



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

2010 Annual Compliance/Summary Report
for the
Virginatown-Kearns Drinking Water System



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

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Section 11

ANNUAL REPORT

Drinking-Water System Name: VIRINIATOWN-KEARNS DRINKING WATER SYSTEM
Drinking-Water System No.: 220000317
Drinking-Water System Owner: McGarry, The Corporation of the Township of Large Municipal, Residential System
Drinking-Water System Category: Large Municipal, Residential System
Period being reported: January 1, 2010 to December 31, 2010

1.0 INTRODUCTION

Does your Drinking Water System serve more than 10,000 people? No

Is your annual report available to the public at no charge on a web site on the Internet? No

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

McGarry Municipal Office
27 Webster Street,
Viriniatown Ontario P0K 1X0

Drinking Water Systems that receive drinking water from the Viriniatown-Kearns Drinking Water System:

The Viriniatown-Kearns Drinking Water System provides all drinking water to the communities of Viriniatown, North Viriniatown and Kearns.

The Annual Report was not provided to any other Drinking Water System owners.

The Ontario Clean Water Agency prepared the 2010 Annual Report for the Viriniatown-Kearns Drinking Water System and provided a copy to the system owner; the Township of McGarry. The Viriniatown-Kearns Drinking Water System is a stand-alone system that does not receive water from or send water to another system.

Notification to system users that the Annual Report is available for viewing is accomplished through:

- x Public access/notice via the web (municipal website)
- x Public access/notice via Government Office (municipal 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

2.0 DESCRIPTION OF THE DRINKING WATER SYSTEM

The Virginiatown-Kearns well supply and distribution systems are owned by the Corporation of the Township of McGarry and operated by the Ontario Clean Water Agency (OCWA). It is a communal ground water well supply that provides water to the communities of Virginiatown, North Virginiatown and Kearns

The main building for the water treatment plant/pumphouse is located approximately 6 km northeast of the Virginiatown Community Center and approximately 500 meters east of Cheminis Road and 230 meters north of the Ontario Northland Railway tracks, adjacent to the Quebec border. Groundwater is supplied to the plant from production Well (Cheminis Well) TW-1/91 which is situated within the plant. The well consists of a 300 mm diameter steel casing, drilled to a depth of 26.2 meters. A vertical turbine pump assembly, rated to the capacity of 1,420 L/minute, is the main well pump equipment. A magnetic flow meter is mounted on the 150 mm diameter discharge line from the well into the treatment process.

The groundwater is then chlorinated using a sodium hypochlorite disinfection system, complete with duplicated chemical metering pumps (duty and standby), and duplicated storage tanks with secondary spill containment. A 56 kW diesel engine generator set and its associated fuel storage and secondary spill containment is available for standby power.

Also integrated into the treatment process are off-site chlorine contact facilities. The first is a 6 km long by 200 mm diameter ductile iron forcemain (pipe) with no service connections that extends from the treatment plant to the elevated reservoir/tower.

The tower is located approximately 150 m to the west of the Virginiatown Community Centre at the intersection of Twenty-Seventh Avenue and Twenty-Seventh Street within the community of North Virginiatown. The tower has 1,300 cubic meters of usable volume for water storage. An alarmed free chlorine residual analyzer with a circular chart recorder and pressure transmitter with a circular chart recorder are located on-site. The tower is also equipped with an overflow bypass valve, drain pipe, and an uninterrupted power source to ensure operation of the analyzer during power interruptions.

The distribution system serves an estimated population of 840 people spread throughout the residential areas of Virginiatown, North Virginiatown and Kearns. The distribution system itself consists primarily of ten (10), eight (8), and six (6) inch ductile iron constructed water mains. The service life of the distribution system ranges from 51 years (for the North Virginiatown sector) to 70 years (for the Virginiatown sector). There are 41 fire hydrants connected to the distribution system to aid in fire protection. Based on the number of service connections, the system is classified as a Large Municipal Residential Drinking Water System.

