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## **SECTION 1 - PLANT SPECIFIC REVIEW**

### **1.0 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 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.

### **1.1 Wanapitei Water Treatment Plant**

**C of A No. 9620-6KQH4E**

**Date: January 9<sup>th</sup>, 2006**

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, Wahnapiatae, Markstay, and parts of Downtown. 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 ensure compliance with O. Reg. 170/03.

The water supply for the plant is the Wanapitei River. The River has sufficient quantities of water to meet the needs of Sudbury, however, water taking is limited by agreement with Ontario Power Generation for their use in the production of hydro-electric power. 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 of the watershed 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, Colour.

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

The Wanapitei Plant incorporates conventional technologies to treat the water. Raw water is treated with chemicals to form a floc. The coagulated water passes through one of two settling tanks, referred to as reactivators, then through one of four dual media filter beds. The filtered water is treated with lime for pH /alkalinity adjustment; with chlorine for disinfection; with fluoride to comply with Health Unit requirements; and with polyphosphate to reduce corrosion in 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**

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2005 reportable period.

**Table 1-1**  
**Wanapitei Water Treatment Plant**

<b>Item</b>	<b>Non-Compliance</b>	<b>Measure Taken to Ensure Compliance</b>
<b>MOE Inspection Issues</b>	<ul style="list-style-type: none"><li>• Continuous water quality analyzers and indicators with alarms, not installed at the prescribed locations</li></ul>	Application for chlorine contact simulation vessel approved and slated for construction by the end of 2006.
<b>MOE Orders</b>	NONE	N/A

## 2005 Adverse Water Quality Incident Report

### 210001111 Wanapitei Water Treatment Plant and Distribution System

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/07/01	Total Coliform	6	CFU/100mL	Resample/Re-test;	2005/07/01
2005/08/04	HPC	501	CFU/100mL	Resample/Re-test;	2005/08/17
2005/08/05	HPC	3610	CFU/100mL	Resample/Re-test;	2005/08/09
2005/08/05	Total Coliform	15	CFU/100mL	Resample/Re-test;	2005/08/06
2005/08/05	Total Coliform	5	CFU/100mL	Resample/Re-test;	2005/08/09
2005/08/06	Total Coliform	2	CFU/100mL	Resample/Re-test;	2005/08/17
2005/08/08	Total Coliform	2	CFU/100mL	Resample/Re-test;	2005/08/08
2005/08/08	Total Coliform	1	CFU/100mL	Resample/Re-test;	2005/08/12

### Annual Flow Summary

The following table 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 2005 reportable period.

		Greater Grand Sudbury					2005 Annual Summary Sudbury Water Treatment Plants					
		Wanapitei Water Treatment Plant					David Street Water Treatment Plant					
	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
<b>January</b>	990,331	31,946	38,934	589.68	54,000	72	375,568	12,244	22,145	318.97	40,000	56
<b>February</b>	832,750	29,741	35,233	515.46	54,000	65	354,173	12,649	17,199	318.90	40,000	43
<b>March</b>	941,867	30,383	33,519	486.56	54,000	62	409,743	13,218	16,738	319.08	40,000	42
<b>April</b>	913,882	30,461	35,252	523.59	54,000	65	410,929	13,698	22,355	319.62	40,000	56
<b>May</b>	943,176	30,425	36,627	504.97	54,000	68	407,483	13,145	22,031	342.41	40,000	55
<b>June</b>	1,000,024	33,335	39,626	569.75	54,000	73	542,187	18,073	27,087	460.63	40,000	68
<b>July</b>	1,112,041	31,796	36,720	497.41	54,000	68	579,758	18,702	27,115	462.00	40,000	68
<b>August</b>	1,179,720	33,351	35,770	529.80	54,000	66	514,832	16,608	26,977	318.67	40,000	67
<b>September</b>	1,024,086	31,280	35,212	545.41	54,000	65	486,488	16,216	27,030	318.57	40,000	68
<b>October</b>	998,417	31,179	35,121	542.89	54,000	65	402,131	12,972	17,765	318.57	40,000	44
<b>November</b>	988,664	33,464	37,641	535.00	54,000	70	357,007	11,900	12,082	137.57	40,000	30
<b>December</b>	1,095,477	34,514	41,188	578.47	54,000	76	380,540	12,276	16,078	315.14	40,000	40

<b>Total</b>	12,020,435						5,220,839					
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**1.2 David Street Water Treatment Plant**  
**C of A No. 4643-6CBKUQ**  
**Date: May 19<sup>th</sup>, 2005**

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 undergoing retrofits with Zenon membrane technologies and UV irradiation in 2004 to ensure the treatment system meets the requirements in O. Reg. 170/03.

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 as 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 during this reporting period.

The distribution system supplied by the David Street WTP includes parts of downtown Sudbury, the South End and the West End of Sudbury. In addition, the Ellis Reservoir is part of the distribution network for Sudbury. As common with many older distribution networks, the Sudbury pipe system is plagued with numerous 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**

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2005 reportable period.

