2009
Water Works Summary Report

Large Municipal – Residential Systems

O. Reg. 170/03, Sched. 22; O. Reg. 249/03, s. 24; O. Reg. 253/05, s. 18.

v.1.0

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Executive Summary

The production and delivery of potable water in Ontario is regulated by the Ministry of Environment (MOE) under the **Safe Drinking Water Act, 2002, S.O. 2002, c. 32** (formerly the Ontario Water Resources Act). Regulated systems must meet the requirements of the **Safe Drinking Water Act, 2002, S.O. 2002, c. 32** and its regulations. Most notably: the Drinking Water Systems Regulation O.Reg. 170/03 sets out treatment and testing requirements for all categories of regulated water systems; O.Reg. 169/03 covers the Ontario Drinking Water Quality Standards; and O.Reg 128/04 covers the necessity for Certification of Drinking Water System Operators and Water Quality Analysts.

Since the implementation of the Act, several amendments to O. Reg. 170/03 have taken place. There are amendments requiring additional resources and costs, such as the Community Lead Testing initiative, while others streamlined legislative requirements to make the new regulations feasible for the vast majority of municipalities.

Among other obligations, O. Reg. 170/03 prescribes the need for all owners of licensed water works to produce an Annual Summary Report as indicated in Schedule 22. This Summary Report is filed annually for the previous calendar year (January 1st through December 31st) and must contain the following information:

- List of requirements of the Safe Drinking Water Act (SDWA), the regulations, the system's approval, drinking water works permits and the municipal drinking water license;
- Any orders applicable to the system that were not met at any time during the period covered by the report. If any failures were identified, specify the duration of the failure and describe the measures taken to correct the situation;
- Summary of quantities and flow rates of the water supplied during the reporting period, including monthly averages and maximum daily flows; and
- A comparison of the summary of quantities and flow to the rated capacities and flows approved in the systems approval, drinking water works permit or municipal drinking water license.

An Annual Report, to fulfill Section 11 of Ontario Regulation 170/03, has been completed separately and details the drinking water quality of all of the CGS owned and operated drinking water systems. This annual report is available for viewing at all CGS Citizen Service Centers, at TDS-Engineering Department and on the City of Greater Sudbury's website (www.greatersudbury.ca).

The City of Greater Sudbury is listed as the Owner of eight large municipal, residential systems and one independent distribution system. Eight of the nine systems have a Certificate of Approval issued by the MOE. One distribution system (Vermillion) receives its water from a "donor system" which has the required Certificate of Approval that provides the authority to operate the system. This situation will be addressed through Municipal Licensing in the near future. The City of Greater Sudbury is supplied from this "donor system" wherein water is purchased by the CGS from Vale Inco and supplied to consumers through a CGS owned distribution system. The following reports are written to comply with the Condition that each of these facilities produces an Annual Summary Report as per schedule 22 of O. Reg. 170/03. Table 1 provides a summary of the various water systems throughout the City.

Table 1 - Overview of the City's Water Systems

Name	Owner	Type of Facility	Source of Water	Community Serviced
Wanapitei WTP and Distribution System	City of Greater Sudbury	Surface water Conventional treatment plant, Fluoridation, Corrosion control added	Wanapitei River	Sudbury, Coniston, Wanapitei, Markstay, Garson
David Street WTP and Distribution System	City of Greater Sudbury	Surface water Membrane Filtration and Ultraviolet irradiation, Fluoridation, Corrosion control added	Ramsey Lake	Sudbury
Capreol Wells and Distribution System	City of Greater Sudbury	Well with disinfection and Ultraviolet irradiation, Fluoridation, Corrosion control added	Groundwater	Capreol
Dowling Wells and Distribution System	City of Greater Sudbury	Well with disinfection and Ultraviolet irradiation, Fluoridation	Groundwater	Dowling
Garson Wells and Distribution System	City of Greater Sudbury	Well with disinfection, Fluoridation	Groundwater	Garson
Blezard Valley Wells and Distribution System	City of Greater Sudbury	Well with disinfection and Ultraviolet irradiation, Fluoridation	Groundwater	Valley East, Azilda, Chelmsford

Levack Well Supply (Disconnected November 2009)	Vale Inco	Wells with disinfection	Recharged groundwater	Levack
Levack Distribution System (Combined with Onaping, November 2009)	City of Greater Sudbury	Fluoridation Station and Distribution System	Levack Well Supply	Levack
Falconbridge Water Works	Xstrata / City of Greater Sudbury (Apr. 2009)	Wells with disinfection, Corrosion control added	Groundwater	Falconbridge
Falconbridge Distribution System	City of Greater Sudbury	Fluoridation Station and Distribution System	Falconbridge Water Works	Falconbridge
Onaping Potable Water Supply	Xstrata / City of Greater Sudbury (Nov. 2009)	Wells with disinfection, Fluoridation	Groundwater	Onaping
Onaping Distribution System (Combined with Levack, Nov.2009)	City of Greater Sudbury	Distribution System	Onaping Potable Water Supply	Onaping
Vermillion River WTP	Vale Inco	Surface water conventional treatment plant, Fluoridation	River	Lively, Naughton, Whitefish, Copper Cliff, Walden Industrial Park
Vermillion Distribution System	City of Greater Sudbury	Distribution System	Vermillion River WTP	Lively, Naughton, Whitefish, Copper Cliff, Walden Industrial Park

The City of Greater Sudbury has taken ownership of two water supply systems formerly owned by Xstrata: Falconbridge Water Works and Onaping Potable Water Supply. The Falconbridge wells were taken over in April 2009 and the Onaping wells were taken over in October of 2009. The takeover of the Onaping wells also included the joining of the Levack and Onaping distribution systems. This report will include the aforementioned.

Due to the significant impact of the new Drinking Water Protection Regulation and continuing Source Water Protection legislation, virtually all of the City's water works have had to undergo some level of upgrading. It should not be assumed that these upgrades are the result of any detected incidents of poor water quality. The upgrades at the City water works are necessary to reduce the risk of potable water contamination as deemed necessary by the MOE. The level of acceptable risk is stipulated through mandatory compliance with O. Reg. 170/03.

The City is well organized to manage their existing water works systems. Further, staff have been pro-active to ensure all necessary measures are taken to achieve compliance with the Regulations and the various Certificates of Approval.

Certain upgrades are currently underway, or are being investigated at this time. In most cases, the studies have been completed and reports have been or are being reviewed by the MOE. The exact extent of upgrades varies along with individual deadline dates. It is important to understand that this is part of the required process of the new Regulations and the MOE's statutory Standard of Care to ensure all citizens have access and receive safe drinking water. The regulation stipulates that water works owners will continually monitor water works performance, and review levels of treatment versus current standards. The Ministry of the Environment is responsible for the enforcement of regulations and conducts regular, annual, announced and unannounced inspections of all of our facilities. MOE inspections "grading" has given the CGS water systems a 99% with most of the individual assessments being 100%. The public expects that responsible Owners will be diligent in their duty to care for public water supplies.

The Community Lead Testing Initiative was mandated by the MOE in 2007 and falls under O. Reg. 170/03, Schedule 15.1. Although there have been challenges in garnering enough volunteers for the program, the City is moving forward with the initiative. The City has conducted four periods of lead sampling to date. Results have been positive and demonstrated that lead is not a concern for the City of Greater Sudbury. To date 1936 samples have been collected with only 16 private residences and one distribution sample in excess of the standard, less than 1%. The initiative is scheduled to continue into 2010 and the City awaits further direction from the MOE on the continued requirements for sampling.

The water works owned and operated by the City have been managed with the standard of care expected by the public and as legislated by the government. All necessary upgrades are being planned and implemented in accordance with applicable standards.