3.0 LIST OF WATER TREATMENT CHEMICALS USED OVER THE REPORTING PERIOD

Sodium Hypochlorite, used as a disinfectant, was the only chemical used at the Virginiatown-Kearns Water Treatment Plant.

4.0 SIGNIFICANT EXPENSES INCURRED IN THE DRINKING WATER SYSTEM

The following work was scheduled and completed in 2010:

July Landmark Municipal Services performed a remote inspection of the elevated water storage tank. International Water Supply Inc. replaced the well pump and conducted a video inspection of the production well. The “old” pump has been refurbished and will be used as a spare.

August Wood boards on the sodium hypochlorite containment tank were replaced with fiberglass grating. This material is less susceptible to breakdown due to chemical exposure. Hydrants were replaced on Lynch Avenue, Kearns Avenue and the corner of Government Road & Barkley Avenue. Water valves were replaced at several locations in the distribution system.

October & November Distribution system flushed by municipal operators.

No major breakdowns occurred at the water treatment plant as all routine maintenance practices were accomplished through OCWA’s computerized Workplace Management System. However, eight (8) service lines were repaired in the distribution system during the reporting period.

5.0 DETAILS ON NOTICES OF ADVERSE TEST RESULTS AND OTHER PROBLEMS REPORTED TO & SUBMITTED TO THE SPILLS ACTION CENTER

Based on information kept on record by OCWA, the Virginiatown-Kearns Drinking Water System was in full compliance during this reporting period.

6.0 MICROBIOLOGICAL TESTING PERFORMED DURING THE REPORTING PERIOD

| Sample Type | # of Samples | Range of <i>E. coli</i> Results (min to max) | Range of Total Coliform Results (min to max) | # of HPC Samples | Range of HPC Results (min to max) |
|--------------|--------------|--|--|------------------|-----------------------------------|
| Raw (Well) | 52 | <1 to <1 | <1 to <1 | 0 | N/A |
| Treated | 52 | <1 to <1 | <1 to <1 | 52 | <10 to 30 |
| Distribution | 116 | <1 to <1 | <1 to <1 | 64 | <10 to 30 |

Maximum Allowable Concentration (MAC) for *E. coli* = 0 Counts/100 mL

MAC for Total Coliforms = 0 Counts/100 mL

Refer to *Appendix A* for a monthly summary of microbiological test results.

7.0 OPERATIONAL TESTING PERFORMED DURING THE REPORTING PERIOD

Continuous Monitoring in the Treatment Process

| Parameter | # of Samples | Range of Results (min to max) | Unit of Measure |
|-----------------|--------------|----------------------------------|-----------------|
| Chlorine (free) | 8760 | 0.159 to 1.88 | mg/L |

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

Summary of Raw Water Turbidity Data

| Parameter | # of Samples | Range of Results (min to max) | Unit of Measure |
|------------------|--------------|----------------------------------|-----------------|
| Turbidity (Well) | 49 | 0.10 to 0.85 | NTU |

Summary of Chlorine Residual Data in the Distribution System

| Parameter | # of Samples | Range of Results (min to max) | Unit of Measure | Standard |
|------------------------|--------------|----------------------------------|-----------------|----------|
| Free Chlorine (daily) | 365 | 0.14 to 0.78 | mg/L | 0.05 |
| Free Chlorine (weekly) | 104 | 0.25 to 0.80 | mg/L | 0.05 |

Note: Free chlorine residuals are collected and tested daily in the distribution system by certified municipal employees. They are also analyzed weekly by OCWA staff when collecting bacteriological samples.

Summary of Additional Testing Performed in Accordance with a Legal Instrument.

No additional sampling and testing was required for the Virginiatown-Kearns Drinking Water System during the 2010 reporting period.

A monthly summary of the above operational data can be found in *Appendix B*.