**Table 1-2**  
**David Street Water Treatment Plant**

Item	Non-Compliance	Measure Taken to Ensure Compliance
<b>MOE Inspection Issues</b>	<ul style="list-style-type: none"> <li>• PTTW were beyond expiry dates.</li> <li>• The minimum levels of residual disinfectant were not maintained throughout the distribution system</li> <li>• The fluoride concentrations were outside the required range of 0.50-0.80 ppm on several occasions</li> <li>• Corrective actions have not been taken to address exceedances as required</li> </ul>	<p>In response to the issue, the PTTW application was submitted on February 14<sup>th</sup> as required.</p> <p>Corrective action was done at the time to increase residual levels in the area.</p> <p>The City has modified existing injection application systems and every attempt is made to ensure residuals are maintained between the desired ranges.</p> <p>Re-sampling of a lab exceedance was not done according to re-sampling requirements for upstream, downstream and at location. Follow-up training to staff was done to ensure compliance with corrective actions for re-sampling is adhered to.</p>
<b>MOE Orders</b>	NONE	N/A

**2005 Adverse Water Quality Incident Report**

**220003537 David Street Water Treatment Plant and Distribution System**

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/01/03	Fluoride	1.51	Mg/L	Resample/Re-test;	2005/01/03
2005/01/06	Chlorine	4.01	Mg/L	Resample/Re-test;	2005/01/06

2005/02/03	Fluoride	1.51	Mg/L	Resample/Re-test;	2005/02/24
2005/04/27	Total Coliform	1	CFU/100mL	Resample/Re-test;	2005/04/28
2005/05/04	UV Dosage	27	mj/cm	Resample/Re-test;	2005/05/04
2005/06/03	Pressure	4.95	PSI	Resample/Re-test;	2005/06/03
2005/08/05	Total Coliform	2	CFU/100mL	Resample/Re-test;	2005/08/09
2005/10/01	HPC	1170	CFU/100mL	Resample/Re-test;	2005/10/06

### Annual Flow Summary

The following table 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 2005 reportable period.

		Wanapitei Water Treatment Plant						David Street Water Treatment Plant					
		m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
<b>January</b>	990,331	31,946	38,934	589.68	54,000	72	375,568	12,244	22,145	318.97	40,000	56	
<b>February</b>	832,750	29,741	35,233	515.46	54,000	65	354,173	12,649	17,199	318.90	40,000	43	
<b>March</b>	941,867	30,383	33,519	486.56	54,000	62	409,743	13,218	16,738	319.08	40,000	42	
<b>April</b>	913,882	30,461	35,252	523.59	54,000	65	410,929	13,698	22,355	319.62	40,000	56	
<b>May</b>	943,176	30,425	36,627	504.97	54,000	68	407,483	13,145	22,031	342.41	40,000	55	
<b>June</b>	1,000,024	33,335	39,626	569.75	54,000	73	542,187	18,073	27,087	460.63	40,000	68	
<b>July</b>	1,112,041	31,796	36,720	497.41	54,000	68	579,758	18,702	27,115	462.00	40,000	68	
<b>August</b>	1,179,720	33,351	35,770	529.80	54,000	66	514,832	16,608	26,977	318.67	40,000	67	
<b>September</b>	1,024,086	31,280	35,212	545.41	54,000	65	486,488	16,216	27,030	318.57	40,000	68	
<b>October</b>	998,417	31,179	35,121	542.89	54,000	65	402,131	12,972	17,765	318.57	40,000	44	
<b>November</b>	988,664	33,464	37,641	535.00	54,000	70	357,007	11,900	12,082	137.57	40,000	30	
<b>December</b>	1,095,477	34,514	41,188	578.47	54,000	76	380,540	12,276	16,078	315.14	40,000	40	
<b>Total</b>	12,020,435						5,220,839						

### 1.3 Capreol Well Supply

**CofA No. 9526-6D4HKH**

**Date: August 9<sup>th</sup>, 2005**

The Capreol Well System is a communal well system which draws water from three (3) wells to service the community of Capreol. The wells include:

- Well #6
- Well “J”
- Well “M”

Well # 6 includes a Vertical Turbine well pump, disinfection with gas chlorine, UV irradiation along with fluoride injection for public health. Standby power is available for Well #6 with a diesel generator. Well #6 is located on the bank of the Vermilion River opposite Lakeshore Drive.

Well “J” and “M” are located within approximately 30 metres of each other on the east side of Greens Lake and west of M. R. #84. Well J and M also have vertical turbine well pumps and have disinfection with gas chlorination. Standby power for Wells “M” and “J” are available from a diesel generator located in Well ”M” pumphouse. All three wells incorporate the use of a corrosion control product (Polyphosphate) to aid in the sequestration of iron and manganese and to prevent system corrosion and pipe deterioration.

