



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

2008 Annual Compliance/Summary Report

for the

Virginatown Well Supply



Prepared by the Ontario Clean Water Agency
on behalf of the Township of McGarry

Part III Form 2
Section 11. ANNUAL REPORT.

Drinking-Water System Name:	McGARRY (VIRGINIATOWN) WELL SUPPLY
Drinking-Water System No.:	220000317
Drinking-Water System Owner:	McGarry, The Corporation of the Township of
Drinking-Water System Category:	Large Municipal, Residential System
Period being reported:	January 1, 2008 to December 31, 2008

<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 [] No X</p> <p>Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>McGarry Municipal Office 27 Webster Street, Virginiatown ON P0K 1X0</p> </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>
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Drinking-Water Systems, which receive all of their drinking water from your system:

Town of Virginiatown, North Virginiatown and Kearns

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.

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 – Newsletter

Description of the Drinking-Water System

The McGarry Township water supply is a ground water system that draws its water from one production well with a permitted capacity of 1420 m³/d. The 26.2m deep drilled well is situated in the pumphouse building located approximately 500m east of Cheminis Road and 230m north of the Ontario Northland Railway tracks, adjacent to the Quebec border. The system provides water to approximately 840 people in the communities of Virginiatown, North Virginiatown and Kearns.

The raw water flow is measured at the pumphouse using a magnetic flow meter. Sodium hypochlorite is injected at the well site using two chemical metering pumps (one duty and one standby) to provide disinfection. Two sodium hypochlorite tanks equipped with spill containment are located inside the pumphouse.

A 56 kW diesel engine standby power generator set, complete with a fuel storage tank and spill containment is available in the event of a power failure.

The water is pumped from the pumphouse to an on-line elevated reservoir having a useable volume of 1300 m³. The water tower is located at the intersection of 27th Avenue and 27th Street in North Virginiatown. A feeder watermain, 6000 meter long and 200 mm in diameter, extends from the pumphouse, through Cheminis Road, Access Road, and Highway 66 to the tower.

The water tower is equipped with an overflow bypass valve, draining pipe, a pressure transmitter, an alarmed chlorine analyzer, chart recorder and an uninterrupted power source to ensure operation of the analyzer during a power interruption and provides water to the areas of Virginiatown, North Virginiatown and Kearns.

A list of all water treatment chemicals used over this reporting period

Sodium Hypochlorite – Disinfection

Were any significant expenses incurred to?

- Install required equipment
 Repair required equipment
 Replace required equipment

Describe

- Repaired leak in 6" feed line at the water tower.
- Repaired transfer switch on the generator set located at the pump house.
- Replaced 2 sodium hypochlorite injectors at the pump house.

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
March 20	Lead	42.9	ug/L	<p>A high lead result was detected in a sample collected from Hydrant #VTD1 located between 27th Avenue and 30th Street. The local Health Unit and MOE Spill's Action Center were notified.</p> <p>The area was flushed and two resamples were collected on March 26th. The resample results indicated good quality water having lead concentrations of less than the method detection limit of 1 ug/L.</p>	March 26 (AWQI #78508 resolved on April 1, 2008)
August 6	Total Coliforms	1	cfu/100mL	<p>One total coliform was detected in a sample collected from the Kearn's Gas Bar. The local Health Unit and MOE Spill's Action Center were notified.</p> <p>The location was flushed and disinfection residuals maintained. Resamples were collected upstream, downstream and at the site of the adverse result on August 8th and August 10th. All</p>	August 8 (AWQI #82394 resolved on August 13, 2008)

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

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
				results indicated good quality water having no detectable total coliforms or <i>E. coli</i> and background bacteria were well below acceptable limits.	
October 2	Total Coliforms	22 and 12	cfu/100mL	Total coliforms were detected in samples collected from Hydrant #33 and Hydrant # 31. The local Health Unit and MOE Spill's Action Center were notified. Disinfection residuals were maintained and resamples were collected as per Ontario Regulation 170/03 on October 3 rd . All results indicated good quality water having no detectable total coliforms or <i>E. coli</i> and background bacteria were well below acceptable limits	October 3 (AWQI #84362 resolved on October 6, 2008)
October 3	Total Coliforms	2	cfu/100mL	Two total coliforms were detected in a sample collected from Hydrant #4. The local Health Unit and MOE Spill's Action Center were notified. Resamples were collected as per Ontario Regulation 170/03 on October 4 th . All results indicated good quality water having no detectable total coliforms, <i>E. coli</i> or background bacteria.	October 4 AWQI #84412 resolved on October 6, 2008)