Reviewed by:

Date: MARCH 15/10

Gary Comin
Water Supervisor III

Approved by:

Date: 17 March 2010

for Nick Benkovich
Director, Water and Wastewater Services

SECTION 1 – LEGISLATIVE AND REGULATORY REQUIREMENTS

Regulated systems must meet the requirements of Ontario's *Safe Drinking Water Act, 2002* and its regulations. Most notably, the Drinking Water Systems Regulation sets out treatment and testing requirements for all categories of regulated water systems, including small non-municipal and seasonal operations. Related regulations made under the Act:

1.1 O.REG. 128/04 CERTIFICATION OF DRINKING-WATER SYSTEM OPERATORS AND WATER QUALITY ANALYSTS

This Regulation was filed on May 14, 2004 (Last amendment: O.Reg. 415/09). Section 29 lists Operator training requirements and the number of training hours required for operators. Class IV Water Treatment Operators will require 14 hours of continuing education with an additional 36 hours of on-the-job practical training. The continuing education that is used to meet the training requirements must be approved by the Director using criteria which includes the following:

a. The training course must have documented learning objectives.

b. The training course must be planned and be provided by a qualified training provider.

c. The training course must include a means to verify that the participants have learned the material covered in the course

d. The training course must cover subject matter that is directly related to the duties typically performed by an operator.

The on-the-job practical training that is used to meet the training requirements must meet a criterion that includes the following:

a. The training must have documented learning objectives.

b. The training must be provided by a trainer with expertise in the subject matter that is being covered.

c. The training must be in respect of subject matter that is directly related to the duties typically performed by an operator

Note: The annual number of hours of training set out in Table 1 may be averaged over the three years during which an operator's certificate is valid but shall not be reduced or prorated for an operator who is employed on a part-time basis.

Table 1 – Annual Training for Operators

Type and Class of Subsystem Where the Operator is Employed	Training Requirements	Minimum Total Hours
Limited Groundwater or Limited Surface Water	7 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	20
Class I Water Treatment or Class I Distribution or Class I Distribution and Supply	7 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	30
Class II Water Treatment or Class II Distribution or Class II Distribution and Supply	12 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	35
Class III Water Treatment or Class III Distribution or Class III Distribution and Supply	14 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	40
Class IV Water Treatment or Class IV Distribution or Class IV Distribution and Supply	14 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	50

O. Reg. 128/04, s. 29, Table

1.2 O. REG. 242/05 COMPLIANCE AND ENFORCEMENT

This Regulation (Last amendment: O.Reg. 328/08) lists the requirements for inspections. What to do when deficiencies and contraventions are found. This regulation also deals with enforcement, investigations and notices required once investigations have been completed.

1.3 O. REG. 172/03 DEFINITIONS OF "DEFICIENCY" AND "MUNICIPAL DRINKING-WATER SYSTEM"

Ontario Regulation 172/03 (Last Amendment: O.Reg. 329/08), provides definitions of words and expressions within the Safe Drinking Water Act and associated Regulations.

1.4 O. REG. 171/03 DEFINITIONS OF WORDS AND EXPRESSIONS USED IN THE ACT

Ontario Regulation 171/03 (Last amendment: O.Reg. 324/08) - Provides definitions of words and expressions within the Safe Drinking Water Act and associated Regulations.

1.5 O. REG. 170/03 DRINKING-WATER SYSTEMS

This Regulation was filed on 10/02/2004 (Last amendment: O.Reg. 418/09). This regulation outlines the requirements for:

1) Types of Drinking Water Systems

2) Required reports (annual, summary reports)

3) Retention of records

4) Treatment equipment requirements

5) Types of Treatment

6) Operational Checks, Sampling and Testing

7) Use of accredited laboratories

8) Maintenance and Operational Checks

9) Microbiological Sampling and Testing

10) Chemical Sampling and Testing

11) Reporting Adverse Test Results and Other Problems

12) Corrective Action

13) Engineers' Reports

14) Inorganic Parameters

15) Organic Parameters

1.6 O. REG. 248/03 DRINKING-WATER TESTING SERVICES

Ontario Regulation 248/03 (Last amendment: O.Reg. 416/09) - Drinking-Water Testing Services is the regulation governing accredited laboratories that came into effect October 31, 2004.

1) Lists systems that do not require drinking-water testing licence

2) Lists prescribed tests of the Safe Drinking Water Act

3) Lists person(s) to do water quality analysis

4) Lists the types of tests that can be conducted for the sole purpose of carrying out research or Criteria for drinking-water testing services

5) Conditions of drinking-water testing licence

6) Handling samples

7) Testing records

8) Laboratory qualifications and accreditation

1.7 O. REG. 169/03 ONTARIO DRINKING-WATER QUALITY STANDARDS

Ontario Regulation 169/03 (Last amendment: O.Reg 327/08). This regulation sets out standards in Schedules 1, 2 and 3 as prescribed drinking-water quality standards. Also in this regulation are what are deemed as compliance standards.

SECTION 2 - PLANT SPECIFIC REVIEW

2.1 Plant Specific Requirements

This Section of the report provides details on measures taken by the City to ensure compliance with Terms and Conditions of the Certificates of Approvals, Acts, Regulations or any MOE orders the systems may have been under during the reporting period. This section of the report provides details on the specifics of the systems, any non-compliance issues along with actions taken by the City to rectify the situations, as well as flow data with comparison to allowable limits. This flow comparison is to allow for a basic overview of the systems performance and allows for review and planning of possible future expansions if required.

In this section, a more detailed description of the water works is also provided at the start of each sub-section. The description is provided for reference purposes only, and to ensure that the compliance measures remain in context. All other non-compliance and actions taken are summarized in table format and appended to the particular plant section in this report. The Certificate of Approval that was valid at the time of this report is also listed in the particular plant section.

Wanapitei Water Treatment Plant and Distribution System DWS# 210001111

C of A Water: 7097-7YHQ4F
Dec 14, 2009

The Wanapitei WTP is a surface water plant, which draws water from the Wanapitei River. Proportionally, the plant services approximately 60% of the water for Sudbury; however, most of the water produced is delivered to New Sudbury, Coniston, Wahnapitae, Markstay, and parts of downtown. Garson, west of Falconbridge Rd. and O'Neil Dr., is also supplied by this plant. The plant was constructed in the 1970's at the onset of Regional Government. Since the original construction, the plant has undergone upgrading to enhance treatment efficiency, increase production, and to reduce energy costs. The plant is currently undergoing further retrofits to enhance treatment process and will be including ultraviolet irradiation in 2010. Completed projects in 2009 included: security upgrades at the plant water intake at $30,000.00 and communication system improvements at $34,000.00.

The water supply for the plant is the Wanapitei River. The raw water quality is reasonably reliable but is, however, subject to changes in water quality typical of most rivers. The watershed area for the Wanapitei River is vast with much in its natural state.

The river water quality varies depending on seasonal changes and local weather patterns. Some process parameters affected by these changes include:

- Temperature;
- Turbidity; and
- Colour.

The changing raw water quality requires careful observation by the water plant operators to ensure necessary process and chemical adjustments are made to effectively treat the water.

The Wanapitei WTP incorporates conventional technologies to treat the water. The raw water undergoes initial treatment with chlorine dioxide for taste and odour control and/or chlorine for pre-disinfection. Raw water is further subjected to chemical coagulation with alum to form a floc. The coagulated water passes through one of two settling tanks, referred to as reactivators or up-flow convertors, for the flocculation and sedimentation process. The water then passes through one of four, dual media, filter beds. The filtered water is treated with hydrated lime for pH /alkalinity adjustment; with chlorine to maintain disinfection; with fluoride to comply with Sudbury and District Health Unit requirements; and with polyphosphate to reduce corrosion in the distribution system. The plant is designed to be capable of achieving, at all times, at least 99.99% removal or inactivation of viruses by the time water enters the distribution system.