Summary of Nitrate & Nitrite Data (sampled at the water treatment plant)

| Date of Sample | Nitrate Result Value | Nitrite Result Value | Unit of Measure | Exceedance |
|----------------|----------------------|----------------------|-----------------|------------|
| January 25 | <0.1 | <0.05 | mg/L | No |
| April 12 | <0.1 | <0.05 | mg/L | No |
| July 19 | <0.1 | <0.05 | mg/L | No |
| October 18 | <0.1 | <0.05 | mg/L | No |

Maximum Allowable Concentration (MAC) for Nitrate = 10 mg/L
MAC for Nitrite = 1 mg/L

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

Summary of Total Trihalomethane Data (sampled in the distribution system)

| Date of Sample | Result Value | Unit of Measure | Running Average | Exceedance |
|----------------|--------------|-----------------|-----------------|------------|
| January 25 | <1.0 | ug/L | 25.8 | No |
| April 12 | <1.0 | ug/L | | |
| July 19 | <1.0 | ug/L | | |
| October 18 | <1.0 | ug/L | | |

Maximum Allowable Concentration (MAC) for Trihalomethanes = 100 ug/L (Four Quarter Running Average)

Summary of Most Recent Lead Data

(applicable to the following drinking water systems; large municipal residential systems, small, municipal residential systems, and non-municipal year-round residential systems)

The two most recent rounds of community lead testing were conducted in April and September of 2009. (Sample dates: April 3, 7, 8, 15, & September 22, 23, 24 and 25)

The Virginiatown-Kearns Drinking Water System qualified for reduced sampling after four rounds of lead sampling as described in section 15.1-1 of Ontario Regulation 170/03. The next round of lead testing would resume in the "winter 2011/2012" sample period, however MOE granted approval to sample from December 15, 2010 to April 15, 2011 and June 15, 2011 to October 15, 2011. Early sampling allows the system to potentially qualify for the Plumbing Exemption sooner.

| Location Type | # of Samples | Range of Lead Results (min to max) | Unit of Measure | # of Exceedances |
|---------------|--------------|------------------------------------|-----------------|------------------|
| Plumbing | 88 | <1 to 11.2 | ug/L | 1 |
| Distribution | 8 | <1 to <1 | ug/L | 0 |

Maximum Allowable Concentration (MAC) for Lead = 10 ug/L

| Location Type | # of Samples | Range of pH Results (min to max) | Range of Alkalinity Results (mg/L) (min to max) |
|---------------|--------------|----------------------------------|---|
| Plumbing | 44 | 7.01 to 7.60 | N/A |
| Distribution | 8 | 7.10 to 7.70 | 68.7 to 82.5 |

