

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Number:	220001085
Drinking-Water System Name:	Tottenham Well Supply System
Drinking-Water System Owner:	The Corporation of the Town of New Tecumseth
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 st – December 31 st , 2010

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

www.town.newtecumseth.on.ca

10 Wellington Street East – Municipal Building, Alliston

6558 8th Line (County Road #1) – Joint Operations Centre, Beeton

Complete for all other Categories.

Number of Designated Facilities served:

NIL

Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []

Yes [] No []

Number of Interested Authorities you report to:

NIL

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

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

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 []

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
- [X] 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 Tottenham Well Supply System consists of four groundwater production wells that are grouped into two general locations: Wells #4 & #5 (Walkem Drive Wells) and Wells #6A & #7 (Coventry Park Wells). The water from these wells is conveyed through dedicated mains to one central location, the Mill Street Reservoir. The raw water from Walkem Drive Wells is fluoridated before it is conveyed to the Reservoir with a back-up system at Coventry Park Wells.

The Reservoir has one active cell with a storage capacity of approximately 900 m³. The water from the production wells is treated at the reservoir with both sodium hypochlorite and sodium silicate. The reservoir is the central location for the Supervisory Control and Data Acquisition (SCADA) System that provides various monitoring and control over the Tottenham Water System. There is one elevated storage tank within the system having an operating capacity of approximately 4,500 m³.

The Tottenham Water Supply System distributes treated water to approximately 4,850 consumers (based on 2006 Census from Statistics Canada). There are approximately 1,638 service connections comprising of residential, institutional, commercial and industrial consumers. In addition, there are approximately 22 kilometers of watermain and 141 fire hydrants.

(Please see attached spreadsheet for flow information)

List all water treatment chemicals used over this reporting period

- 12% Sodium Hypochlorite Solution
- Sodium Silicate Solution
- Hydrofluorosilic Acid

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

Numerous works were undertaken during the period of January 1st – December 31st, 2010 in support of compliance with the Ministry Regulations as well as the Certificate of Approval and Permit to Take Water. The following is a brief summary of the major works: (please note that the costs are estimates only)

General:

- Annual calibration of system water meters for \$400
- Disinfection Study – Improve disinfection in order to reduce the Trihalomethane (THM) for \$28,000

Tottenham Reservoir

- Replaced Fluoride probe in the On-Line Analyzer for \$2,300.

Well #6A (to replace Well #6)

- Drilled new well (2009) and installed new pump including new piping to existing Well House for \$132,000

Tottenham Water Tower

- Replace outside lighting and safety equipment for \$6,200.

Drinking-Water Systems Regulation O. Reg. 170/03

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 (MM/DD/YYYY)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
01/11/2010	Trihalomethanes	122	µg/l	Re-sampled location on January 21 st .	01/18/2010
01/15/2010	High Chlorine at Reservoir Outlet Chlorine Analyzer	4.00	mg/l	Free Chlorine Analyzer Reading spiked for approximately 2 minutes. Returned to normal levels.	01/15/2010
01/21/2010	Trihalomethanes	114	µg/l	This is the re-sample from January 11 th . Still Adverse according to annual average. No further action at this time. Please see attached chart.	01/28/2010
02/01/2010	Total Coliforms	1	cfu/100 ml	Re-sampled location and up and down stream on February 4 th with results of 0 cfu/ml for all locations	02/08/2010
02/25/2010	High Chlorine at Reservoir Outlet Chlorine Analyzer	4.28	mg/l	Free Chlorine Analyzer Reading spiked for approximately 30 seconds. Returned to normal level.	02/25/2010
03/08/2010	Fluoride	1.50	mg/l	Actual Reading was 0.57 mg/l. Problem with fluoride probe in analyzer. Fluoride Probe was replaced.	04/08/2010
04/13/2010	Trihalomethanes	90	µg/l	Re-sampled location on April 21 st .	04/20/2010
04/21/2010	Trihalomethanes	102	µg/l	This is the re-sample from April 13 th . Still Adverse according to annual average. No further action at this time. Please see attached chart.	04/28/2010
07/07/2010	High Chlorine in Distribution System	<4.00	mg/l	Chlorine Analyzer out of calibration – actual reading was 1.30 mg/l. Cleaned and calibrated Analyzer.	07/07/2010
07/19/2010	Trihalomethanes	138	µg/l	Re-sampled location on July 27 th .	07/26/2010
07/27/2010	Trihalomethanes	139	µg/l	This is the re-sample from July 27 th . Still Adverse according to annual average. No further action at this time. Please see attached chart.	07/30/2010
10/12/2010	Low Chlorine in Distribution System	0	mg/l	Staff confirmed the Chlorine Analyzer failed. The Analyzer was repaired and put back into service on October 18 th .	10/12/2010
10/12/2010	Trihalomethanes	111	µg/l	Re-sampled location on October 19 th .	10/15/2010
10/19/2010	Trihalomethanes	118	µg/l	This is the re-sample from October 19 th . Still Adverse according to annual average. No further action at this time. Please see attached chart.	10/21/2010