The distribution system incorporates a large diameter concrete pressure pipe to deliver water to Sudbury and Coniston. The communities are networked with an extensive distribution system including numerous booster stations. The system pressure is regulated by the water level in the Ellis Water Reservoir. Most of the pipes in the distribution system are less than 50 years old and much of the system is plastic pipe.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 2 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 2 - Wanapitei Water Treatment Plant

Item	Non-Compliance	Measure Taken to Ensure Compliance
MOE Inspection Issues	NONE	N/A
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 3 provides 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.

Table 3 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009/01/12	Turbidity	0.40	NTU	treated bacti sample	2009/01/16
2009/04/21	Pressure	0	psi	Resample/Re-test	2009/04/24
2009/09/30	Pressure	<20	psi	Resample/Re-test	2009/09/30
2009/11/05	Chlorine Residual	0.03	mg/L	Resample/Re-test	2009/11/09
2009/11/05	Chlorine Residual	<0.05	mg/l	Resample/Re-test	2009/11/09

Annual Flow Summary

Table 4 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reportable period.

Table 4 - Annual Flow Summary (Sudbury Plants)

	Wanapitei Water Treatment Plant						David Street Water Treatment Plant					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	828,202	26,716	29,238.69	564.92	54,000	54	469,392	15,142	26,681.38	340.93	40,000	67
February	744,259	26,581	28,646.17	556.02	54,000	53	390,427	13,944	20,395.14	344.39	40,000	51
March	838,982	27,064	27,585.38	551.66	54,000	51	377,014	12,162	14,627.69	318.63	40,000	37
April	800,949	26,698	35,863.35	455.83	54,000	66	373,551	12,452	23,969.14	465.58	40,000	60
May	927,827	29,930	31,110.29	439.72	54,000	58	365,707	11,797	13,496.93	317.79	40,000	34
June	854,315	28,477	30,663.52	432.16	54,000	57	419,077	13,969	23,313.41	318.93	40,000	58
July	829,359	26,754	28,568.68	407.49	54,000	53	442,840	14,285	32,711.48	463.58	40,000	82
August	865,178	27,909	28,951.09	416.89	54,000	54	413,345	13,334	20,824.00	318.97	40,000	52
September	857,616	28,587	29,599.19	406.99	54,000	55	415,761	13,859	18,778.13	318.18	40,000	47
October	848,145	27,360	28,258.12	410.35	54,000	52	391,720	12,636	17,328.66	315.92	40,000	43
November	811,906	27,064	29,013.61	406.82	54,000	54	362,706	12,090	15,444.41	326.66	40,000	39
December	863,760	27,863	28,914.70	394.40	54,000	54	389,025	12,549	17,245.01	318.67	40,000	43
Total	10,070,498						4,810,565					

David Street Water Treatment Plant and Distribution System DWS# 220003537

C of A Water: 2171-6VDLHP
Feb 2, 2007
C of A Air: 3351-56PR2P
Feb 5, 2002

The David St. WTP is a surface water plant, which draws water from Ramsey Lake. Proportionally, the plant services approximately 40% of Sudbury, however, most of the water produced at the David St. WTP is normally delivered to the south, west and downtown areas of Sudbury. The plant is over 100 years old and has undergone numerous upgrades to meet changing needs. The plant completed retrofits with Zenon membrane ultrafiltration technologies and ultraviolet irradiation in 2004 to ensure the treatment system meets the requirements in O. Reg. 170/03. The plant is designed to be capable of achieving, at all times, at least 99.99% removal or inactivation of viruses by the time water enters the distribution system.

The water supply for the David St. WTP is Ramsey Lake. Although this lake is seen as an excellent source of raw water, development around the lake has compromised the security of this water source. Although virtually all septic use has been removed from the watershed, further measures are being reviewed by City staff to maintain and improve the source water quality.

The City is planning to have the David St. plant remain an integral part of the water works system for many years. For this reason the City has made a significant financial investment in the upgrading of this plant. Projects completed for 2009 included engineering for the Ramsey Lake outfall at $40,000.00.

The distribution system supplied by the David Street WTP includes parts of downtown Sudbury, the south and west ends of Sudbury. In addition, the Ellis Reservoir is part of the distribution network for Sudbury. As is common with many older distribution networks, the Sudbury pipe system is prone to line breaks, complaints of discoloured water, and difficulties maintaining adequate chlorine residual.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 5 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 5 - David Street Water Treatment Plant

Item	Non-Compliance	Measure Taken to Ensure Compliance
MOE Inspection Issues	One low chlorine residual incident reported on a continuous analyzer located at a large institutional facility near the end of the distribution system.	No further actions required
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 6 provides 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.

Table 6 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009/02/13	Total Coliform	8	cfu	Resample/Re-test	2009/02/17
2009/04/16	UV	0	mj/cm²	Disinfectant restored/increased	2009/04/16
2009/06/04	UV	9	mj/cm²	Disinfectant restored/increased	2009/06/04
2009/08/05	Sodium	53.2	mg/L	Resample	2009/08/10
2009/08/14	Total Coliform	67	cfu	Resample/Re-test	2009/08/17
2009/11/02	Total Coliform	7	cfu	Resample/Re-test	2009/11/04
2009/11/05	Total Coliform	3	cfu	Resample/re-test	2009/11/06

Annual Flow Summary

Table 7 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reporting period.

Table 7 - Annual Flow Summary

	Wanapitei Water Treatment Plant						David Street Water Treatment Plant					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	828,202	26,716	29,238.69	564.92	54,000	54	469,392	15,142	26,681.38	340.93	40,000	67
February	744,259	26,581	28,646.17	556.02	54,000	53	390,427	13,944	20,395.14	344.39	40,000	51
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April	800,949	26,698	35,863.35	455.83	54,000	66	373,551	12,452	23,969.14	465.58	40,000	60
May	927,827	29,930	31,110.29	439.72	54,000	58	365,707	11,797	13,496.93	317.79	40,000	34
June	854,315	28,477	30,663.52	432.16	54,000	57	419,077	13,969	23,313.41	318.93	40,000	58
July	829,359	26,754	28,568.68	407.49	54,000	53	442,840	14,285	32,711.48	463.58	40,000	82
August	865,178	27,909	28,951.09	416.89	54,000	54	413,345	13,334	20,824.00	318.97	40,000	52
September	857,616	28,587	29,599.19	406.99	54,000	55	415,761	13,859	18,778.13	318.18	40,000	47
October	848,145	27,360	28,258.12	410.35	54,000	52	391,720	12,636	17,328.66	315.92	40,000	43
November	811,906	27,064	29,013.61	406.82	54,000	54	362,706	12,090	15,444.41	326.66	40,000	39
December	863,760	27,863	28,914.70	394.40	54,000	54	389,025	12,549	17,245.01	318.67	40,000	43
Total	10,070,498						4,810,565					

Capreol Wells and Distribution System
DWS# 220003528

C of A Water: 3829-6Z3M54
July 20, 2007

The Capreol Well System is a communal well system which draws water from two (2) wells to service the community of Capreol. The wells include:

- Well "J"; and
- Well "M".

In the event that "J" and "M" wells fail, the Blezard Valley wells can supply water to the Capreol Boosters located onsite at "M" well. This system, started in 2004, was completed and commissioned in 2007, ensuring a continued water supply to Capreol.