Most Recent Schedule 23 Inorganic Data Tested at the Water Treatment Plant

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

Note: Sample required every 36 months. Sample date = October 27, 2008

Most Recent Schedule 24 Organic Data Tested at the Water Treatment Plant

| Parameter | Result Value | Unit of Measure | Standard | Exceedance |
|--|--------------|-----------------|----------|------------|
| Alachlor | <0.41 | ug/L | 5 | No |
| Aldicarb | <0.49 | ug/L | 9 | No |
| Aldrin + Dieldrin | <0.004 | ug/L | 0.7 | No |
| Atrazine + N-dealkylated metabolites | <0.9 | ug/L | 5 | No |
| Azinphos-methyl | <0.3 | ug/L | 20 | No |
| Bendiocarb | <0.97 | ug/L | 40 | No |
| Benzene | <0.25 | ug/L | 5 | No |
| Benzo(a)pyrene | <0.01 | ug/L | 0.01 | No |
| Bromoxynil | <0.68 | ug/L | 5 | No |
| Carbaryl | <0.97 | ug/L | 90 | No |
| Carbofuran | <0.97 | ug/L | 90 | No |
| Carbon Tetrachloride | <0.25 | ug/L | 5 | No |
| Chlordane (Total) | <0.004 | ug/L | 7 | No |
| Chlorpyrifos | <0.3 | ug/L | 90 | No |
| Cyanazine | <0.3 | ug/L | 10 | No |
| Diazinon | <0.3 | ug/L | 20 | No |
| Dicamba | <0.27 | ug/L | 120 | No |
| 1,2-Dichlorobenzene | <0.25 | ug/L | 200 | No |
| 1,4-Dichlorobenzene | <0.25 | ug/L | 5 | No |
| Dichlorodiphenyl trichloroethane (DDT) + metabolites | <0.005 | ug/L | 30 | No |
| 1,2-Dichloroethane | <0.25 | ug/L | 5 | No |
| 1,1-Dichloroethylene (vinylidene chloride) | <0.25 | ug/L | 14 | No |
| Dichloromethane | <0.25 | ug/L | 50 | No |
| 2-4 Dichlorophenol | <0.051 | ug/L | 900 | No |
| 2,4-Dichlorophenoxy acetic acid (2,4-D) | <0.27 | ug/L | 100 | No |
| Diclofop-methyl | <0.27 | ug/L | 9 | No |
| Dimethoate | <0.3 | ug/L | 20 | No |
| Dinoseb | <0.068 | ug/L | 10 | No |
| Diquat | <7.0 | ug/L | 70 | No |
| Diuron | <0.49 | ug/L | 150 | No |
| Glyphosate | <10 | ug/L | 280 | No |
| Heptachlor + Heptachlor Epoxide | <0.004 | ug/L | 3 | No |
| Lindane (Total) | <0.0004 | ug/L | 4 | No |
| Malathion | <0.3 | ug/L | 190 | No |
| Methoxychlor | <0.001 | ug/L | 900 | No |
| Metolachlor | <0.2 | ug/L | 50 | No |
| Metribuzin | <0.2 | ug/L | 80 | No |
| Monochlorobenzene | <0.25 | ug/L | 80 | No |
| Paraquat | <1 | ug/L | 10 | No |
| Parathion | <0.2 | ug/L | 50 | No |
| Pentachlorophenol | <0.051 | ug/L | 60 | No |
| Phorate | <0.3 | ug/L | 2 | No |
| Picloram | <0.068 | ug/L | 190 | No |

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

| Parameter | Result Value | Unit of Measure | Standard | Exceedance |
|--|--------------|-----------------|----------|------------|
| Polychlorinated Biphenyls (PCB) | <0.0032 | ug/L | 3 | No |
| Prometryne | <0.2 | ug/L | 1 | No |
| Simazine | <0.3 | ug/L | 10 | No |
| Temephos | <14 | ug/L | 280 | No |
| Terbufos | <0.2 | ug/L | 1 | No |
| Tetrachloroethylene | <0.25 | ug/L | 30 | No |
| 2,3,4,6-Tetrachlorophenol | <0.051 | ug/L | 100 | No |
| Triallate | <0.2 | ug/L | 230 | No |
| Trichloroethylene | <0.25 | ug/L | 50 | No |
| 2,4,6-Trichlorophenol | <0.052 | ug/L | 5 | No |
| 2,4,5-Trichlorophenoxy acetic acid (2,4,5-T) | <0.066 | ug/L | 280 | No |
| Trifluralin | <0.21 | ug/L | 45 | No |
| Vinyl Chloride | <0.25 | ug/L | 2 | No |

Note: Sample required every 36 months. Sample date = October 27, 2008

Inorganic or Organic Test Results that Exceeded Half the Standard Prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards.

(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.

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

Most Recent Sodium Data Sampled at the Water Treatment Plant

| Date of Sample | # of Samples | Result Value | Unit of Measure | Standard | Exceedance |
|------------------|--------------|--------------|-----------------|----------|------------|
| October 18, 2010 | 1 | 13.8 | mg/L | 20 | No |

Note: Sample required every 60 months

Most Recent Fluoride Data Sampled at the Water Treatment Plant

| Date of Sample | # of Samples | Result Value | Unit of Measure | Standard | Exceedance |
|------------------|--------------|--------------|-----------------|----------|------------|
| October 18, 2010 | 1 | <0.1 | mg/L | 1.5 | No |

Note: Sample required every 60 months



VIRGINIATOWN WELL SUPPLY SYSTEM

Large Municipal Residential Drinking Water System

SCHEDULE 22

SUMMARY REPORT FOR MUNICIPALITIES

For the period of

JANUARY 2009 to DECEMBER 2009

Schedule 22**SUMMARY REPORTS FOR MUNICIPALITIES**

1.0 INTRODUCTION

The Summary Report is prepared in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation 170/03 for the reporting period of January 1, 2010 to December 31, 2010. The owner of the drinking water system must ensure that the report is provided to members of municipal council.