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	182	0 – 0	0 – 9	28	0 – 1720
Treated	52	0 – 0	0 – 0	51	0 – 3
Distribution	261	0 – 0	0 – 1	102	0 - 240

Drinking-Water Systems Regulation O. Reg. 170/03

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Tottenham Reservoir

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8760	0.00 – 2.00 NTU
Chlorine – Treated	8760	0.60 – 2.00
Chlorine – Distribution	8760	0.20 – 4.56
Fluoride	8760	0.18 – 0.85

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

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)

Not Applicable for this reporting period. Next round of sampling to start December 2010.

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing			
Distribution			

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

Mill Street Reservoir (Treated)

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	02/10/2009	<0.02	µg/l	No
Arsenic	02/10/2009	1.2	µg/l	No
Barium	02/10/2009	120	µg/l	No
Boron	02/10/2009	62	µg/l	No
Cadmium	02/10/2009	<0.003	µg/l	No
Chromium	02/10/2009	0.9	µg/l	No
Mercury	02/10/2009	<0.02	µg/l	No
Selenium	02/10/2009	<1	µg/l	No
Sodium	10/27/2007	42.4	mg/l	No
Uranium	02/10/2009	0.012	µg/l	No
Fluoride	Sent to Lab for testing on a weekly basis	0.22 – 0.89	mg/l	No

Drinking-Water Systems Regulation O. Reg. 170/03

Nitrite	01/11/2010 04/13/2010 07/19/2010 10/12/2010	0.005	mg/l	No
Nitrate	01/11/2010 04/13/2010 07/19/2010 10/12/2010	0.027-0.033	mg/l	No

Distribution

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Lead	01/25/2010	1.08	µg/l	No

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

Mill Street Reservoir (Treated)

