

Section 11. ANNUAL REPORT for 2017

Drinking-Water System Number:	210000176
Drinking-Water System Name:	Meaford Water Treatment Plant
Drinking-Water System Owner:	Municipality of Meaford
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	Jan. 1 – Dec. 31, 2017

Complete if your Category is Large Municipal Residential or Small Municipal Residential

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 Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Location #1	21 Trowbridge St. W. Meaford Ont. N4L 1A1
Location #2	574 Grandview Dr. Meaford Ont. N4L 1K2
Municipal Web Site	www.meaford.ca

Complete for all other Categories.

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:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []

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

Drinking Water System Name	Drinking Water System Number

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 [X]

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

[X] 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 Meaford Water System is situated on Georgian Bay in Meaford, Ontario. The treatment plant was originally constructed in 1959/60. In 1975 gas chlorination was added to the treatment plant. The Meaford Water Plant was further upgraded in 1999/2000 by completing the following: increasing the clear water storage, expanding the control building, installing a SCADA system and new low lift and high lift pumping system, backwash waste water treatment.

Another upgrade in 2002 added one more gas chlorinator, ultraviolet disinfection on both filter effluent's, in line booster pump to feed plant and new truck fill station. Two new chlorine sample pumps and one new filter effluent sample pump. Both filter effluent and treated water effluent turbidimeters were upgraded in 2011.

The plant SCADA system and MCC panels were upgraded during 2013.

The system presently consists of the following:

- a 30" raw water intake in Georgian Bay with chlorination for zebra mussel control
- two 150 h.p. low lift pumps
- injection of poly aluminum chloride prior to inline flash mixer
- two filter beds with multi media and backwash troughs
- ultraviolet disinfection on filter effluent's -gas chlorine disinfection (3 chlorinators)
- one clear well comprising of two cells in series
- three 200 h.p. high lift pumps
- a filter backwash waste treatment system

The filter backwash wastewater treatment system consists of surge tank, a treatment clarifier, and injection of vitamin D-Chlor for de-chlorination. The treated backwash wastewater is discharged into the storm sewer. The water plant has standby power, provided by a Diesel Generator (including fuel storage tanks).

The UTM co-ordinates of the plant are:

Zone 17 531440E, 494400N

The Operating Authority continues to use PACL (PAX XL 1900) year round which has significantly reduced aluminum levels in the treated water.

List all water treatment chemicals used over this reporting period

Polyaluminum Chloride {PAX XL1900}
Vitamin D-Chlor
Chlorine Gas (Cl2)

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

Filter #2 Media Replacement	\$253,552.00
Highlift Pump #3 Repairs and Rehabilitation	\$10,342.00
PACI Pump replacement(s)	\$13,810.00
Vita-D-Chlor Pump replacement(s)	
DWQMS Audits	\$5,100.00
Backwash Pump Check Valve Replacement	\$8,743.00
UV Sensor/Maintenance	\$6,782.00
Jet Pump for Chlorination	\$1,487.00

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

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

	Number of Samples	Range of E.Coli Results (min#)-(max#)	Range of Total Coliform Results (min#)-(max#)	Number of HPC Samples	Range of HPC Results (min#)-(max#)
Raw	52	0 – NDOGT	0 – NDOGT	N/A	N/A
Treated	52	0 – 0	0 – 0	52	0 - 60
Distribution	218	0 - 0	0 – 0	69	0 - 220

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 (#-#)
Turbidity	8760	0.0 - < 1.0
Chlorine	8760	>0.75 - < 4.9
Fluoride (If the DWS provides fluoridation)	n/a	n/a

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

*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. Sampling requirements are specified under Municipal Drinking Water Licence #089-101

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
July 13, 2010	T.S.S.	Jan. 08/17	25	mg/L
	T.S.S.	Feb. 09/17	17	mg/L
	T.S.S.	March 23/17	30	mg/L
	T.S.S.	April 10/17	10	mg/L
	T.S.S.	May 11/17	5	mg/L
	T.S.S.	June 20/17	4	mg/L
	T.S.S.	July 10/17	28	mg/L
	T.S.S.	Aug. 08/17	17	mg/L
	T.S.S.	Sept. 21/17	51	mg/L
	T.S.S.	Oct. 13/17	16	mg/L
	T.S.S.	Nov. 15/17	21	mg/L
	T.S.S.	Dec. 11/17	4	mg/L

Summary of Inorganic parameters tested during this reporting period or most recent testing

Parameter	Sample Date	Result Value	Unit of Measu	Exceedance
Antimony	Sept. 18/17	0.08	ug/L	No
Arsenic	Sept. 18/17	0.4	ug/L	No
Barium	Sept. 18/17	12.4	ug/L	No
Boron	Sept. 18/17	14	ug/L	No
Cadmium	Sept. 18/17	0.003<MDL	ug/L	No

