

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	260001026
Drinking-Water System Name:	Angus Well Supply System
Drinking-Water System Owner:	Corporation of the Township of Essa
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2005 – December 31, 2005

<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 web site 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;"> Essa Municipal Office 5786 Simcoe Rd. 21 Utopia, Essa Twp, On. L0M 1T0 Website: www.essatownship.on.ca </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input style="width: 100px; height: 20px;" type="text"/></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: <input style="width: 100px; height: 20px;" type="text"/></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>
--	--

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
Not applicable	

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 [NA]

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 - Public Notice made on water bills

Describe your Drinking-Water System

The Angus Well Supply System, Treatment and Storage Works serving the Town of Angus includes the Mill Street Water Treatment Plant and the McGeorge Water Treatment Plant. These facilities supply water through a common distribution system.

Mill Street Water Treatment Plant

The Mill Street Water Treatment Plant is located at 28 Mill Street in the Town of Angus. Raw Water is supplied from one 610 mm diameter drilled groundwater well (Well #1) that can provide up to 3927 m³/day of a good quality potable water. As groundwater is pumped from the well; chemical feed pumps are automatically activated to add sodium silicate (for iron sequestering) and sodium hypochlorite (for disinfection). Treated water is stored in an underground reservoir, with a capacity of 902m³. Flow is measured before entering the reservoir and as the treated water enters the distribution system. On-line monitoring equipment continuously monitors chlorine residual, turbidity and flows rates. Flow and process data is recorded on an SM1000 data logger. The recorded data is down loaded periodically and stored on the main server at the Wasaga Beach office. The system is alarmed for a number of parameters and monitored by Huronia Alarms, Midland, Ontario. This pumphouse is equipped with a 165 kW diesel generator and auto switch over to provide stand by power in the event of a power failure.

McGeorge Water Treatment Plant

The McGeorge Water Treatment Plant is located on Essa Side Road 30. Raw Water is supplied from two 203 mm diameter drilled groundwater wells (Well #1 and Well #2) capable of providing up to 2627 m³/day potable water. As groundwater flows out of the (artesian) wells, pumps are automatically activated to add sodium silicate (for iron sequestering) and sodium hypochlorite (for disinfection). Treated water is stored in two underground reservoirs, with capacities of 95 m³ and 157 m³ respectively On-line monitoring equipment continuously monitors chlorine residual, turbidity and flows rates. Flow and process data is recorded on an SM1000 data logger. The recorded data is down loaded periodically and stored on the main server at the Wasaga Beach office. The system is alarmed for a number of parameters and monitored by Huronia Alarms, Midland, Ontario. This pumphouse is equipped with a 64 kW diesel generator and auto switch over to provide stand by power in the event of a power failure.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite 12% Solution NSF, Disinfection
 Sodium Silicate, Iron Sequestering, NSF

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

Expenses incurred which were in addition to normal operating costs.

1. Emergency repair to McGeorge Distribution Header.
2. Emergency repair to McGeorge High Lift Pump.
3. Purchase Four New Silica Pumps (2 for Mill St. and 2 for McGeorge)

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
No Incidents					

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 #)
RW1 - Raw Water Well #1 McGeorge	Refer to attached Appendix A				
RW2 - Raw Water Well #2 McGeorge					
RW3 - Raw Water Well #1 Mill					
TW1 - Treated Water McGeorge					
TW2 - Treated Water Mill					
DW - Distribution Water					

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 #)
Raw Turbidity		
Mill St. Well #1	12	0.20 – 0.57 NTU
McGeorge Well #1	13	0.18 – 0.78 NTU
McGeorge Well #2	13	0.18 – 0.48 NTU
Treated Turbidity		
Mill St.	8760	0 – 1.03 NTU
McGeorge	8760	0 – 1.30 NTU
Treated Free Chlorine Residual		
Mill St.	8760	0 – 5.01 mg/L *
McGeorge	8760	0 – 4.91 mg/L *
Free Chlorine Residual Distribution System	523	0.5 – 1.96 mg/L
Fluoride (If the DWS provides fluoridation)	NA	NA

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

* Chlorine residuals of 0.0 and > 4.0 due to system maintenance and / or power failure.