Microbiological testing done under section 8(2) during this reporting period

	Number of Samples	Range of <i>E.coli</i> Results (min# to max#)	Range of Total Coliform Results (min# to max#)	Number of HPC Samples	Range of HPC Results (min# to max#)
Raw	53	<1 to <2	<1 to 2	0	N/A
Treated	53	<1 to <1	<1 to <1	53	<1 to 15
Distribution	133	<1 to <1	<1 to 22	72	<1 to >80

MAC for *E.coli* = 0 Counts/100 mL

MAC for Total Coliforms = 0 Counts/100 mL

MAC for HPC = 500 Counts/100 mL (June 5, 2006 amendment to O. Reg. 170/03, there is no longer a standard for HPC)

Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.

Continuous Monitoring in Treatment Process

	Number of Samples	Range of Results (min# to max#)	Unit of Measure
Chlorine (free)	8760	0.204 to 2.016	mg/L
<i>NOTE: For continuous monitors use 8760 as the number of samples.</i>			

Summary of Turbidity Data in the Raw Water

	Number of Samples	Range of Results (min# to max#)	Unit of Measure
Turbidity	26	0.0 to 0.57	NTU

Summary of Chlorine Residual Data in the Distribution System

	Number of Samples	Range of Results (min# to max#)	Unit of Measure	Standard
Free Chlorine (daily)	365	0.10 to 0.86	mg/L	0.05
Free Chlorine (weekly)	189	0.10 to 0.86	mg/L	0.05

Note: As of June 5th 2006, O. Reg. 170/03 was amended for Large Municipal Residential Systems such that a total of seven operational checks for chlorine residual in the distribution system are required each week. The owner/operating authority can continue to test one sample per day or test four (4) samples one day and three (3) on a second day. The sample sets must be collected at least 48-hours apart and samples collected on the same day must be from different locations.

Free chlorine residuals are collected daily in the distribution system by certified municipal employees. Free chlorine residuals are tested weekly by OCWA staff when collecting bacteriological samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
No additional sampling and testing were required for the Virginiatown Water Treatment System during the 2008 reporting period due to an approval, order or other legal instrument.				

Summary of Nitrates & Nitrites tested during this reporting period.

Date of Sample	Nitrate Result Value	Nitrite Result Value	Unit of Measure	Exceedance
January 7	<0.1	<0.05	mg/L	No
April 21	<0.1	<0.05	mg/L	No
July 14	<0.1	<0.05	mg/L	No
October 27	0.11	<0.05	mg/L	No

MAC for Nitrate = 10 mg/L MAC for Nitrite = 1.0 mg/L

Summary of Total Trihalomethanes tested in the Distribution System during this reporting period

Date of Sample	Result Value	Unit of Measure	Running Average	Exceedance
January 7	1.7	ug/L	1.45	No
April 21	1.5	ug/L		
July 14	1.5	ug/L		
October 27	1.1	ug/L		

MAC for Trihalomethanes = 100 ug/L (Running Average)
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 (min# to max#)	Unit of Measure	Number of Exceedances
Plumbing	88	<1 to 50.8	ug/L	3
Distribution	10	<1 to 42.9	ug/L	1

MAC for Lead = 10 ug/L

Location Type	Number of Samples	Range of pH (units) Results (min# to max#)	Range of Alkalinity (mg/L) Results (min# to max#)
Plumbing	44	6.20 to 7.45	N/A
Distribution	10	6.46 to 7.85	53 to 79.5

Summary of Most Recent Schedule 23 Inorganic parameters sampled at the Water Treatment Plant (sample required every 36 months)