The source of water for the Capreol system is groundwater wells. Well "J" and "M" draw from a common unconfined aquifer comprised mostly of sands and gravels. Although all of the wells have no record of bacteriological contamination, the unconfined nature of the aquifer required these wells to be characterized as potentially under the influence of surface water (potentially GUDI).

Well "J" and "M" are located within approximately 30 meters of each other on the east side of Greens Lake and west of M. R. No.84. Well "J" and "M" are housed in separate well houses and have vertical turbine well pumps. A common discharge from the wells undergoes treatment in the form of disinfection by gas chlorination, ultraviolet irradiation, and fluoridation, as mandated by the Sudbury and District Health Unit and corrosion control with a polyphosphate. Both facilities have automatic valving to waste raw water for a few minutes upon start-up of a well pump. Standby power with an automatic transfer switch for Wells "M" and "J" is available from a diesel generator located in Well "M" pumphouse.

A previous C of A for Capreol required further hydrogeological studies to be conducted in Capreol to determine if the wells were in fact under influence of surface water. The results of the study were necessary to determine if a filtration system would be required to ensure that the water quality remains in compliance with the ODWS at all times. The studies, referred to as GUDI studies, were completed for Wells "J" and "M" and submitted to the MOE on June 30, 2002. The response from a review by MOE found these wells to be potentially under influence of surface water with effective in situ filtration and as such required upgrades to meet the Ontario Drinking Water Standards disinfection and log removal

criteria. Upgrades have been completed and the system achieves the required log removals and enhanced the disinfection process.

The distribution system in Capreol was developed in conjunction with the growth of the industrial development. Some of the pipe network is therefore, relatively old. The frost depths in Capreol extend to extreme depths during cold winters, which impose additional stresses on the integrity of the distribution system. A second line was added to the distribution system so now two 350 mm water mains run in parallel along MR- 84 to the Town of Capreol. The distribution system is comprised of PVC, cast iron and ductile piping and serves approximately 3500 residents.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 8 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 8 - Capreol Wells and Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MOE Inspection Issues	No sampling results from wells for period Apr 3-15, 2008. Minimum one sample per week.	Ministry was notified. No further actions required
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 9 provides 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.

Table 9 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009/02/15	Chlorine Residual	0.17	mg/L	Flushing mains/pipes	2009/02/17
2009/03/17	Chlorine Residual	5.00	mg/L	Resample/Re-test	2009/03/17
2009/03/17	Chlorine Residual	5.00	mg/L	Resample/Re-test;	2009/03/17
2009/07/10	Chlorine Residual	4.08	mg/L	none required	2009/07/10

Annual Flow Summary

Table 10 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reportable period.

Table 10 - Annual Flow Summary (Capreol Wells)

	"J" Well						"M" Well					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	22,887	738	1,996.75	31.12	3,273	61	32,247	1,040	1,988.50	50.00	3,927	51
February	32,367	1,156	2,153.14	31.25	3,273	66	23,468	838	2,098.16	37.00	3,927	53
March	4,486	145	1,188.61	32.39	3,273	36	61,029	1,969	2,516.87	39.28	3,927	64
April	36,549	1,218	2,426.10	35.93	3,273	74	30,671	1,022	2,445.06	50.00	3,927	62
May	22,544	727	1,950.23	34.68	3,273	60	31,986	1,032	2,295.37	50.00	3,927	58
June	15,556	519	1,581.58	35.58	3,273	48	22,119	737	1,650.52	35.95	3,927	42
July	21,025	678	1,295.31	36.18	3,273	40	12,196	393	1,239.51	41.61	3,927	32
August	17,292	558	1,255.25	35.70	3,273	38	18,532	598	1,252.44	50.00	3,927	32
September	14,362	479	1,228.52	28.64	3,273	38	22,426	748	1,361.12	44.64	3,927	35
October	20,508	662	1,290.19	29.72	3,273	39	16,977	548	1,330.31	50.00	3,927	34
November	22,134	738	1,725.58	32.45	3,273	53	16,045	535	1,359.95	50.00	3,927	35
December	20,604	665	1,899.35	33.65	3,273	58	34,452	1,111	1,922.65	50.00	3,927	49
Total	250,314						322,148					

Dowling Wells and Distribution System
DWS# 210001665

C of A Water: 1530-7VJNTE
Oct 1, 2009

The Dowling water works is a communal groundwater system, which supplies water to the community of Dowling. The water works includes two wells with well pumphouses, a distribution network of in-ground piping and an elevated water storage tank. The entire water system was developed with subsidy from the MOE in the 1970's. The ownership and operation of the water works was transferred to the Regional Municipality of Sudbury and it is now owned and operated by the City of Greater Sudbury.

The Riverside well and pumphouse includes a vertical turbine supply pump, disinfection with gas chlorine, ultraviolet irradiation along with fluoride injection as mandated by the Sudbury and District Health Unit. The Lionel well and pumphouse has similar facilities plus a diesel generator for standby power. Both facilities have automatic valving to waste raw water for a few minutes upon start-up of a well pump. Completed projects for 2009 included: engineering and various repairs to the water storage tank at $55,000.00 and a move to automatic chlorine switchover equipment at $60,000.00.

The water supply source for the Dowling wells is an unconfined aquifer of sand and gravel deposits located within the Onaping river watershed. Due to the unconfined nature of the soils and the proximity to the river, the MOE has characterized the water source as potentially under the direct influence of surface water (potentially GUDI).

Studies were conducted in 2002 with the resulting submission of a GUDI study on July 1, 2002. This study was reviewed and accepted by the MOE and as a result, both wells were deemed to be GUDI with effective in situ filtration and as such, additional treatment and disinfection would be required. The prior recommendations of the consultant included that, while the wells have met the MOE criteria for "potentially under the influence of surface water", adequate natural filtration of the water exists. Based on the conclusions by the MOE, the well systems have had ultraviolet irradiation added to enhance disinfection to comply with the treatment requirements of the ODWS.

The distribution network in Dowling has been relatively reliable and is not exposed to as severe frost depths as other areas of the City. Further, the elevated water storage provides a measure of security to the water system in the event of power interruptions and watermain breaks.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 11 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 11 - Dowling Wells and Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MOE Inspection Issues	At the time of this writing, the MOE inspection report for 2009 had not been finalized.	
MOE Orders		

2009 Adverse Water Quality Incident Report

Table 12 provides 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.

Table 12 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
No reportable incidents					

Annual Flow Summary

Table 13 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reportable period.

Table 13 - Flow Summary (Dowling Wells)

	Lionel Well						Riverside Well					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	10,967	354	875.43	25.22	3,600	24	1,628	53	744.75	33.24	3,600	21
February	11,488	410	687.29	27.23	3,600	19	139	5	48.28	77.11	3,600	1
March	8,713	281	775.53	26.35	3,600	22	3,991	129	743.81	32.58	3,600	21
April	7,628	254	761.59	27.22	3,600	21	3,103	103	863.70	33.40	3,600	24
May	5,822	188	725.30	28.45	3,600	20	6,608	213	747.95	32.99	3,600	21
June	4,946	165	763.53	27.22	3,600	21	7,587	253	709.95	32.99	3,600	20
July	6,571	212	734.60	27.63	3,600	20	5,450	176	677.94	32.99	3,600	19
August	5,715	184	718.63	30.10	3,600	20	6,140	198	759.24	32.58	3,600	21
September	6,759	225	682.80	30.10	3,600	19	5,086	170	710.61	32.99	3,600	20
October	5,734	185	738.15	30.52	3,600	21	5,940	192	705.08	32.99	3,600	20
November	7,596	253	730.12	30.52	3,600	20	3,650	122	691.39	32.99	3,600	19
December	8,064	260	689.55	29.28	3,600	19	3,605	116	698.54	32.58	3,600	19
Total	90,003						52,927					

Garson Wells and Distribution System

DWS# 220003485

C of A Water: 2733-6HLNSX (Orell Wells No. 1 & 3)
November 23rd, 2005

C of A Water: 8263-6LNM2C (INCO Garson Well)

April 24, 2006

The Garson water works is a communal groundwater system consisting of three wells, and servicing the community of Garson. The three wells are called:

- INCO Well No.1;
- Garson Well No.1; and
- Garson Well No.3.