The report must list the requirements of the Safe Drinking Water Act, its regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any Provincial Officer Order the system failed to meet during the reporting period. The report must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

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

To enable the owner of the system to assess the rated capacity of their system to meet existing and future planned water uses, the following information is also required in the report.

To enable the owner of the system to assess the rated capacity of their system to meet existing and future planned water uses, the following information is also required in the report.

1. A summary of the quantities and flow rates of water supplied, including the monthly average and the maximum daily flows.
2. A comparison of the summary to the rated capacity and flow rates approved in the systems approval, permits and licence (where applicable).

2.0 REQUIREMENTS THE SYSTEM FAILED TO MEET

According to information kept on record by OCWA, the Virginiatown-Kearns 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.

3.0 SUMMARY OF QUANTITIES & FLOW RATES

The following Water Usage Tables summarize the quantities and flow rates of water taken and produced during the 2010 reporting period, including average monthly volumes, maximum monthly volumes, total monthly volumes and maximum flow rates.

Water Usage Tables

Raw Water (Well TW 3/91) - Monthly Water Usage for 2010

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year to Date |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|
| Average Volume (m ³ /d) | 846 | 907 | 922 | 849 | 701 | 664 | 555 | 442 | 418 | 458 | 520 | 569 | 654 |
| Maximum Volume (m ³ /d) | 925 | 978 | 1038 | 995 | 884 | 1109 | 777 | 614 | 524 | 521 | 754 | 759 | 1109 |
| Total Volume (m ³) | 26219 | 25389 | 28585 | 25461 | 21721 | 19934 | 17205 | 13712 | 12526 | 14204 | 15598 | 17652 | 238206 |
| Maximum Flow Rate (L/min) | 1370 | 1354 | 1355 | 1356 | 1398 | 1354 | 1500 | 1375 | 1377 | 1500 | 1396 | 1401 | 1500 |

Treated Water - Monthly Water Usage for 2010

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year to Date |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|
| Average Volume (m ³ /d) | 846 | 907 | 922 | 849 | 701 | 664 | 555 | 442 | 418 | 458 | 520 | 569 | 654 |
| Maximum Volume (m ³ /d) | 925 | 978 | 1038 | 995 | 884 | 1109 | 777 | 614 | 524 | 521 | 754 | 759 | 1109 |
| Total Volume (m ³) | 26219 | 25389 | 28585 | 25461 | 21721 | 19934 | 17205 | 13712 | 12526 | 14204 | 15598 | 17652 | 238206 |
| Maximum Flow Rate (L/min) | 1370 | 1354 | 1355 | 1356 | 1398 | 1354 | 1500 | 1375 | 1377 | 1500 | 1396 | 1401 | 1499.5 |

Certificate of Approval #9405-6BTJ8Q requires a sufficient number of flow meters to permit the continuous measurement and recording of the flow rate and daily volume of water into the treatment system and from the treatment system to the distribution system.

The Virginiatown water system has one flow meter installed on the raw water header. This is considered sufficient to satisfy the requirement 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 the Flow Summary to the Rated Capacity & Flow Rates Allowed in the Systems Approval & Permit

The system's Permit to Take Water #01-P-6063 (issued December 12, 2001) allows the municipality to withdraw water at a maximum flow rate of 1420 L/minute or 2044.8 m³/day from Cheminis Well #TW3/91.

Section 4.1 of Certificate of Approval #9405-6BTJ8Q, states that the Virginiatown-Kearns Drinking Water System shall not be operated to exceed a maximum flow rate of 1420 L/minute into the treatment system

The system exceeded the approved maximum flow rate on three occasions during the reporting period.