***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
No Additional Testing and or Sampling Required				

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	Refer to attached Appendix A			
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
Lead				
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				
Nitrite				
Nitrate				

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	Refer to attached Appendix A			
Aldicarb				
Aldrin + Dieldrin				
Atrazine + N-dealkylated metabolites				
Azinphos-methyl				
Bendiocarb				
Benzene				
Benzo(a)pyrene				
Bromoxynil				
Carbaryl				
Carbofuran				
Carbon Tetrachloride				

Chlordane (Total)
Chlorpyrifos
Cyanazine
Diazinon
Dicamba
1,2-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodiphenyltrichloroethane (DDT) + metabolites
1,2-Dichloroethane
1,1-Dichloroethylene (vinylidene chloride)
Dichloromethane
2,4 Dichlorophenol
2,4-Dichlorophenoxy acetic acid (2,4-D)
Diclofop-methyl
Dimethoate
Dinoseb
Diquat
Diuron
Glyphosate
Heptachlor + Heptachlor Epoxide
Lindane (Total)
Malathion
Methoxychlor
Metolachlor
Metribuzin
Monochlorobenzene
Paraquat
Parathion
Pentachlorophenol
Phorate
Picloram
Polychlorinated Biphenyls(PCB)
Prometryne
Simazine
THM (NOTE: show latest annual average)
Temephos
Terbufos
Tetrachloroethylene
2,3,4,6-Tetrachlorophenol
Triallate
Trichloroethylene
2,4,6-Trichlorophenol
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)
Trifluralin
Vinyl Chloride

Refer to attached Appendix A

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

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)

APPENDIX A
ANNUAL SUMMARY (Microbiological, Inorganic & Organic)

Location:

RW1 – Raw Water Well #1 McGeorge

RW2 – Raw Water Well #2 McGeorge

RW3 – Raw Water Well #1 Mill

TW1 – Treated Water McGeorge

TW2 – Treated Water Mill

DW – Distribution Water

ANNUAL REPORT - Microbiological, Inorganic & Organic

Waterworks: 6065 - [260001026] Essa (Angus) Water Well & Distribution System
 Period being reported: 01/01/2005 to 12/31/2005

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 or Fecal Results (min #) - (max #)	Range of Total Coliform Results (min #) - (max #)	Number of HPC Samples	Range of HPC Results (min #) - (max #)	Number of Background Samples	Range of Background Results (min #) - (max #)
Raw - RW1	51	0 - 0	0 - 0		-		-
Raw - RW2	51	0 - 0	0 - 0		-		-
Raw - RW3	52	0 - 0	0 - 0		-		-
Treated - TW1	51	0 - 0	0 - 0		-	51	0 - 1
Treated - TW2	52	0 - 0	0 - 0		-	52	0 - 7
Distribution - DW	212	0 - 0	0 - 0		-	57	0 - 1

ANNUAL REPORT - Microbiological, Inorganic & Organic

Waterworks: 6065 - [260001026] Essa (Angus) Water Well & Distribution System
 Period being reported: 01/01/2005 to 12/31/2005

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

Parameter	Sample Date	Result Value	Exceedance
Antimony: Sb (ug/L) - TW1	2003/08/25	0.60	No
Antimony: Sb (ug/L) - TW2	2003/08/25	0.60	No
Arsenic: As (ug/L) - TW1	2003/08/25	2.00	No
Arsenic: As (ug/L) - TW2	2003/08/25	2.00	No
Barium: Ba (ug/L) - TW1	2003/08/25	80.00	No
Barium: Ba (ug/L) - TW2	2003/08/25	150.00	No
Boron: B (ug/L) - TW1	2003/08/25	22.00	No
Boron: B (ug/L) - TW2	2003/08/25	25.00	No
Cadmium: Cd (ug/L) - TW1	2003/08/25	0.10	No
Cadmium: Cd (ug/L) - TW2	2003/08/25	0.10	No
Chromium: Cr (ug/L) - TW1	2003/08/25	3.00	No
Chromium: Cr (ug/L) - TW2	2003/08/25	3.00	No
Lead: Pb (ug/L)	2005/01/17	< 0.0022	No
Mercury: Hg (ug/L) - TW1	2003/08/25	0.10	No
Mercury: Hg (ug/L) - TW2	2003/08/25	0.10	No
Selenium: Se (ug/L) - TW1	2003/08/25	3.00	No
Selenium: Se (ug/L) - TW2	2003/08/25	3.00	No
Sodium: Na (mg/L) - TW1	2003/08/25	20.70	Yes
Sodium: Na (mg/L) - TW2	2003/08/25	22.40	Yes
Uranium: U (ug/L) - TW1	2003/08/25	0.050	No
Uranium: U (ug/L) - TW2	2003/08/25	0.070	No
Fluoride Residual: Mean (mg/L) - TW1	2003/08/25	0.12	No
Fluoride Residual: Mean (mg/L) - TW2	2003/08/25	0.10	No
Nitrite (mg/L) - TW1	2005/01/17	0.10	No
Nitrite (mg/L) - TW1	2005/04/19	0.10	No
Nitrite (mg/L) - TW1	2005/07/18	0.30	No
Nitrite (mg/L) - TW1	2005/10/19	0.010	No
Nitrite (mg/L) - TW2	2005/01/17	0.10	No
Nitrite (mg/L) - TW2	2005/04/19	0.10	No
Nitrite (mg/L) - TW2	2005/07/18	0.30	No
Nitrite (mg/L) - TW2	2005/10/19	0.010	No
Nitrate (mg/L) - TW1	2005/01/17	0.10	No
Nitrate (mg/L) - TW1	2005/04/19	0.10	No
Nitrate (mg/L) - TW1	2005/07/18	0.20	No
Nitrate (mg/L) - TW1	2005/10/19	0.10	No
Nitrate (mg/L) - TW2	2005/01/17	0.10	No
Nitrate (mg/L) - TW2	2005/04/19	0.10	No
Nitrate (mg/L) - TW2	2005/07/18	0.20	No
Nitrate (mg/L) - TW2	2005/10/19	0.10	No