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	02/10/2009	<0.11	µg/l	No
Aldicarb	02/10/2009	<0.30	µg/l	No
Aldrin + Dieldrin	02/10/2009	<0.067	µg/l	No
Atrazine + N-dealkylated metabolites	02/10/2009	<0.12	µg/l	No
Azinphos-methyl	02/10/2009	<0.21	µg/l	No
Bendiocarb	02/10/2009	<0.13	µg/l	No
Benzene	02/17/2009	<0.37	µg/l	No
Benzo(a)pyrene	02/10/2009	<0.004	µg/l	No
Bromoxynil	02/10/2009	<0.33	µg/l	No
Carbaryl	02/10/2009	<0.16	µg/l	No
Carbofuran	02/10/2009	<0.37	µg/l	No
Carbon Tetrachloride	02/17/2009	<0.41	µg/l	No
Chlordane (Total)	02/10/2009	<0.069	µg/l	No
Chlorpyrifos	02/10/2009	<0.18	µg/l	No
Cyanazine	02/10/2009	<0.18	µg/l	No
Diazinon	02/10/2009	<0.081	µg/l	No
Dicamba	02/10/2009	<0.20	µg/l	No
1,2-Dichlorobenzene	02/17/2009	<0.50	µg/l	No
1,4-Dichlorobenzene	02/17/2009	<0.21	µg/l	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	02/10/2009	<0.14	µg/l	No
1,2-Dichloroethane	02/17/2009	<0.43	µg/l	No
1,1-Dichloroethylene (vinylidene chloride)	02/17/2009	<0.41	µg/l	No
Dichloromethane	02/17/2009	<0.34	µg/l	No
2-4 Dichlorophenol	02/10/2009	<0.15	µg/l	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	02/10/2009	<0.19	µg/l	No
Diclofop-methyl	02/10/2009	<0.40	µg/l	No
Dimethoate	02/10/2009	<0.12	µg/l	No
Dinoseb	02/10/2009	<0.36	µg/l	No
Diquat	02/10/2009	<1	µg/l	No
Diuron	02/10/2009	<0.087	µg/l	No

Drinking-Water Systems Regulation O. Reg. 170/03

Glyphosate	02/10/2009	<6	µg/l	No
Heptachlor + Heptachlor Epoxide	02/10/2009	<0.11	µg/l	No
Lindane (Total)	02/10/2009	<0.056	µg/l	No
Malathion	02/10/2009	<0.091	µg/l	No
Methoxychlor	02/10/2009	<0.14	µg/l	No
Metolachlor	02/10/2009	<0.092	µg/l	No
Metribuzin	02/10/2009	<0.12	µg/l	No
Monochlorobenzene	02/17/2009	<0.58	µg/l	No
Paraquat	02/10/2009	<1	µg/l	No
Parathion	02/10/2009	<0.18	µg/l	No
Pentachlorophenol	02/10/2009	<0.15	µg/l	No
Phorate	02/10/2009	<0.11	µg/l	No
Picloram	02/10/2009	<0.25	µg/l	No
Polychlorinated Biphenyls(PCB)	02/10/2009	<0.04	µg/l	No
Prometryne	02/10/2009	<0.23	µg/l	No
Simazine	02/10/2009	<0.15	µg/l	No
Temephos	02/10/2009	<0.31	µg/l	No
Terbufos	02/10/2009	<0.12	µg/l	No
Tetrachloroethylene	02/17/2009	<0.45	µg/l	No
2,3,4,6-Tetrachlorophenol	02/10/2009	<0.14	µg/l	No
Triallate	02/10/2009	<0.10	µg/l	No
Trichloroethylene	02/17/2009	<0.38	µg/l	No
2,4,6-Trichlorophenol	02/10/2009	<0.25	µg/l	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	02/10/2009	<0.22	µg/l	No
Trifluralin	02/10/2009	<0.12	µg/l	No
Vinyl Chloride	02/17/2009	<0.17	µg/l	No

Distribution

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (2010 annual average)	01/11/2010	116.8	µg/l	Yes
	01/21/2010			
	04/13/2010			
	04/21/2010			
	07/19/2010			
	07/27/2010			
	10/12/2010			
	10/19/2010			

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
Trihalomethanes	116.8	µg/l	01/11/2010 – 10/19/2010 (quarterly average for 8 samples taken over that time period. Please see attached sheet for individual values.)