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance
Antimony	October 27, 2008	<.5	ug/L	6	No
Arsenic	October 27, 2008	<1	ug/L	25	No
Barium	October 27, 2008	5.2	ug/L	1000	No
Boron	October 27, 2008	2.9	ug/L	5000	No
Cadmium	October 27, 2008	<.1	ug/L	5	No
Chromium	October 27, 2008	4.3	ug/L	50	No
Mercury	October 27, 2008	<.1	ug/L	1	No
Selenium	October 27, 2008	1	ug/L	10	No
Uranium	October 27, 2008	<1	ug/L	20	No

Summary of Most Recent Schedule 24 Organic parameters sampled at the Water Treatment Plant (sample required every 36 months)

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance
Alachlor	Oct. 27, 2008	<0.41	ug/L	5	No
Aldicarb	Oct. 27, 2008	<0.49	ug/L	9	No
Aldrin + Dieldrin	Oct. 27, 2008	<0.004	ug/L	0.7	No
Atrazine + N-dealkylated metabolites	Oct. 27, 2008	<0.9	ug/L	5	No
Azinphos-methyl	Oct. 27, 2008	<0.3	ug/L	20	No

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance
Bendiocarb	Oct. 27, 2008	<0.97	ug/L	40	No
Benzene	Oct. 27, 2008	<0.25	ug/L	5	No
Benzo(a)pyrene	Oct. 27, 2008	<0.01	ug/L	0.01	No
Bromoxynil	Oct. 27, 2008	<0.68	ug/L	5	No
Carbaryl	Oct. 27, 2008	<0.97	ug/L	90	No
Carbofuran	Oct. 27, 2008	<0.97	ug/L	90	No
Carbon Tetrachloride	Oct. 27, 2008	<0.25	ug/L	5	No
Chlordane (Total)	Oct. 27, 2008	<0.004	ug/L	7	No
Chlorpyrifos	Oct. 27, 2008	<0.3	ug/L	90	No
Cyanazine	Oct. 27, 2008	<0.3	ug/L	10	No
Diazinon	Oct. 27, 2008	<0.3	ug/L	20	No
Dicamba	Oct. 27, 2008	<0.27	ug/L	120	No
1,2-Dichlorobenzene	Oct. 27, 2008	<0.25	ug/L	200	No
1,4-Dichlorobenzene	Oct. 27, 2008	<0.25	ug/L	5	No
Dichlorodiphenyl trichloroethane (DDT) + metabolites	Oct. 27, 2008	<0.005	ug/L	30	No
1,2-Dichloroethane	Oct. 27, 2008	<0.25	ug/L	5	No
1,1-Dichloroethylene (vinylidene chloride)	Oct. 27, 2008	<0.25	ug/L	14	No
Dichloromethane	Oct. 27, 2008	<0.25	ug/L	50	No
2-4 Dichlorophenol	Oct. 27, 2008	<0.051	ug/L	900	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Oct. 27, 2008	<0.27	ug/L	100	No
Diclofop-methyl	Oct. 27, 2008	<0.27	ug/L	9	No
Dimethoate	Oct. 27, 2008	<0.3	ug/L	20	No
Dinoseb	Oct. 27, 2008	<0.068	ug/L	10	No
Diquat	Oct. 27, 2008	<7.0	ug/L	70	No
Diuron	Oct. 27, 2008	<0.49	ug/L	150	No
Glyphosate	Oct. 27, 2008	<10	ug/L	280	No
Heptachlor + Heptachlor Epoxide	Oct. 27, 2008	<0.004	ug/L	3	No
Lindane (Total)	Oct. 27, 2008	<0.0004	ug/L	4	No
Malathion	Oct. 27, 2008	<0.3	ug/L	190	No
Methoxychlor	Oct. 27, 2008	<0.001	ug/L	900	No
Metolachlor	Oct. 27, 2008	<0.2	ug/L	50	No
Metribuzin	Oct. 27, 2008	<0.2	ug/L	80	No
Monochlorobenzene	Oct. 27, 2008	<0.25	ug/L	80	No
Paraquat	Oct. 27, 2008	<1	ug/L	10	No
Parathion	Oct. 27, 2008	<0.2	ug/L	50	No
Pentachlorophenol	Oct. 27, 2008	<0.051	ug/L	60	No
Phorate	Oct. 27, 2008	<0.3	ug/L	2	No
Picloram	Oct. 27, 2008	<0.068	ug/L	190	No
Polychlorinated Biphenyls (PCB)	Oct. 27, 2008	<0.0032	ug/L	3	No
Prometryne	Oct. 27, 2008	<0.2	ug/L	1	No