ANNUAL REPORT - Microbiological, Inorganic & Organic

Waterworks: 6065 - [260001026] Essa (Angus) Water Well & Distribution System
 Period being reported: 01/01/2005 to 12/31/2005

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

Parameter	Sample Date	Result Value	Exceedance
Alachlor (ug/L) - TW1	2003/04/28	0.090	No
Alachlor (ug/L) - TW2	2003/04/28	0.090	No
Aldicarb (ug/L) - TW1	2003/04/28	0.76	No
Aldicarb (ug/L) - TW2	2003/04/28	0.76	No
Aldrin + Dieldrin (ug/L) - TW1	2003/04/28	0.050	No
Aldrin + Dieldrin (ug/L) - TW2	2003/04/28	0.050	No
Atrazine + N-dealkylated metabolites (ug/L) - TW1	2003/04/28	0.43	No
Atrazine + N-dealkylated metabolites (ug/L) - TW2	2003/04/28	0.43	No
Azinphos-methyl (ug/L) - TW1	2003/04/28	0.59	No
Azinphos-methyl (ug/L) - TW2	2003/04/28	0.59	No
Bendiocarb (ug/L) - TW1	2003/04/28	0.27	No
Bendiocarb (ug/L) - TW2	2003/04/28	0.27	No
Benzene (ug/L) - TW1	2003/04/28	0.36	No
Benzene (ug/L) - TW2	2003/04/28	0.36	No
Benzo(a)pyrene (ug/L) - TW1	2003/08/25	0.0040	No
Benzo(a)pyrene (ug/L) - TW2	2003/08/25	0.0040	No
Bromoxynil (ug/L) - TW1	2003/04/28	0.060	No
Bromoxynil (ug/L) - TW2	2003/04/28	0.060	No
Carbaryl (ug/L) - TW1	2003/04/28	0.14	No
Carbaryl (ug/L) - TW2	2003/04/28	0.14	No
Carbofuran (ug/L) - TW1	2003/04/28	0.14	No
Carbofuran (ug/L) - TW2	2003/04/28	0.14	No
Carbon Tetrachloride (ug/L) - TW1	2003/04/28	0.34	No
Carbon Tetrachloride (ug/L) - TW2	2003/04/28	0.34	No
Chlordane:Total (ug/L) - TW1	2003/04/28	0.20	No
Chlordane:Total (ug/L) - TW2	2003/04/28	0.20	No
Chlorpyrifos (ug/L) - TW1	2003/04/28	1.20	No
Chlorpyrifos (ug/L) - TW2	2003/04/28	1.20	No
Cyanazine (ug/L) - TW1	2003/04/28	0.079	No
Cyanazine (ug/L) - TW2	2003/04/28	0.079	No
Diazinon (ug/L) - TW1	2003/04/28	0.41	No
Diazinon (ug/L) - TW2	2003/04/28	0.41	No
Dicamba (ug/L) - TW1	2003/04/28	0.90	No
Dicamba (ug/L) - TW2	2003/04/28	0.90	No
1,2-Dichlorobenzene (ug/L) - TW1	2003/04/28	0.56	No
1,4-Dichlorobenzene (ug/L) - TW1	2003/04/28	0.25	No
Dichlorodiphenyltrichloroethane(DDT) + metabolites (ug/L) - TW1	2003/04/28	0.46	No
Dichlorodiphenyltrichloroethane(DDT) + metabolites (ug/L) - TW2	2003/04/28	0.46	No
1,2-Dichloroethane (ug/L) - TW1	2003/04/28	0.32	No
1,1-Dichloroethylene (ug/L) - TW1	2003/04/28	0.52	No
Dichloromethane (ug/L) - TW1	2003/04/28	1.17	No
Dichloromethane (ug/L) - TW2	2003/04/28	1.17	No
2,4-Dichlorophenol (ug/L) - TW1	2003/04/28	0.15	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW1	2003/04/28	0.33	No

ANNUAL REPORT - Microbiological, Inorganic & Organic

Waterworks: 6065 - [260001026] Essa (Angus) Water Well & Distribution System
 Period being reported: 01/01/2005 to 12/31/2005

