Diazinon #9	Dec.11/18	<0.1	ug/L	
Dicamba #7	Dec.11/18	<0.2	ug/L	
Dicamba #9	Dec.11/18	<0.2	ug/L	
1,2-Dichlorobenzene #7	Dec.11/18	<0.5	ug/L	
1,2-Dichlorobenzene #9	Dec.11/18	<0.5	ug/L	
1,4-Dichlorobenzene #7	Dec.11/18	<0.5	ug/L	
1,4-Dichlorobenzene #9	Dec.11/18	<0.5	ug/L	
1,2-Dichloroethane #7	Dec.11/18	<0.5	ug/L	
1,2-Dichloroethane #9	Dec.11/18	<0.5	ug/L	
1,1-Dichloroethylene (vinylidene chloride) #7	Dec.11/18	<0.5	ug/L	
1,1-Dichloroethylene (vinylidene chloride) #9	Dec.11/18	<0.5	ug/L	
Dichloromethane #7	Dec.11/18	<5.0	ug/L	
Dichloromethane #9	Dec.11/18	<5.0	ug/L	
2-4 Dichlorophenol #7	Dec.11/18	<0.3	ug/L	
2-4 Dichlorophenol #9	Dec.11/18	<0.3	ug/L	
2,4-D (Dichlorophenoxy acetic acid) #7	Dec.11/18	<0.2	ug/L	
2,4-D (Dichlorophenoxy acetic acid) #9	Dec.11/18	<0.2	ug/L	
Diclofop-methyl #7	Dec.11/18	<0.2	ug/L	
Diclofop-methyl #9	Dec.11/18	<0.2	ug/L	
Dimethoate #7	Dec.11/18	<0.1	ug/L	
Dimethoate #9	Dec.11/18	<0.1	ug/L	
Diquat #7	Dec.11/18	<1.0	ug/L	
Diquat #9	Dec.11/18	<1.0	ug/L	
Diuron #7	Dec.11/18	<1.0	ug/L	
Diuron #9	Dec.11/18	<1.0	ug/L	
Glyphosate #7	Dec.11/18	<5.0	ug/L	
Glyphosate #9	Dec.11/18	<5.0	ug/L	
HAA (Haloacetic Acid) 1 st Quarter 2 nd Quarter 3 rd Quarter 4 th Quarter	Jan. 15/19 Apr. 16/19 Jul. 16/19 Oct. 15/19	2.2 <MDL 2.2 <MDL 2.2 <MDL 2.2 <MDL	ug/L	
Malathion #7	Dec.11/18	<0.1	ug/L	
Malathion #9	Dec.11/18	<0.1	ug/L	
MCPA #7 (2-Methyl-4-chlorophenoxyacetic acid)	Dec. 11/18	<.2	ug/L	
MCPA #9 (2-Methyl-4-chlorophenoxyacetic acid)	Dec 11/18	<.2	ug/L	
Metolachlor #7	Dec.11/18	<0.1	ug/L	
Metolachlor #9	Dec.11/18	<0.1	ug/L	
Metribuzin #7	Dec.11/18	<0.1	ug/L	

Metribuzin #9	Dec.11/18	<0.1	ug/L	
Monochlorobenzene #7	Dec.11/18	<0.5	ug/L	
Monochlorobenzene #9	Dec.11/18	<0.5	ug/L	
Paraquat #7	Dec.11/18	<1.0	ug/L	
Paraquat #9	Dec.11/18	<1.0	ug/L	
Pentachlorophenol #7	Dec.11/18	<0.5	ug/L	
Pentachlorophenol #9	Dec.11/18	<0.5	ug/L	
Phorate #7	Dec.11/18	<0.1	ug/L	
Phorate #9	Dec.11/18	<0.1	ug/L	
Picloram #7	Dec.11/18	<0.2	ug/L	
Picloram #9	Dec.11/18	<0.2	ug/L	
Polychlorinated Biphenyls(PCB) #7	Dec. 11/18	<0.035	ug/L	
Polychlorinated Biphenyls(PCB) #9	Dec. 11/18	<0.035	ug/L	
Prometryne #7	Dec.11/18	<0.1	ug/L	
Prometryne #9	Dec.11/18	<0.1	ug/L	
Simazine #7	Dec.11/18	<0.1	ug/L	
Simazine #9	Dec.11/18	<0.1	ug/L	
THM (NOTE: show latest annual average)	2019 Average	4.30	ug/L	
Terbufos #7	Dec.11/18	<0.2	ug/L	
Terbufos #9	Dec.11/18	<0.2	ug/L	
Tetrachloroethylene #7	Dec.11/18	<0.5	ug/L	
Tetrachloroethylene #9	Dec.11/18	<0.5	ug/L	
2,3,4,6-Tetrachlorophenol #7	Dec.11/18	<0.5	ug/L	
2,3,4,6-Tetrachlorophenol #9	Dec.11/18	<0.5	ug/L	
Triallate #7	Dec.11/18	<0.1	ug/L	
Triallate #9	Dec.11/18	<0.1	ug/L	
Trichloroethylene #7	Dec.11/18	<0.5	ug/L	
Trichloroethylene #9	Dec.11/18	<0.5	ug/L	
2,4,6-Trichlorophenol #7	Dec.11/18	<0.5	ug/L	
2,4,6-Trichlorophenol #9	Dec.11/18	<0.5	ug/L	
Trifluralin #7	Dec.11/18	<0.1	ug/L	
Trifluralin #9	Dec.11/18	<0.1	ug/L	
Vinyl Chloride #7	Dec.11/18	<0.2	ug/L	
Vinyl Chloride #9	Dec.11/18	<0.2	ug/L	

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
Selenium #7	11	ug/l	January 15, 2019
Selenium #7	11	ug/l	April 16, 2019
Selenium #7	13	ug/l	July 16, 2019
Selenium #7	10	ug/l	November 12, 2019
Selenium #9	11	ug/l	January 15, 2019
Selenium #9	14	ug/l	April 16, 2019
Selenium #9	14	ug/l	July 16, 2019
Selenium #9	10	ug/l	October 15, 2019
Uranium #7	11.90	ug/l	January 15, 2019
Uranium #7	13.30	ug/l	April 16, 2019
Uranium #7	13.20	ug/l	July 16, 2019
Uranium #7	12.30	ug/l	November 12, 2019
Uranium #9	14.90	ug/l	January 15, 2019
Uranium #9	17.60	ug/l	April 16, 2019
Uranium #9	15.70	ug/l	July 16, 2019
Uranium #9	15.90	ug/l	October 15, 2019