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Chromium	Sept. 18/17	0.79	ug/L	No
Lead (annual)	n/a	n/a	n/a	n/a
Mercury	Sept. 18/17	0.01<MDL	ug/L	No
Selenium	Sept. 18/17	0.12	ug/L	No
Sodium	Sept. 18/17	4.38	mg/L	No
Uranium	Sept. 18/17	0.162	ug/L	No
Fluoride	Sept. 18/17	0.08	mg/L	No
Nitrite	Feb 21/17 May 29/17 Aug 21/17 Nov 20/17	0.003<MDL 0.003<MDL 0.003<MDL 0.003<MDL	mg/L	No
Nitrate	Feb 21/17 May 29/17 Aug 21/17 Nov 20/17	0.308 0.272 0.258 0.284	mg/L	No

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 (ug/L) (min#) – (max #)	Number of Exceedances
Plumbing	23	0.05 – 1.00	0
Distribution	3	0.16 – 0.21	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Sept. 18/17	0.004<MDL	ug/L	No
Atrazine + N-dealkylated metabolites	Sept. 18/17	0.01<MDL	ug/L	No
Atrazine	Sept. 18/17	0.01<MDL	ug/L	No
Desethyl atrazine	Sept. 18/17	0.01<MDL	ug/L	No
Azinphos-methyl	Sept. 18/17	0.05<MDL	ug/L	No
Benzene	Sept. 18/17	0.32<MDL	ug/L	No
Benzo(a)pyrene	Sept. 18/17	0.004<MDL	ug/L	No
Bromoxynil	Sept. 18/17	0.33<MDL	ug/L	No
Carbaryl	Sept. 18/17	0.05<MDL	ug/L	No

Carbofuran	Sept. 18/17	0.01<MDL	ug/L	No
Carbon Tetrachloride	Sept. 18/17	0.16<MDL	ug/L	No
Chlorpyrifos	Sept. 18/17	0.02<MDL	ug/L	No
Diazinon	Sept. 18/17	0.02<MDL	ug/L	No
Dicamba	Sept. 18/17	0.20<MDL	ug/L	No
1,2-Dichlorobenzene	Sept. 18/17	0.41<MDL	ug/L	No
1,4-Dichlorobenzene	Sept. 18/17	0.36<MDL	ug/L	No
1,2-Dichloroethane	Sept. 18/17	0.35<MDL	ug/L	No
1,1-Dichloroethylen	Sept. 18/17	0.33<MDL	ug/L	No
Dichloromethane	Sept. 18/17	0.35<MDL	ug/L	No
2-4 Dichlorophenol	Sept. 18/17	0.15<MDL	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Sept. 18/17	0.19<MDL	ug/L	No
Diclofop-methyl	Sept. 18/17	0.40<MDL	ug/L	No
Dimethoate	Sept. 18/17	0.03<MDL	ug/L	No
Diquat	Sept. 18/17	1<MDL	ug/L	No
Diuron	Sept. 18/17	0.03<MDL	ug/L	No
Glyphosate	Sept. 18/17	1<MDL	ug/L	No
Malathion	Sept. 18/17	0.02<MDL	ug/L	No
Metolachlor	Sept. 18/17	0.01<MDL	ug/L	No
Metribuzin	Sept. 18/17	0.02<MDL	ug/L	No
Monochlorobenzene	Sept. 18/17	0.3<MDL	ug/L	No
Paraquat	Sept. 18/17	1<MDL	ug/L	No
Pentachlorophenol	Sept. 18/17	0.15<MDL	ug/L	No
Phorate	Sept. 18/17	0.01<MDL	ug/L	No
Picloram	Sept. 18/17	1<MDL	ug/L	No
Polychlorinated Biphenyls(PCB)	Sept. 18/17	0.04<MDL	ug/L	No
Prometryne	Sept. 18/17	0.03<MDL	ug/L	No
Simazine	Sept. 18/17	0.01<MDL	ug/L	No
THM (NOTE: show latest 12 month rolling average)	Nov 20/17	30.5	ug/L	No
HAA (NOTE: show latest 12 month rolling average)	Nov 20/17	12.93	ug/L	No
Terbufos	Sept. 18/17	0.01<MDL	ug/L	No
Tetrachloroethylene	Sept. 18/17	0.35<MDL	ug/L	No
2,3,4,6-Tetrachlorophenol	Sept. 18/17	0.20<MDL	ug/L	No
2 methyl-4 chlorophenoxyacetic acid (MCPA)	Sept. 18/17	0.00012<MDL	mg/L	No

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Triallate	Sept. 18/17	0.01<MDL	ug/L	No
Trichloroethylene	Sept. 18/17	0.44<MDL	ug/L	No
2,4,6-Trichlorophenol	Sept. 18/17	0.25<MDL	ug/L	No
Trifluralin	Sept. 18/17	0.02<MDL	ug/L	No
Vinyl Chloride	Sept. 18/17	0.17<MDL	ug/L	No

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