INCO Well No.1 is now owned by the City of Greater Sudbury. Vale Inco transferred the ownership of the well to the City early in 2005. The well is situated within a pumphouse on the east side of Falconbridge Highway at Spruce Street. The system includes a vertical turbine well pump, disinfection with sodium hypochlorite and fluoride injection as mandated by the Sudbury and District Health Unit. There is no standby power at INCO Well No.1. The City of Greater Sudbury operated the well pumphouse on behalf of Vale Inco and now, as the sole owner/operator, the water is directly connected to the public distribution network.

The other two wells in Garson, No. 1 and 3, are situated on the south side of Falconbridge Road at Orell Street. The two wells are in close proximity to each other but are housed in separate buildings, both of which contain the vertical turbine well pumps. The discharges from the well pumps enter a common building which houses the disinfection and fluoride injection equipment. Preliminary design for the replacement of the backup generator and facility has been completed. Completed projects for 2009 included: well protection and security upgrades at $50,000.00.

Prior to the passing of O. Reg. 459/00, the Garson Well System delivered non-chlorinated water to the community of Garson. In the fall of 2000 an upgrade to the system was completed to add chlorine disinfection. The disinfection system was designed in accordance with current MOE Standard B13-3. The disinfection at each well provides 15 minutes of detention/contact time with due consideration for baffling conditions.

The well supply historically provided very good quality water with no record of bacteriological contamination. During preparation of the First Engineers' Report, in March 2001, a hydrogeological assessment was made of each of the wells. It was concluded that it is unlikely that any of the wells are under the direct influence of surface water. The raw water was therefore found to be in general conformance with the ODWS.

Notwithstanding the historical good water quality, the aquifer used in the Garson well supply has a recharge area which includes the developed area of Garson. The hydrogeologists noted potential sources of contamination of the water supply that required further study and a plan to provide long-term protection of the groundwater sources. The Source Water Protection Committee has since been formed and the City awaits direction from the Committee.

The community of Garson extends from Skead Road at the north to Garson-Coniston Road at the south. The pipe network is connected to the water supply from Sudbury at the intersection of Falconbridge Road and O'Neil Drive West. It should be noted that the community is serviced from the Sudbury Distribution system West of Penman Avenue. In the event that all of the three wells were to fail, the Garson system is connected to the Sudbury Distribution System by way of a pressure valve and would have water supplied from Sudbury. The pipe network is a combination of new and older pipes and frost penetration can be an issue in Garson.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 14 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 14 - Garson Wells and Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MOE Inspection Issues	At the time of this writing, the MOE inspection report for 2009 had not been finalized.	
MOE Orders		

2009 Adverse Water Quality Incident Report

Table 15 provides 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.

Table 15 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009/06/10	Fluoride	2	mg/l	Resample/Re-test	2009/06/11

Annual Flow Summary

Table 16 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reportable period.

Table 16 - Flow Summary (Garson Wells)

	Orell Well #1						Orell Well #3					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	7,531	243	551.50	15.19	1,572	35	15,126	488	756.20	31.35	3,274	23
February	8,820	315	485.21	14.69	1,572	31	11,945	427	646.43	29.40	3,274	20
March	5,970	193	420.38	14.57	1,572	27	19,811	639	1,139.32	30.79	3,274	35
April	5,584	186	293.44	14.72	1,572	19	17,715	591	996.53	32.22	3,274	30
May	7,435	240	587.36	15.04	1,572	37	18,030	582	1,021.01	31.25	3,274	31
June	5,806	194	508.36	14.82	1,572	32	28,355	945	1,599.04	35.00	3,274	49
July	4,422	143	366.83	14.89	1,572	23	28,962	934	1,405.51	35.00	3,274	43
August	5,338	172	269.00	14.74	1,572	17	26,361	850	1,399.28	35.00	3,274	43
September	6,938	231	436.26	14.70	1,572	28	24,621	821	1,307.00	35.00	3,274	40
October	6,939	224	415.13	14.60	1,572	26	17,330	559	1,127.08	40.00	3,274	34
November	6,259	209	305.18	15.22	1,572	19	16,171	539	887.64	34.67	3,274	27
December	5,660	183	252.83	14.52	1,572	16	14,055	453	768.52	28.60	3,274	23
Total	76,702						238,482					

Inco-Garson Well						
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	23,014	742	1,366.21	30.84	2,981	46
February	19,091	682	1,204.33	31.67	2,981	40
March	17,005	549	1,159.53	32.11	2,981	39
April	18,449	615	1,157.52	31.83	2,981	39
May	21,650	698	1,198.57	33.74	2,981	40
June	22,107	737	1,354.51	32.38	2,981	45
July	22,545	727	1,273.98	32.07	2,981	43
August	21,175	683	1,313.59	32.23	2,981	44
September	20,214	674	1,157.49	35.19	2,981	39
October	18,852	608	997.53	31.13	2,981	33
November	17,740	591	944.59	31.38	2,981	32
December	20,051	647	1,091.60	31.51	2,981	37
Total	241,893					

Blezard Valley Wells and Distribution System
DWS# 210000737

C of A Water: 4815-7A4MQK
January 30, 2008

The Blezard Valley Wells system is a multi-well groundwater system servicing the communities of Hanmer, Blezard Valley, Val Caron, McCrea Heights, Azilda and Chelmsford. Nine groundwater wells are situated throughout the Valley and each are located in well pumphouses. The communities are interconnected with distribution piping and three water storage tanks located in each of Val Caron, Azilda and Chelmsford.

The water works were originally constructed by the MOE in the 1970's then transferred to the Regional Municipality of Sudbury. With amalgamation, the ownership was transferred to the City of Greater Sudbury. All upgrades from the original MOE system were constructed by the City.

Each well pumphouse contains a vertical turbine well pump, gas chlorine disinfection equipment and fluoride injection equipment as mandated by the Sudbury and District Health Unit. Some of the well pumphouses incorporate standby diesel generators, summarized as follows:

- Well A – Deschene;
- Well B – Kenneth;
- Well C – Phillipe;
- Well D – Frost;
- Well E - Notre Dame; and
- Well I – I Well.

The water supply source is a common groundwater aquifer characterized as a shallow sand and gravel aquifer. This well field extends approximately 7.5 km (west to east) from Val Therese to Hanmer. A preliminary hydrology study performed during the preparation of the First Engineers' Report classified all of the wells as not under the direct influence of surface water. Due to the shallow nature of the aquifer and the lack of a confining clay layer the MOE requested further study.

The GUDI study was submitted in August of 2002. An amended C of A was received on February 23, 2003. The amended C of A acknowledged the opinion of the hydrogeology study, which states that the wells are not GUDI. As such, no additional filtration is required and the wells may supply water provided they meet MOE Procedures for Disinfection of Drinking Water.