A video inspection of the well was conducted on July 26th. The existing well pump was

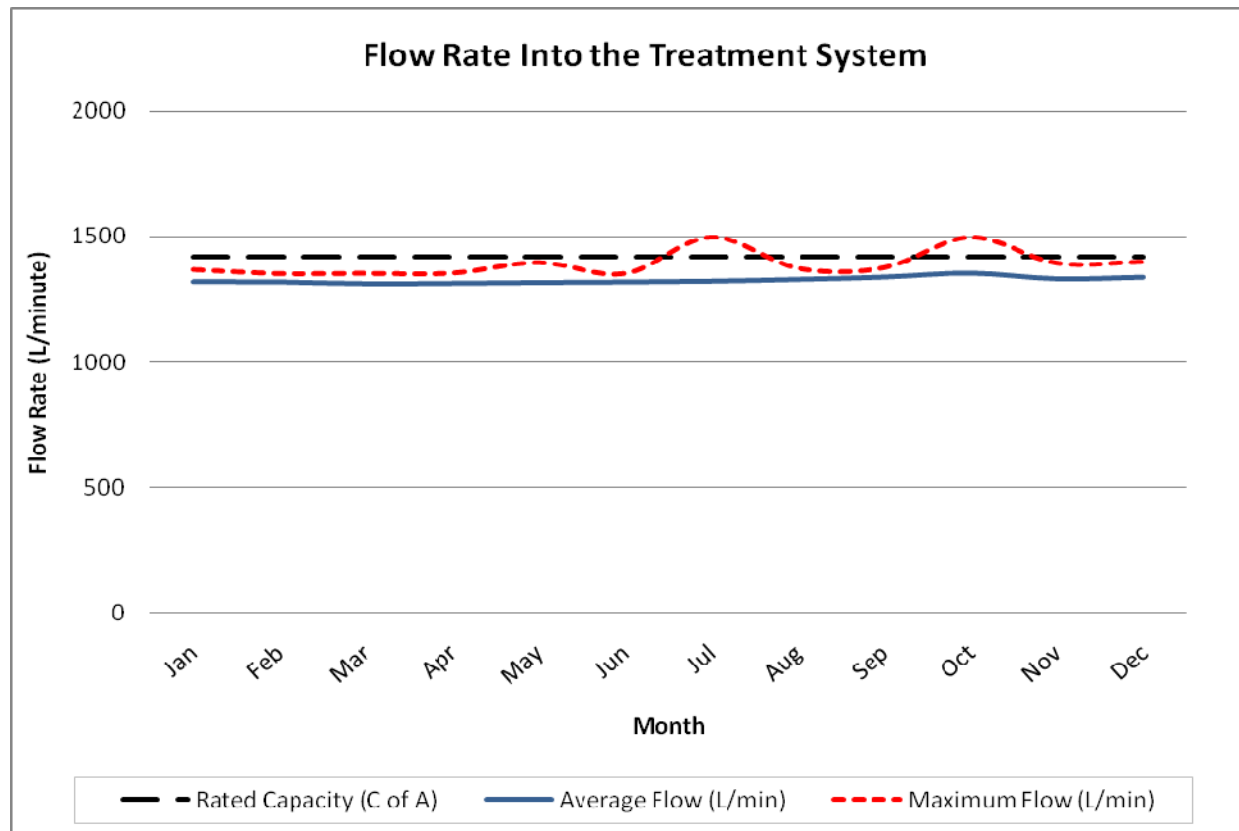
removed and a suction pump was used to pump the well to ensure the water was clear for the inspection. During the video inspection, the maximum flow was measured at 1500 L/minute. Repairs made to the disinfection system resulted in flow exceedances on October 8th and 10th. The maximum flow recorded on both days was 1500 L/minute.

The following table and graph compares the flow rate into the treatment system to the approved rated capacity of the system.