(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)

TOTTENHAM 2010 ANNUAL REPORT
FLOW DATA (m³/day)

YEAR 2010	WELL #4		WELL #5		WELL #6		WELL #7		All Wells	
	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum
January	368.56	541.51	373.46	521.69	1.60	4.34	882.07	1062.01	1364.47	1564.78
February	341.86	517.45	426.49	556.27	2.28	3.24	889.83	1048.16	1356.45	1604.43
March	503.03	656.21	341.05	482.96	0.00	0.00	829.21	1040.53	1333.89	1636.88
April	513.52	648.43	384.70	543.95	0.00	0.00	870.99	1119.14	1410.04	1767.57
May	495.35	687.49	498.82	679.33	0.00	0.00	996.42	1388.57	1573.68	2095.92
June	451.54	662.24	525.14	713.37	33.63	66.50	967.88	1345.50	1539.53	2058.87
July	579.60	1041.30	558.47	796.67	33.67	66.50	982.29	1722.74	1647.17	2827.12
August	539.86	869.72	579.17	897.64	31.20	40.09	910.69	1497.05	1566.75	2366.77
September	546.27	774.78	593.61	852.69	67.29	90.36	759.83	963.80	1451.15	1816.49
October	534.95	1053.61	559.32	927.77	55.06	217.69	846.32	1418.58	1533.36	2499.46
November	500.74	778.92	536.26	752.95	565.04	993.51	657.08	1005.06	1376.45	1978.17
December	527.60	733.68	555.72	891.72	449.92	1122.21	725.88	1070.92	1377.16	2013.93
Ave./Max	491.91	1053.61	494.35	927.77	103.31	1122.21	859.87	1722.74	1458.69	2827.12
Maximum Flow as per PTTW & C of A	1632.960	1632.960	1632.960	1632.960	1728.000	1728.000	1668.924	1668.924	6000.000	6000.000
Percentage of Maximum	30.1%	64.5%	30.3%	56.8%	6.0%	64.9%	51.5%	103.2%	24.3%	47.1%

TOTTENHAM THM RESULTS

First Quarter

	THM Results (µg/l)	THM Quarterly Average (µg/l)
DATE:	NOLAN ROAD:	NOLAN ROAD:
11-Jan-10	122.0	118.0
21-Jan-10	114.0	
11-May-09	148.0	127.5
19-May-09	107.0	
4-Aug-09	132.0	136.0
24-Aug-09	140.0	
19-Oct-09	135.0	134.5
26-Oct-09	134.0	
AVERAGE:	129.0	129.0

UUUUUUUNOTES:

THMs AT NOLAN ROAD IS IN NON-COMPLIANCE

TOTTENHAM THM RESULTS

Second Quarter

	THM Results (µg/l)	THM Quarterly Average (µg/l)
DATE:	NOLAN ROAD:	NOLAN ROAD:
11-Jan-10	122.0	118.0
21-Jan-10	114.0	
13-Apr-10	90.0	96.0
21-Apr-10	102.0	
4-Aug-09	132.0	136.0
24-Aug-09	140.0	
19-Oct-09	135.0	134.5
26-Oct-09	134.0	
AVERAGE:	121.1	121.1

NOTES:

THMs AT NOLAN ROAD IS IN NON-COMPLIANCE

TOTTENHAM THM RESULTS

Third Quarter

	THM Results (µg/l)	THM Quarterly Average (µg/l)
DATE:	NOLAN ROAD:	NOLAN ROAD:
11-Jan-10	122.0	118.0
21-Jan-10	114.0	
13-Apr-10	90.0	96.0
21-Apr-10	102.0	
19-Jul-10	138.0	138.5
27-Jul-10	139.0	
19-Oct-09	135.0	134.5
26-Oct-09	134	
AVERAGE:	121.8	121.8

NOTES:

THMs AT NOLAN ROAD IS IN NON-COMPLIANCE

TOTTENHAM THM RESULTS

Fourth Quarter

	THM Results (µg/l)	THM Quarterly Average (µg/l)
DATE:	NOLAN ROAD:	NOLAN ROAD:
11-Jan-10	122.0	118.0
21-Jan-10	114.0	
13-Apr-10	90.0	96.0
21-Apr-10	102.0	
19-Jul-10	138.0	138.5
27-Jul-10	139.00	
12-Oct-10	111.0	114.5
19-Oct-10	118.0	
AVERAGE:	116.8	116.8

NOTES:

THMs AT NOLAN ROAD IS IN NON-COMPLIANCE