All of the wells in the Valley system did not meet chemical disinfection CT (Concentration (mg/L) x Time (minutes)) requirements except Well "F", Linden. Therefore, all the wells have been upgraded to incorporate ultraviolet irradiation to deal with CT issues. This project was completed in 2007 costing approximately $30,000. Several projects were completed for 2009 to include: engineering and miscellaneous repairs to the Chelmsford storage tank at $50,000.00, roof repairs at three (3) wells at $90,000 and upgrades to existing chlorination equipment to automatic switchover capability at $220,000. Well inspections and rehabilitation for three(3) wells at $200,000.00 was completed in 2009.

The distribution system in the Valley is very extensive and contains many areas with dead-ends. System pressure is regulated by the level of the three storage tanks. During the reporting period the City operated the distribution system with good control of the chlorine residuals. This is due in part to the age of the distribution network, and the good source of raw water quality.

It should be noted that the Valley well system is a relatively shallow aquifer and the community has developed extensively around the wells. Some of the wells are located immediately adjacent to residential homes, commercial establishments and major arterial roadways. The water quality is beginning to show the effects of urban storm drainage. Further, existing zoning by-laws appear inadequate to protect the wells from further development within the well capture zones. For these reasons, options are being considered to preserve the quality of the water over the long-term. The engineering and geotechnical/hydrogeological investigations for new well supplies are complete at $500,000.00. Well testing will continue into 2010 for additional supply for the Valley.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 17 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 17 - Blezard Valley Wells and Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MOE Inspection Issues	NONE	N/A
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 18 provides 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.

Table 18 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009/03/11	Pressure	>20	psi	Flushing mains/pipes	2009/03/16
2009/03/18	UV	0	mj/cm²	Flushing mains/pipes	2009/03/23
2009/10/21	Total Coliform	4	cfu	Resample/Re-test	2009/10/22

Annual Flow Summary

Table 19 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reportable period.

Table 19 – Annual Flow Summary (Valley Wells)

	Well "A" Deschene						Well "B" Kenneth					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	22,739	734	970.80	18.05	1,797	54	31,149	1,005	1,209.55	26.78	2,288	53
February	20,329	726	917.21	17.92	1,797	51	26,293	939	1,167.25	26.14	2,288	51
March	23,902	771	1,005.88	17.87	1,797	56	27,383	883	1,232.63	27.59	2,288	54
April	23,219	774	1,098.71	17.87	1,797	61	23,178	773	1,247.82	27.57	2,288	55
May	24,169	780	1,046.49	18.14	1,797	58	25,058	808	975.76	22.15	2,288	43
June	24,087	803	1,132.84	17.99	1,797	63	24,419	814	1,303.87	26.07	2,288	57
July	20,279	654	785.61	17.95	1,797	44	16,929	546	1,062.48	33.04	2,288	46
August	19,908	642	843.24	18.07	1,797	47	25,105	810	1,046.57	26.13	2,288	46
September	21,654	722	928.20	18.02	1,797	52	23,912	797	1,331.64	26.36	2,288	58
October	20,699	668	907.60	17.98	1,797	51	29,654	957	1,258.29	27.75	2,288	55
November	20,438	681	1,046.34	18.31	1,797	58	29,215	974	1,372.80	27.23	2,288	60
December	22,646	731	895.92	17.52	1,797	50	26,050	840	1,082.89	21.28	2,288	47
Total	264,069						308,345					

	Well "C" Phillipe						Well "D" Frost					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	31,526	1,017	1,208.27	21.94	2,288	53	32,687	1,054	1,625.44	21.52	2,288	71
February	27,157	970	1,176.42	21.55	2,288	51	26,696	953	1,245.36	21.12	2,288	54
March	31,328	1,011	1,219.16	21.43	2,288	53	36,188	1,167	1,604.15	21.40	2,288	70
April	31,036	1,035	1,395.69	21.87	2,288	61	36,469	1,216	1,795.25	23.09	2,288	78
May	28,600	923	1,288.35	21.83	2,288	56	39,310	1,268	1,702.68	22.05	2,288	74
June	29,973	999	1,397.63	21.94	2,288	61	36,093	1,203	1,882.10	24.33	2,288	82
July	26,592	858	1,018.29	21.91	2,288	45	32,444	1,047	1,883.63	24.39	2,288	82
August	25,777	832	1,109.77	21.74	2,288	49	42,832	1,382	1,891.81	24.40	2,288	83
September	27,639	921	1,234.49	21.76	2,288	54	36,571	1,219	1,838.84	23.58	2,288	80
October	27,728	894	1,121.24	21.99	2,288	49	41,403	1,336	1,911.88	24.92	2,288	84
November	32,192	1,073	1,594.79	21.85	2,288	70	18,349	612	1,929.30	41.96	2,288	84
December	31,467	1,015	1,292.77	21.86	2,288	57	19,611	633	1,734.76	39.26	2,288	76
Total	351,015						398,653					

	Well "E" Notre Dame						Well "F" Linden					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	56,739	1,830	2,265.07	33.15	3,105	73	45,576	1,470	2,224.01	31.99	3,268	68
February	54,043	1,930	2,079.97	25.03	3,105	67	41,543	1,484	2,198.97	32.53	3,268	67
March	43,839	1,414	2,111.80	25.83	3,105	68	54,138	1,746	2,248.39	34.20	3,268	69
April	44,020	1,467	2,106.10	25.25	3,105	68	59,290	1,976	2,633.12	33.42	3,268	81
May	44,048	1,421	2,149.39	26.25	3,105	69	53,580	1,728	2,640.79	34.88	3,268	81
June	43,496	1,450	2,149.71	26.00	3,105	69	56,184	1,873	2,330.22	30.62	3,268	71
July	44,273	1,428	2,166.26	26.21	3,105	70	54,094	1,745	2,354.52	37.61	3,268	72
August	37,813	1,220	2,158.67	26.59	3,105	70	51,485	1,661	2,537.06	34.31	3,268	78
September	44,756	1,492	2,205.87	26.63	3,105	71	53,232	1,774	2,505.22	36.31	3,268	77
October	44,257	1,428	2,196.99	26.68	3,105	71	40,312	1,300	2,443.65	32.65	3,268	75
November	52,140	1,738	2,213.62	27.00	3,105	71	56,484	1,883	2,306.66	30.10	3,268	71
December	53,591	1,729	2,208.71	26.28	3,105	71	50,121	1,617	2,316.86	30.70	3,268	71
Total	563,015						616,039					

	Well "G" Pharand						Well "H" Michelle					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	14,072	454	1,150.76	25.48	2,289	50	35,052	1,131	1,418.18	2,302.00	2,289	62
February	4,752	170	873.13	21.15	2,289	38	30,368	1,085	1,329.38	23.68	2,289	58
March	20,749	669	1,326.90	20.67	2,289	58	36,313	1,171	1,479.69	23.44	2,289	65
April	15,362	512	1,197.30	21.00	2,289	52	34,268	1,142	1,401.77	23.57	2,289	61
May	17,111	552	1,331.23	20.96	2,289	58	34,967	1,128	1,457.58	24.19	2,289	64
June	24,290	810	1,467.27	21.30	2,289	64	33,630	1,121	1,601.16	24.50	2,289	70
July	17,741	572	932.23	20.91	2,289	41	24,380	786	1,116.88	24.53	2,289	49
August	7,999	258	848.77	20.50	2,289	37	27,816	897	1,114.43	23.94	2,289	49
September	12,677	423	1,120.75	20.95	2,289	49	31,736	1,058	1,354.82	24.15	2,289	59
October	15,255	492	1,187.52	20.71	2,289	52	30,127	972	1,275.90	22.94	2,289	56
November	24,729	824	1,808.21	22.03	2,289	79	35,757	1,192	1,957.26	23.91	2,289	86
December	30,482	983	1,352.63	22.20	2,289	59	34,185	1,103	1,442.83	23.97	2,289	63
Total	205,219						388,599					