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance
Simazine	Oct. 27, 2008	<0.3	ug/L	10	No
Temephos	Oct. 27, 2008	<14	ug/L	280	No
Terbufos	Oct. 27, 2008	<0.2	ug/L	1	No
Tetrachloroethylene	Oct. 27, 2008	<0.25	ug/L	30	No
2,3,4,6-Tetrachlorophenol	Oct. 27, 2008	<0.051	ug/L	100	No
Triallate	Oct. 27, 2008	<0.2	ug/L	230	No
Trichloroethylene	Oct. 27, 2008	<0.25	ug/L	50	No
2,4,6-Trichlorophenol	Oct. 27, 2008	<0.052	ug/L	5	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Oct. 27, 2008	<0.066	ug/L	280	No
Trifluralin	Oct. 27, 2008	<0.21	ug/L	45	No
Vinyl Chloride	Oct. 27, 2008	<0.25	ug/L	2	No

Summary of Most Recent Sodium Data tested at the Water Treatment Plant (sample required every 60 months)

Date of Sample	Number of Samples	Result Value	Unit of Measure	Standard	Exceedance
October 11, 2005	1	15000	ug/L	20000	No

Summary of Most Recent Fluoride Data tested at the Water Treatment Plant (sample required every 60 months)

Date of Sample	Number of Samples	Result Value	Unit of Measure	Standard	Exceedance
October 11, 2005	1	<0.1	mg/L	1.5	No

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
No inorganic or organic parameter(s) exceeded half the standard found in Schedule 2 of the ODWS during the reporting period.			

(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) Small Municipal Non-Residential has been removed and Non Municipal Year Round Residential has been added.

McGARRY (VIRGINIATOWN) WELL SUPPLY

Large Municipal Residential Drinking Water System

SCHEDULE 22

SUMMARY REPORT FOR MUNICIPALITIES

For the period of

JANUARY 2008 to DECEMBER 2008

Prepared by: **OCWA**

Prepared for: **The Corporation of the Township of McGarry**

**Schedule 22.
SUMMARY REPORTS FOR MUNICIPALITIES**

This report is a summary of water quality information for the **Virginatown Water Treatment System**. It is published in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation 170/03 for the reporting period of January 1, 2008 to December 31, 2008 and must be submitted to members of council.

The report must list the requirements of the Safe Drinking Water Act (2002) and the drinking water regulations which can be viewed at the following website:
<http://www.e-laws.gov.on.ca>.

Requirements the System Failed to Meet

Compliance with the Safe Drinking Water Act involves conforming to the system's approval and any order issued at any time during the period covered by this report. The duration of the failure and details of the actions that were taken to correct the failure must be described.

The following table lists, to my knowledge, the requirements of the Act, its Regulations, the system's Approvals and any Provincial Officer Order issued during the 2008 reporting period.

Drinking Water Legislation	Requirement(s) the System Failed to Meet	Duration	Corrective Actions	Status
<p>The Virginiatown Drinking Water System has complied with all the requirements set out in the system's Certificate of Approval # 9405-6BTJ8Q issued April 27, 2005, the Act and its Regulations.</p>				

Summary of Flow Rates

Under schedule 22-2(3) of Ontario Regulation 170/03, the Summary Report must include the following:

