OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	**220 008 104**
Drinking-Water System Name:	Creighton Heights Water Supply System
Drinking-Water System Owner:	The Corporation of the Township of Hamilton
Drinking-Water System Category:	Large Municipal Residential-Water Treatment System Class 2
Period being reported:	January 1st- December 31st, 2016

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.** 8285 Majestic Hills Drive Cobourg, ON. K9A 4J7	**Number of Designated Facilities served:** **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 [ ]**

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**
- **[ ] 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 _____**

Describe your Drinking-Water System

Three drilled wells are located on-site in front of the treatment plant. The treatment plant building houses treatment and pumping equipment, chemical feed systems, a filtration system for iron, manganese and turbidity removal/ control, filter residuals management system, ultraviolet disinfection equipment, methane removal equipment, reservoir, high lift pumping, stand-by diesel generator, instrumentation and control equipment, SCADA system, and associated electrical controls and appurtances.

List all water treatment chemicals used over this reporting period

12% sodium hypochlorite
Potassium Permanganate
Sodium Thiosulphate

Were any significant expenses incurred to?

[ ] Install required equipment
[ ] Repair required equipment
[x] Replace required equipment

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

Well pump in Well 6 replaced during Well Inspection scheduled for 2016. Well 6 was videoed and well screen was cleaned. Expenses incurred for new pump and rehabilitation work $12,000

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
09/13/16	Loss of pressure			BWA, flush, sample	09/16/16

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	151	0 - 0	0 - 1	0	NA
Treated	52	0 - 0	0 - 0	52	0 - 37
Distribution	113	0 - 0	0 - 0	53	0 - 680

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 #)
Chlorine	**8760**	**.14 – 3.69**

***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.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
08/18/16 Licence #139-102	**Suspended solids**	**03/08/16 06/27/16 09/18/16 12/14/16**	**29 12.66 5.33 29**	mg/l
08/18/16 Licence #139-102	**Chlorine residual**	**03/08/16 06/27/16 09/18/16 12/14/16**	**.25 .52 .32 .63**	mg/l

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	06/02/15	0.02<MDL	ug/l	no
Arsenic	"	0.2<MDL	"	"
Barium	"	17.7	"	"
Boron	"	72.9	"	"
Cadmium	"	0.003<MDL	"	"
Chromium	06/02/15	0.06	ug/l	no
***Lead**	NA	NA	"	"
Mercury	06/02/15	.01<MDL	"	"
Selenium	"	1< MDL	"	"

Sodium	05/22/12	23.6	mg/l	
Uranium	06/02/15	0.002<MDL	ug/l	"
Fluoride	05/22/12	.30	mg/l	"
Nitrite	03/09/16 06/07/16 09/19/16 12/05/16	.021 .029 .011 .013	mg/l	"
Nitrate	03/09/16 06/07/16 09/19/16 12/05/16	.010 .019 .006 .007	mg/l	"

*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

Summary of lead testing under Schedule 15.1 during this reporting period:

Lead sampled according to Schedule D of Municipal Drinking Water Licence 139-102

Location Type	Date	Sample Location	pH	Alkalinitymg/l as CaCO3	Lead ug/l
Distribution	**04/04/16** **04/04/16** **04/04/16** **04/04/16**	**Balt Arena** **Balt F.H.** **45South** **Hydrant24**	**7.32** **7.55** **7.62** **7.61**	**203** **206** **199** **201**	
Distribution	**10/12/16** **10/12/16** **10/12/16** **10/12/16**	**Hwy45** **Deerfield** **Van Luven** **Burwash**	**7.6** **7.3** **7.5** **7.4**	**200** **197** **196** **196**	

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

Parameter	Sample Date	Result Value	Units	Exceedance
Alachlor	**06/02/15**	**.02<MDL**	**ug/l**	**no**
Aldicarb	"	**.02<MDL**	"	"
Aldrin + Dieldrin	"	**.01<MDL**	"	"
Aldrin	"	**.01<MDL**	"	"
Dieldrin	"	**.01<MDL**	"	"
Atrazine + N-dealkylated metobolites	"	**.01<MDL**	"	"
Atrazine	"	**.01<MDL**	"	"
Azinphos-methyl	"	**.02<MDL**	"	"
Bendiocarb	"	**.01<MDL**	"	"

Benzene	“	**.32<MDL**	“	“
Benzo(a)pyrene	“	**.0004<MDL**	“	“
Bromoxynil	“	**.33<MDL**	“	“
Carbaryl	“	**.01<MDL**	“	“
Carbofuran	“	**.01<MDL**	“	“
Carbon Tetrachloride	“	**.16<MDL**	“	“
Chlordane (Total)	“	**.01<MDL**	“	“
Chlorpyrifos	“	**.02<MDL**	“	“
Cyanazine	“	**.03<MDL**	“	“
Desethyl atrazine	“	**.01<MDL**	“	“
Diazinon	“	**.02<MDL**	“	“
Dicamba	“	**.20<MDL**	“	“
1,2-Dichlorobenzene	“	**.41<MDL**	“	“
1,4-Dichlorobenzene	“	**.36>MDL**	“	“
Dichlorodiphenyltrichloroethane (DDT) + metabolites	“	**.01<MDL**	“	“
1,2-Dichloroethane	“	**.35<MDL**	“	“
1,1-Dichloroethylene (vinylidene chloride)	“	**.33<MDL**	“	“
Dichloromethane	“	**.35<MDL**	“	“
2-4 Dichlorophenol	“	**.15<MDL**	“	“
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	**.19<MDL**	“	“
Diclofop-methyl	“	**.40<MDL**	“	“
Dimethoate	“	**.03<MDL**	“	“
Dinoseb	“	**.36<MDL**	“	“
Diquat	“	**1<MDL**	“	“
Diuron	“	**.03<MDL**	“	“
Glyphosate	“	**1<MDL**	“	“
Heptachlor + Heptachlor Epoxide	“	**.01<MDL**	“	“
Lindane (Total)	“	**.01<MDL**	“	“
Malathion	“	**.02<MDL**	“	“
Methoxychlor	“	**.01<MDL**	“	“
Metolachlor	“	**.01<MDL**	“	“
Metribuzin	“	**.02<MDL**	“	“
Monochlorobenzene	“	**.3<MDL**	“	“
Paraquat	“	**1<MDL**	“	“
Parathion	“	**.02<MDL**	“	“
Pentachlorophenol	“	**.15<MDL**	“	“
Phorate	“	**.01<MDL**	“	“
Picloram	“	**1<MDL**	“	“
Polychlorinated Biphenyls(PCB)	“	**.04<MDL**	“	“
Prometryne	“	**.03<MDL**	“	“
Simazine	“	**.01<MDL**	“	“

THM (NOTE: show latest annual average)	**03/09/16 06/07/16 09/19/16 12/05/16**	**1.175 RAA**	**“**	**“**
Temephos	**06/02/15**	**.01<MDL**	**“**	**“**
Terbufos	**“**	**.01<MDL**	**“**	**“**
Tetrachloroethylene	**“**	**.35<MDL**	**“**	**“**
2,3,4,6-Tetrachlorophenol	**“**	**.20<MDL**	**“**	**“**
Triallate	**“**	**.01<MDL**	**“**	**“**
Trichloroethylene	**“**	**.44<MDL**	**“**	**“**
2,4,6-Trichlorophenol	**“**	**.25<MDL**	**“**	**“**
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	**“**	**.22<MDL**	**“**	**“**
Trifluralin	**“**	**.02<MDL**	**“**	**“**
Vinyl Chloride	**“**	**.17<MDL**	**“**	**“**