"I" Well						
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	15,322	494	1,097.04	20.68	1,972	56
February	25,176	899	1,096.80	21.04	1,972	56
March	9,745	314	1,096.91	20.31	1,972	56
April	7,591	253	1,098.14	24.93	1,972	56
May	32,947	1,063	1,098.28	19.24	1,972	56
June	30,994	1,033	1,099.54	19.91	1,972	56
July	31,563	1,018	1,101.60	20.24	1,972	56
August	33,197	1,071	1,100.52	20.78	1,972	56
September	26,578	886	1,099.38	20.20	1,972	56
October	32,265	1,041	1,095.92	20.10	1,972	56
November	4,287	143	1,085.63	25.21	1,972	55
December	1,318	43	620.19	28.09	1,972	31
Total	250,983					

Falconbridge Wells System
DWS# 240000020

C of A Water: 3921-7U8JB3
July 23, 2009

In April 2009, the City of Greater Sudbury purchased the Falconbridge Wells and Storage Tank from Xstrata. The Falconbridge well system consists of: 3 drilled wells (No. 5, 6, and 7), each 457 mm in diameter and 54 meters deep. Each well is equipped with a submersible pump rated at 16.4 litres/second, for a maximum flow of 49.2 litres/second. All three wells share a common treatment building that includes stand-by power, chlorine gas for disinfection, and a corrosion inhibitor. The wells are located north of the Sudbury Airport and were developed by Xstrata. Water is supplied south to the Town of Falconbridge and north via the Western Main to the Nickel Rim Mine reservoir. There is a booster pump for supplying water to Nickel Rim reservoir when a well pump is not operating. The Greater Sudbury Airport is also supplied from this well supply. The City sells water to Xstrata and two industrial clients along the South transmission line and fluoridates the water before it enters the Falconbridge Municipal distribution system.

The distribution system consists of an elevated storage tank, a fluoridation building, booster pumping station and a pressure regulating valve. The distribution system has been combined under one Drinking Water System number and is now considered as one system. The distribution system prior to April 2009 is the subject of a separate report and follows below.

Non-Compliance with Act, Regulations, Order or Approvals

Table 20 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 20 - Falconbridge Wells

Item	Non-Compliance	Corrective Measures Taken
MOE Inspection Issues	NONE	N/A
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 21 provides 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.

Table 21 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009/05/06	Chlorine Residual	0.60/0.22	mg/L	Flushing mains/pipes	2009/05/11
2009/10/30	Chlorine Residual	0	mg/L	Disinfectant restored/increased	2009/10/30

Annual Flow Summary

Table 22 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reportable period.

Table 22 – Annual Flow Summary (Falconbridge Wells)

	Nickel Rim Well #5						Nickel Rim Well #6					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
February	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
March	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
April	4,775	159	1,307.54	17.92	4,250	31	9,765	326	1,356.15	16.16	4,250	32
May	9,294	300	904.85	18.07	4,250	21	7,644	247	981.20	16.06	4,250	23
June	23,748	792	1,303.07	16.97	4,250	31	7,264	242	1,142.38	16.08	4,250	27
July	5,211	168	1,076.53	15.96	4,250	25	8,409	271	1,125.11	16.07	4,250	26
August	6,181	199	944.35	16.95	4,250	22	7,173	231	1,101.19	16.21	4,250	26
September	11,929	398	1,048.52	16.41	4,250	25	6,394	213	1,057.95	16.11	4,250	25
October	10,940	353	921.07	15.94	4,250	22	9,220	297	861.90	16.04	4,250	20
November	4,413	147	752.54	17.57	4,250	18	1,899	63	779.28	15.88	4,250	18
December	12,337	398	928.15	16.98	4,250	22	6,832	220	932.96	16.09	4,250	22
Total	88,828						64,600					

Nickel Rim Well #7						
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	N/A	N/A	N/A	N/A	N/A	N/A
February	N/A	N/A	N/A	N/A	N/A	N/A
March	N/A	N/A	N/A	N/A	N/A	N/A
April	27,428	914	1,371.99	16.90	4,250	32
May	11,948	385	1,221.50	16.98	4,250	29
June	3,750	125	1,011.21	16.76	4,250	24
July	16,073	518	1,108.10	16.97	4,250	26
August	15,813	510	1,042.60	16.88	4,250	25
September	8,479	283	934.60	16.93	4,250	22
October	4,744	153	862.28	16.87	4,250	20
November	15,579	519	908.45	16.81	4,250	21
December	5,108	165	766.75	16.80	4,250	18
Total	108,922					

Falconbridge Distribution System
DWS# 260006477

C of A Water: 6018-7D4JLZ
February 09, 2009

The following description relates to this distribution system for the period of January to April of 2009.

The Falconbridge distribution system, as owned and operated by the City, consists of a fluoridation building and distribution network. Water is supplied to the fluoride building from the newly developed deep-wells located northeast of the Sudbury Airport. The water is treated to comply with O. Reg. 170/03 by Xstrata then delivered to the community of Falconbridge via the City fluoride building and distribution system.

Xstrata has considered alternatives to upgrade the water works to ensure compliance with O. Reg. 170/03. Xstrata reviewed options such as alternative groundwater sources and ultimately developed a new well field near the Sudbury Airport. Ontario Clean Water Agency has been contracted to operate these new facilities for Xstrata, which currently feeds the town of Falconbridge.

Although Xstrata provides chlorine disinfection of the water supply, the MOE has imposed a condition on the City to add a re-chlorination facility to the fluoride building. The City requested a change to this

condition with a letter in Nov of 2003. The MOE cannot acknowledge receipt of said letter and as such the City resubmitted its request to amend the condition of the C of A.

The City is completing final phases with Xstrata to take over ownership of the water supply system. Takeover will be completed in the Spring of 2009. The City will then supply water to Xstrata's Nickel Rim and Smelter facilities.

The distribution network in the community of Falconbridge is owned by the City but was developed by Xstrata for the original town-site. The piping system is relatively old and exposed to severe frost depths.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 23 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 23 - Falconbridge Distribution System

Item	Non-Compliance	Corrective Measures Taken
MOE Inspection Issues	NONE	N/A
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 24 provides 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.

Table 24 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009/01/23	Pressure	<20	psi	Flushing mains/pipes	2009/01/26
2009/03/18	Fluoride	2.00	mg/L	Resample/Re-test	2009/03/18
2009/06/15	Chlorine Residual	0.04	mg/L	Resample/Re-Test	2009/06/15
2009/08/07	Total Coliform	1	cfu	Resample/Re-Test	2009/08/08
2009/08/07	Pressure	<5	psi	Flushing mains/pipes	2009/08/08
2009/10/20	Chlorine Residual	0.04	mg/L	Resample/Re-test	2009/10/20
2009/12/14	Turbidity	5.19	NTU	Flushing mains/pipes	2010/01/14

Annual Flow Summary

Table 25 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reportable period.