2010 - Flow Rate into the Treatment System

Raw Water Source: Cheminis Well TW 3/91

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Average Flow (L/min) | 1323 | 1322 | 1316 | 1317 | 1320 | 1322 | 1325 | 1332 | 1340 | 1355 | 1334 | 1340 |
| Maximum Flow (L/min) | 1370 | 1354 | 1355 | 1356 | 1398 | 1354 | 1500 | 1375 | 1377 | 1500 | 1396 | 1401 |
| Rated Capacity (C of A) | 1420 | 1420 | 1420 | 1420 | 1420 | 1420 | 1420 | 1420 | 1420 | 1420 | 1420 | 1420 |
| % Rated Capacity | 96 | 95 | 95 | 95 | 98 | 95 | 106 | 97 | 97 | 106 | 98 | 99 |



4.0 CONCLUSION

The Virginiatown-Kearns Drinking Water System complied with the regulatory requirements of the Safe Drinking Water Act and its Regulations and met the terms and conditions outlined in its site specific approval and permit having no incidents of non-compliance during the reporting period.

The system exceeded its water taking limit and rated capacity of 1420 L/minute on three occasions during the reporting period. These exceedance occurred during maintenance of the system. Condition 4.2(i) of the Certificate of Approval allows the drinking water system to be operated above the rated capacity where necessary for the maintenance of the drinking water system.



APPENDIX A

Monthly Summary of Microbiological Test Results



**Ontario Clean Water Agency
Monthly Process Data Report**

Municipality: Virginiatown - Twp of McGarry
 Facility: [5085] - McGarry Water Treatment Plant
 Works: [220000317] - McGarry (Virginiatown) Water Treatment Plant
 Classification: Class 2 Water Distribution
 Water Source: Well Water

Period: 01/01/2010 to 12/31/2010
 Serviced Population: 840
 Total Design Capacity(m³/day): 2,045.0

| | Jan/2010 | Feb/2010 | Mar/2010 | Apr/2010 | May/2010 | Jun/2010 | Jul/2010 | Aug/2010 | Sep/2010 | Oct/2010 | Nov/2010 | Dec/2010 | <-- Summary --> |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------|
| Distribution System\Microbiological - Distribution System | | | | | | | | | | | | | |
| E. Coli Samples (# collected) | | | | | | | | | | | | | |
| Sum | 8.0 | 9.0 | 10.0 | 9.0 | 11.0 | 8.0 | 8.0 | 18.0 | 8.0 | 8.0 | 11.0 | 8.0 | 116.0 |
| E. Coli (cfu/100 mL): Maximum | | | | | | | | | | | | | |
| Max | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| E. Coli (cfu/100 mL): Minimum | | | | | | | | | | | | | |
| Min | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| HPC Samples (# collected) | | | | | | | | | | | | | |
| Sum | 4.0 | 5.0 | 5.0 | 5.0 | 6.0 | 4.0 | 4.0 | 13.0 | 4.0 | 4.0 | 6.0 | 4.0 | 64.0 |
| HPC (cfu/mL): Maximum | | | | | | | | | | | | | |
| Max | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | 30.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | 30.0 |
| HPC (cfu/mL): Minimum | | | | | | | | | | | | | |
| Min | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 | < 10.0 |

Note: ? Calculation not verifiable. At least one result reported as < and at least one result reported >.



APPENDIX B

Monthly Summary of Operational Data



Ontario Clean Water Agency Monthly Process Data Report

Municipality: Virginiatown - Twp of McGarry
 Facility: [5085] - McGarry Water Treatment Plant
 Works: [220000317] - McGarry (Virginiatown) Water Treatment Plant
 Classification: Class 2 Water Distribution
 Water Source: Well Water

Period: 01/01/2010 to 12/31/2010
 Serviced Population: 840
 Total Design Capacity(m³/day): 2,045.0