Diclofop-methyl (ug/L) - TW1	2003/04/28	0.84	No
Diclofop-methyl (ug/L) - TW2	2003/04/28	0.84	No
Dimethoate (ug/L) - TW1	2003/04/28	0.10	No
Dimethoate (ug/L) - TW2	2003/04/28	0.10	No
Dinoseb (ug/L) - TW1	2003/04/28	0.42	No
Dinoseb (ug/L) - TW2	2003/04/28	0.42	No
Diquat (ug/L) - TW1	2003/04/28	1.00	No
Diquat (ug/L) - TW2	2003/04/28	1.00	No
Diuron (ug/L) - TW1	2003/04/28	0.66	No
Diuron (ug/L) - TW2	2003/04/28	0.66	No
Glyphosate (ug/L) - TW1	2003/04/28	6.00	No
Glyphosate (ug/L) - TW2	2003/04/28	6.00	No
Heptachlor+Hepachlor Epoxide (ug/L) - TW1	2003/04/28	0.20	No
Heptachlor+Hepachlor Epoxide (ug/L) - TW2	2003/04/28	0.20	No
Lindane: (ug/L) - TW1	2003/04/28	0.13	No
Lindane: (ug/L) - TW2	2003/04/28	0.13	No
Malathion (ug/L) - TW1	2003/04/28	0.37	No
Malathion (ug/L) - TW2	2003/04/28	0.37	No
Methoxychlor (ug/L) - TW1	2003/04/28	0.64	No
Methoxychlor (ug/L) - TW2	2003/04/28	0.64	No
Metolachlor (ug/L) - TW1	2003/04/28	0.58	No
Metolachlor (ug/L) - TW2	2003/04/28	0.58	No
Metribuzin (ug/L) - TW1	2003/04/28	0.50	No
Metribuzin (ug/L) - TW2	2003/04/28	0.50	No
Monochlorobenzene (ug/L) - TW1	2003/04/28	0.46	No
Monochlorobenzene (ug/L) - TW2	2003/04/28	0.46	No
Paraquat (ug/L) - TW1	2003/04/28	1.00	No
Paraquat (ug/L) - TW2	2003/04/28	1.00	No
Parathion (ug/L) - TW1	2003/04/28	1.20	No
Parathion (ug/L) - TW2	2003/04/28	1.20	No
Pentachlorophenol (ug/L) - TW1	2003/04/28	0.15	No
Pentachlorophenol (ug/L) - TW2	2003/04/28	0.15	No
Phorate (ug/L) - TW1	2003/04/28	0.73	No
Phorate (ug/L) - TW2	2003/04/28	0.73	No
Picloram (ug/L) - TW1	2003/04/28	0.19	No
Picloram (ug/L) - TW2	2003/04/28	0.19	No
Polychlorinated Bichenysl(PCB) (ug/L) - TW1	2003/04/28	0.040	No
Polychlorinated Bichenysl(PCB) (ug/L) - TW2	2003/04/28	0.040	No
Prometryne (ug/L) - TW1	2003/04/28	0.16	No
Prometryne (ug/L) - TW2	2003/04/28	0.16	No
Simazine (ug/L) - TW1	2003/04/28	0.18	No
Simazine (ug/L) - TW2	2003/04/28	0.18	No
THM (ug/L)	2005	19.20	No
Temephos (ug/L) - TW1	2003/04/28	0.25	No
Temephos (ug/L) - TW2	2003/04/28	0.25	No
Terbufos (ug/L) - TW1	2003/09/30	< 0.70	No

ANNUAL REPORT - Microbiological, Inorganic & Organic

Waterworks: 6065 - [260001026] Essa (Angus) Water Well & Distribution System

Period being reported: 01/01/2005 to 12/31/2005

Terbufos (ug/L) - TW2	2003/09/30	< 0.70	No
Tetrachloroethylene (ug/L) - TW1	2003/04/28	0.48	No
Tetrachloroethylene (ug/L) - TW2	2003/04/28	0.48	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW1	2003/04/28	0.14	No
Triallate (ug/L) - TW1	2003/04/28	0.14	No
Triallate (ug/L) - TW2	2003/04/28	0.14	No
Trichloroethylene (ug/L) - TW1	2003/04/28	0.54	No
Trichloroethylene (ug/L) - TW2	2003/04/28	0.54	No
2,4,6-Trichlorophenol (ug/L) - TW1	2003/04/28	0.25	No
2,4,5-Trichlorophenoxy acetic acid (ug/L) - TW1	2003/04/28	0.47	No
Trifluralin (ug/L) - TW1	2003/04/28	0.35	No
Trifluralin (ug/L) - TW2	2003/04/28	0.35	No
Vinyl Chloride (ug/L) - TW1	2003/04/28	0.080	No
Vinyl Chloride (ug/L) - TW2	2003/04/28	0.080	No