Table 25 – Annual Flow Summary (Falconbridge)

Falconbridge Fluoridation Facility						
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	7,053	228	258.82	9.99	727	36
February	6,789	242	290.97	9.87	727	40
March	7,666	247	302.99	9.90	727	42
April	6,109	204	230.07	10.00	727	32
May	6,572	212	265.76	10.00	727	37
June	9,370	312	847.80	10.00	727	117
July	5,770	186	232.50	10.00	727	32
August	5,284	170	206.75	10.00	727	28
September	5,315	177	212.84	10.00	727	29
October	5,592	180	252.36	10.00	727	35
November	6,747	225	345.91	9.59	727	48
December	6,062	196	262.01	10.00	727	36
Total	78,329					

Onaping/Levack Wells System
DWS# 220003519

C of A No. 2760-7D4JCB
Feb 9, 2009

The Onaping Potable Water System was constructed in 1971 and owned by Xstrata. In 2009 the City of Greater Sudbury purchased the system from Xstrata and completed all major upgrades required to supply potable water to the communities of Onaping and Levack. The system was commissioned in November of 2009. The new Onaping/Levack system includes three drilled wells with a common treatment building. The treatment building houses one well and provides chlorine gas injection for disinfection, fluoridation, chemical addition for corrosion control and stand-by power. An elevated storage tank with re-chlorination capabilities, a Pressure /Booster building with stand-by power, a Pressure control facility on Fraser Crescent and the distribution piping complete the system.

The Levack and Onaping distribution systems were previously under separate Drinking Water System numbers and therefore have individual reports. Those reports follow as the requirement to submit separate reports remains until the systems are recognized as being combined under one DWS number. The Levack distribution system was a recipient of water from the Vale Inco wells but that changed with the acquisition of the Onaping wells and commissioning in November 2009. Water is no longer supplied from Vale Inco and the connection has been terminated. Water is entirely provided by the Onaping wells and both Onaping and Levack distribution systems are connected. The entire network of wells and distribution systems will be considered to be a single system once MOE has issued a single DWS number.

Non-Compliance with Act, Regulations, Order or Approvals

Table 26 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 26 – Onaping/Levack Wells

Item	Non-Compliance	Corrective Measures Taken
MOE Inspection Issues	NONE	N/A
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 27 provides 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.

Table 27 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009/12/04	Total Coliform	1	cfu	Resample/Re-test	2009/12/07

Annual Flow Summary

Table 28 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reportable period.

Table 28 – Annual Flow Summary (Onaping/Levack Wells)

	Onaping Well #3						Onaping Well #4					
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
February	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
March	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
April	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
May	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
June	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
August	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
September	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
October	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
November	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
December	106	3	63.46	75.00	5,184	1	157	5	98.27	53.36	5,184	2
Total	106						157					

Onaping Well #5						
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	N/A	N/A	N/A	N/A	N/A	N/A
February	N/A	N/A	N/A	N/A	N/A	N/A
March	N/A	N/A	N/A	N/A	N/A	N/A
April	N/A	N/A	N/A	N/A	N/A	N/A
May	N/A	N/A	N/A	N/A	N/A	N/A
June	N/A	N/A	N/A	N/A	N/A	N/A
July	N/A	N/A	N/A	N/A	N/A	N/A
August	N/A	N/A	N/A	N/A	N/A	N/A
September	N/A	N/A	N/A	N/A	N/A	N/A
October	1,140	37	630.25	44.07	5,184	12
November	42,384	1,413	2,029.16	62.93	5,184	39
December	51,441	1,659	2,500.81	48.67	5,184	48
Total	94,965					

Levack Distribution System
DWS# 260006490

C of A No. 2760-7D4JCB
Feb 9, 2009

The following description relates to this distribution system for the period of January to November of 2009.

The Levack water system, as owned by the City, consists of a fluoride building and distribution network. The water is supplied to the fluoride building from the Vale Inco well pump house and treatment building in Levack. The water is treated to comply with O. Reg. 170/03 by Vale Inco then delivered to the community of Levack via the City fluoride building.

The Levack water supply system owned by Vale Inco is not the subject of this Summary Report, however, a brief explanation of the system is provided for continuity. The Levack system is a groundwater well situated adjacent to the Onaping river. To enhance the water quality, a recharge pit is located adjacent to the wells, and filled with water pumped from the Onaping river. The water treatment system includes alkalinity adjustments and liquid chlorine injection for disinfection. The water is used by Vale Inco at their mines in the Levack area and is also delivered to the City for communal public water supply.

The MOE has considered the well aquifer to be potentially under the direct influence of surface water, and has stipulated that Vale Inco must prepare a GUDI study. Vale Inco has since served notice late in 2003 that they intend to end the supply agreement.

The water works in Levack will invariably require upgrades to ensure full compliance with O. Reg. 170/03. In accordance with the Class Environmental Assessment completed on October 12, 2007, the City has decided to provide potable water to the residents of Levack and Onaping and to Xstrata Nickel's mining operations. The supply will come from the Wickwas pump house in Onaping and a combining of the two distribution systems of Levack and Onaping will be undertaken by the City of Greater Sudbury. System design and upgrades total approximately $900,000 and are scheduled for completion and commissioning in 2009.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 29 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 209 - Levack Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MOE Inspection Issues	NONE	N/A
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 30 provides 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.

Table 30 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
No reportable incidents					

Annual Flow Summary

Table 31 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Certificate of Approval during the 2009 reportable period.

Table 31 – Annual Flow Summary (Levack Distribution)

Levack Fluoridation Facility						
	Total Flow m3	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	C of A Maximum Flow m3/d	% Capacity
January	23,818	768	884.02	18.30	1,056	84
February	26,552	948	1,014.08	24.62	1,056	96
March	29,180	941	1,010.05	19.55	1,056	96
April	22,593	753	879.19	32.57	1,056	83
May	18,877	609	723.53	32.79	1,056	69
June	17,133	571	684.88	40.48	1,056	65
July	17,375	560	660.51	26.94	1,056	63
August	17,181	554	589.68	30.51	1,056	56
September	17,070	569	606.69	27.07	1,056	57
October	18,483	596	764.93	34.42	1,056	72
November	6,871	229	638.93	19.55	1,056	61
December	N/A	N/A	N/A	N/A	N/A	N/A
Total	215,133					

Onaping Distribution System
DWS# 260006503

C of A No. **N/A**

The following description relates to this distribution system for the period of January to November of 2009.

The distribution system of Onaping does not have a system specific Certificate of Approval to operate but fall under the owner's certificate for the treatment facilities. The owners of the Onaping treatment facility is Xstrata and as such, have responsibility for this system and is not the subject of this report. The City owns and operates the distribution network in the communities of Onaping The City has obligations to test, maintain and report on this distribution network as part of the regulations. The Onaping Distribution System includes a continuously monitored Free Chlorine analyser.

Water quality throughout the distribution systems is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 32 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 32 - Onaping Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MOE Inspection Issues	NONE	N/A
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 33 provides 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.

Table 33 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009/08/20	Lead	26.5	µg/L	Resample/Re-test	2009/09/02
2009/12/07	Chlorine Residual	0.03	mg/L	Flushing mains/pipe	2009/12/07

Annual Flow Summary – N/A

Vermillion Distribution System
DWS# 260006789

C of A No. **N/A**

The Vermillion distribution system does not have system specific certificate to operate but falls under the owner's certificate for the treatment facility. The owner of the Vermillion treatment facility is Vale Inco and as such, has responsibility for this system and is not the subject of this report. The City owns and operates the distribution network in the communities of Copper Cliff, Lively, Naughton and Whitefish. The City has obligations to test, maintain and report on this distribution system as part of the MOE regulations.

The Vermillion Distribution System includes the Walden Water Storage Tank and Walden Metering Chamber. Required engineering, interior lining, various repairs and exterior painting of the Walden tank amounted to approximately $585,000.00. Additional service was provided in 2005 to supply the Whitefish Lake First Nation Reserve.

Water quality throughout the distribution systems is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 34 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2009 reportable period.

Table 34 - Vermillion Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MOE Inspection Issues	NONE	N/A
MOE Orders	NONE	N/A

2009 Adverse Water Quality Incident Report

Table 35 provides 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.

Table 35 - Adverse Water Quality Incidents

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2009	No reported incidents				

Annual Flow Summary – N/A