| | Jan/2010 | Feb/2010 | Mar/2010 | Apr/2010 | May/2010 | Jun/2010 | Jul/2010 | Aug/2010 | Sep/2010 | Oct/2010 | Nov/2010 | Dec/2010 | <-- Summary --> |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------|
| Raw Water\Raw Water - Raw Water | | | | | | | | | | | | | |
| Turbidity: Mean (NTU) | | | | | | | | | | | | | |
| Avg | 0.145 | 0.168 | 0.192 | 0.183 | 0.173 | 0.16 | 0.343 | 0.252 | 0.19 | 0.173 | 0.126 | 0.173 | 0.191 |
| Cnt | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 2.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 49.0 |
| Max | 0.18 | 0.19 | 0.28 | 0.21 | 0.2 | 0.18 | 0.85 | 0.28 | 0.24 | 0.19 | 0.15 | 0.2 | 0.85 |
| Min | 0.12 | 0.15 | 0.15 | 0.17 | 0.13 | 0.14 | 0.13 | 0.22 | 0.13 | 0.15 | 0.1 | 0.13 | 0.1 |
| Treated Water\Health - Treated water | | | | | | | | | | | | | |
| Cl Residual: Free Max. (mg/L) | | | | | | | | | | | | | |
| Max | 0.752 | 0.847 | 0.884 | 0.845 | 0.803 | 1.027 | 0.802 | 1.082 | 1.09 | 1.879 | 0.77 | 0.806 | 1.879 |
| Cl Residual: Free Min. (mg/L) | | | | | | | | | | | | | |
| Min | 0.164 | 0.165 | 0.181 | 0.688 | 0.419 | 0.168 | 0.159 | 0.167 | 0.17 | 0.316 | 0.667 | 0.376 | 0.159 |
| Cl Residual: Free Mean (mg/L) | | | | | | | | | | | | | |
| Avg | 0.668 | 0.777 | 0.774 | 0.762 | 0.741 | 0.741 | 0.734 | 0.701 | 0.675 | 0.608 | 0.731 | 0.727 | 0.719 |
| Distribution System\Health - Distribution System | | | | | | | | | | | | | |
| Cl Res. Dist Samples (# collected) | | | | | | | | | | | | | |
| Sum | 8.0 | 8.0 | 10.0 | 8.0 | 10.0 | 8.0 | 8.0 | 10.0 | 8.0 | 8.0 | 10.0 | 8.0 | 104.0 |
| Distribution System\Health - Weekly | | | | | | | | | | | | | |
| Cl Res. in Dist.: Free Min. (mg/L) | | | | | | | | | | | | | |
| Min | 0.51 | 0.58 | 0.54 | 0.55 | 0.31 | 0.46 | 0.53 | 0.48 | 0.39 | 0.25 | 0.43 | 0.5 | 0.25 |
| Cl Res. in Dist.: Free Max. (mg/L) | | | | | | | | | | | | | |
| Max | 0.61 | 0.77 | 0.76 | 0.8 | 0.68 | 0.68 | 0.71 | 0.69 | 0.54 | 0.52 | 0.65 | 0.7 | 0.8 |
| Cl Residual: Free Mean (mg/L) | | | | | | | | | | | | | |
| Avg | 0.556 | 0.68 | 0.652 | 0.658 | 0.571 | 0.596 | 0.608 | 0.551 | 0.438 | 0.396 | 0.535 | 0.599 | 0.57 |
| Distribution System\Health - Distribution System | | | | | | | | | | | | | |
| Cl Residual: Free Mean (mg/L) | | | | | | | | | | | | | |
| Avg | 0.466 | 0.52 | 0.52 | 0.521 | 0.484 | 0.539 | 0.497 | 0.416 | 0.396 | 0.37 | 0.412 | 0.435 | 0.464 |
| Cnt | 31.0 | 28.0 | 31.0 | 30.0 | 31.0 | 30.0 | 31.0 | 31.0 | 30.0 | 31.0 | 30.0 | 31.0 | 365.0 |
| Max | 0.63 | 0.7 | 0.7 | 0.78 | 0.66 | 0.68 | 0.67 | 0.66 | 0.63 | 0.59 | 0.66 | 0.68 | 0.78 |
| Min | 0.26 | 0.38 | 0.36 | 0.32 | 0.36 | 0.3 | 0.35 | 0.19 | 0.2 | 0.16 | 0.14 | 0.19 | 0.14 |

Note: ? Calculation not verifiable. At least one result reported as < and at least one result reported >.