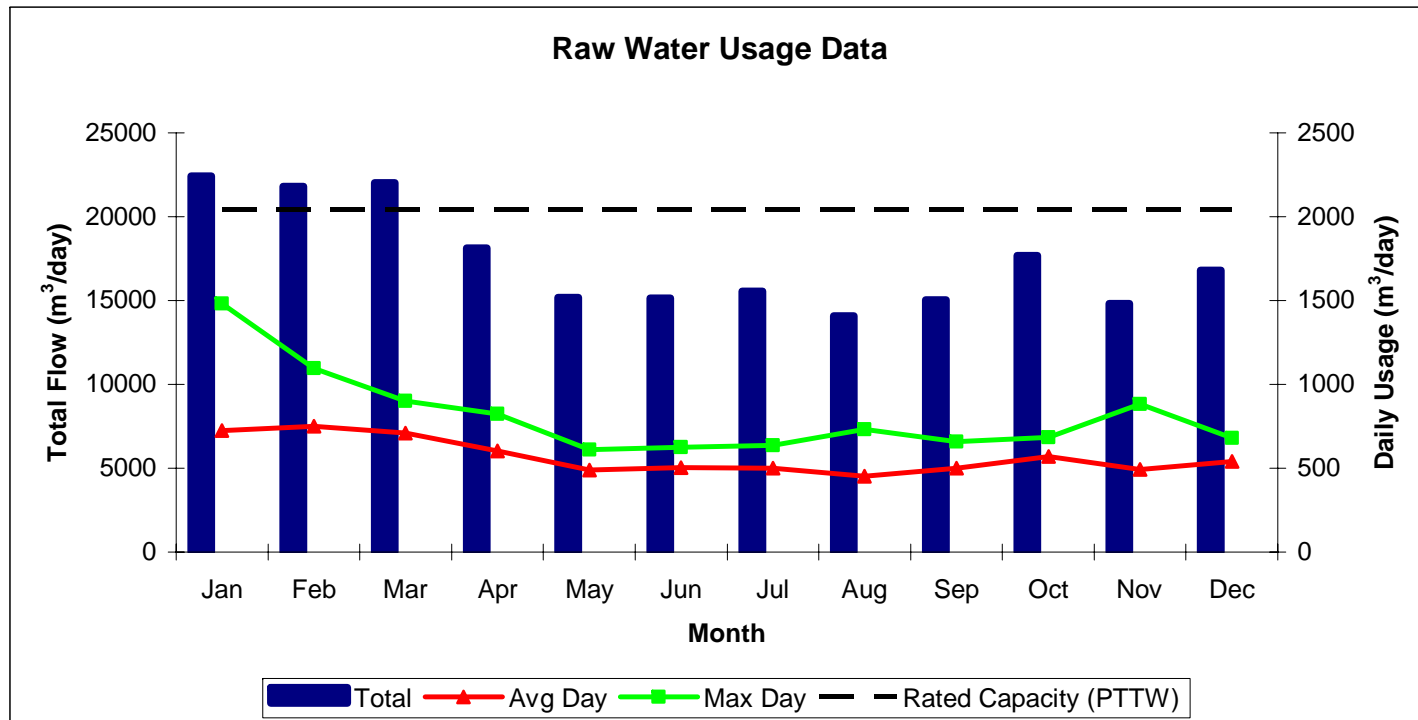
1. A summary of flow rates, including monthly average and maximum daily flows and daily instantaneous peak flow rates.
2. A comparison of the summary referred to in #1 to the rated capacity and flow rates approved in the system's approval and permit.

The following tables and graphs indicate the quantities and flow rates of water taken and produced during the reporting period, including monthly average flows, maximum daily flows and total monthly volumes. A comparison of the water data is made to the rated capacity and flow rates specified in the system's approval and permit.

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

2008 Raw Water

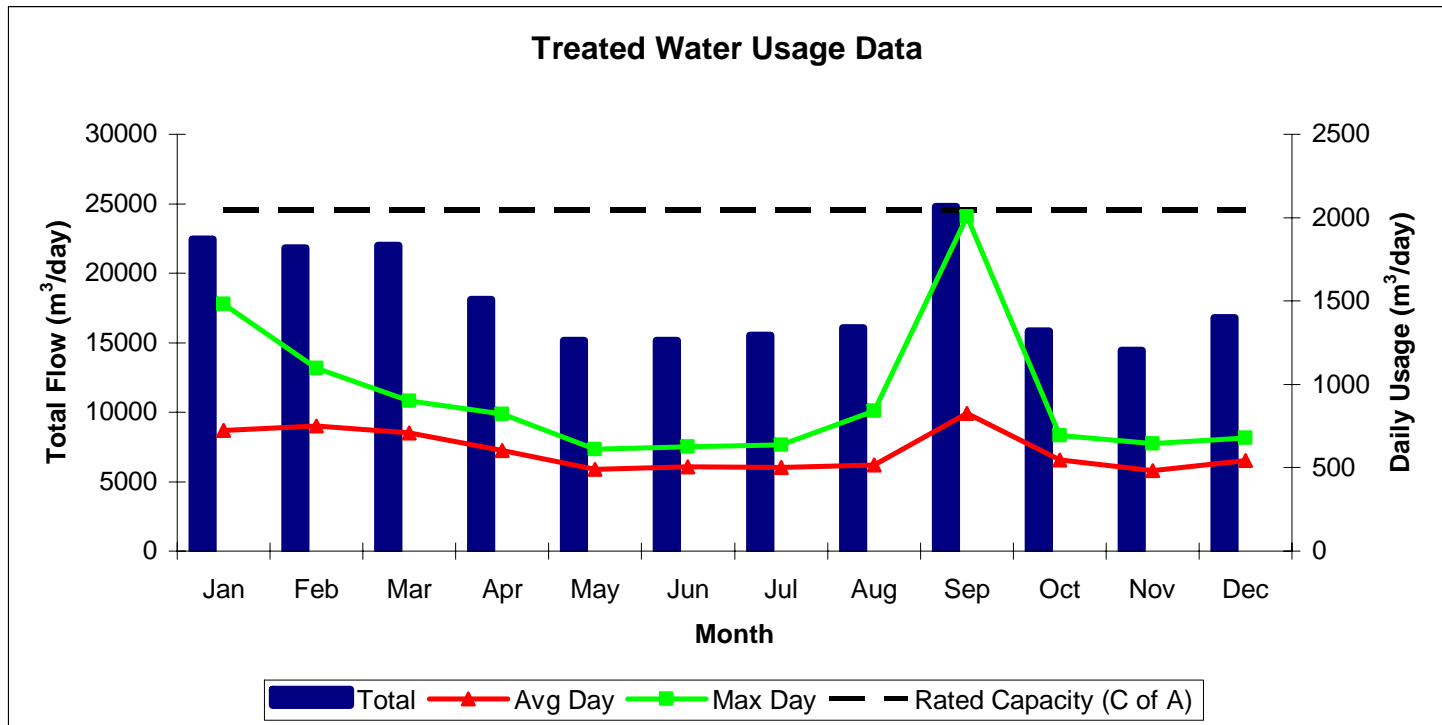
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
	<i>Volume (m³/day)</i>												
<i>Avg Day</i>	724	752	710	604	490	505	501	454	501	571	494	542	571
<i>Total</i>	22432	21798	22008	18117	15179	15162	15543	14066	15036	17698	14824	16795	208657
<i>Max Day</i>	1482	1096	900	823	611	625	637	732	658	685	881	680	1482
<i>Rated Capacity (PTTW)</i>	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045
<i>% Rated Capacity</i>	72	54	44	40	30	31	31	36	32	33	43	33	40



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

2008 Treated Water

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
	Volume (m ³ /day)												
<i>Avg Day</i>	724	752	710	604	490	505	501	518	827	547	481	542	600
<i>Total</i>	22432	21798	22008	18117	15179	15162	15543	16050	24816	15854	14441	16795	218194
<i>Max Day</i>	1482	1096	900	823	611	625	637	841	2007	693	643	680	2007
<i>Rated Capacity (C of A)</i>	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045
<i>% Rated Capacity</i>	72	54	44	40	30	31	31	41	98	34	31	33	45



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

Treated water flow is equivalent to the raw water flow for this facility since there is no water loss from processes between the raw source and the point of discharge of treated water at the tower.

Comparison of Flow Summary to System's Approval & Permit

Certificate of Approval, #9405-6BTJ8Q specifies a maximum rated flow into the treatment system as 1420 L/minute or 2044.8 m³/day. The maximum flow rate for the reporting period did not exceed this limit. A maximum instantaneous peak flow rate of 1365.9 L/minute was recorded on August 13, 2008.

Permit to Take Water #01-P-6063 was issued on December 12, 2006, and authorizes the municipality to withdraw water from Cheminis Well at a maximum flow rate of 2044.8 m³/day. The rate of taking was not exceeded during the reporting period. The maximum daily volume of water taken in 2007 was 1482 m³/day on January 29th.