The water system in Capreol is interconnected through piping with Blezard Valley Water System, through a pressure relief valve. The water system in Capreol operates at a similar hydraulic gradient to the Blezard Valley System. The interconnection is only intended for times when the system pressure in Capreol exceeds the set points and would then relieve excess water (Pressure) to the Blezard Valley system.

The source of water for the Capreol system is groundwater wells. Well #6 draws from gravel and sand aquifer characterized as unconfined. Well “J” and “M” draw from a common aquifer, which is also unconfined, and of sands and gravels. Although all of the wells have no record of bacteriological contamination, their proximity to the Vermilion River and the unconfined nature of the aquifer required these wells to be characterized as potentially under the influence of surface water (potentially GUDI).

Well #6 is also located north of the existing sewage lagoon in Capreol. Extensive groundwater studies have shown no impact from the lagoon on the water quality at Well #6.

The 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 and as such required upgrades to meet the required disinfection and log removal standards of the ODWS. Upgrades are underway by the consultant to achieve the required log removals and enhance the disinfection process.

A GUDI study was not completed for Well #6 for the following reasons:

- The well pumphouse is situated below the flood plain of the river and would require extensive upgrades to be flood-proofed;
- The well is located in close proximity to the existing sewage lagoon; and
- The well is located close to the Vermilion River and is recharged with water from the river.

Rather than committing to costly upgrades to ensure compliance with O. Reg. 170/03, the City has notified the MOE of its intention to abandon Well #6. The City is actively considering options for the replacement of the Well #6 supply source.

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.

Although, the well supply system incorporates standby power, there is no elevated storage in Capreol. Therefore, during power outages, system pressures drop until the diesel generators are activated. This process is automatic, however, there is some risk of low pressures inherent with this type of system.

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**

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2005 reportable period.

**Table 1-3  
Capreol Wells and Distribution System**

Item	Non-Compliance	Measure Taken to Ensure Compliance
<b>MOE Inspection Issues</b>	<ul style="list-style-type: none"> <li>The record system did not allow the reader to unambiguously identify the person who made the logbook entry</li> <li>The concentration of fluoride in the treated water was not in accordance with regulatory requirements</li> </ul>	<p>Subsequent training and notification to staff was done clearly indicating the requirements for log book entry protocols.</p> <p>The City has made every attempt to ensure the fluoride concentrations are maintained between the prescribed ranges of 0.50-0.80 ppm at all times.</p>
<b>MOE Orders</b>	NONE	N/A

## 2005 Adverse Water Quality Incident Report

### 220003528 Capreol Wells and Distribution System


Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/01/08	Chlorine	0.04	PPM	Resample/Re-test	2005/01/08
2005/05/12	Pressure	10	PSI	Resample/Re-test;	2005/05/12
2005/05/17	Pressure	9	PSI	Resample/Re-test;	2005/05/17
2005/05/29	Fluoride	2.06	Mg/L	Resample/Re-test;	2005/05/27
2005/05/29	Low Pressure	20	PSI	Resample/Re-test;	2005/05/29
2005/11/17	Total Coliform	1	CFU/100ml	Resample/Re-test	2005/11/19
2005/12/22	Low Pressure	20	PSI	Resample/Re-test;	2005/12/22
2005/12/21	Sodium	49	PPM	Resample/Re-test;	2005/12/22

### Annual Flow Summary

The following table 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 2005 reportable period.

		"J" Well						"M" Well					
		m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
<b>January</b>		23,342	753	1,871	22	3,273	57	30,986	1,000	2,222	26	3,927	57
<b>February</b>		19,561	675	1,319	25	3,273	40	28,938	998	2,163	26	3,927	55
<b>March</b>		7,720	249	1,535	23	3,273	47	46,084	1,487	1,734	23	3,927	44
<b>April</b>		3,032	101	1,686	24	3,273	52	33,542	1,118	2,205	30	3,927	56
<b>May</b>		4,677	151	933	25	3,273	29	67,730	2,185	2,638	31	3,927	67
<b>June</b>		5,514	184	2,160	23	3,273	66	75,023	2,501	2,673	31	3,927	68
<b>July</b>		686	22	414	23	3,273	13	72,887	2,351	2,555	30	3,927	65
<b>August</b>		806	26	429	20	3,273	13	81,285	2,622	2,936	34	3,927	75
<b>September</b>		451	15	168	30	3,273	5	80,031	2,668	2,954	36	3,927	75
<b>October</b>		669	22	282	22	3,273	9	80,148	2,585	2,667	31	3,927	68
<b>November</b>		93	3	44	27	3,273	1	74,751	2,492	2,618	30	3,927	67
<b>December</b>		2,160	70	634	30	3,273	19	75,085	2,422	2,610	30	3,927	66
<b>Total</b>		68,711						746,490					

		2005 Annual Summary Capreol Wells				
Vermillion # 6 Well						
	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
January	1,856	60	912	20	2,946	31
February	533	18	224	21	2,946	8
March	1,165	38	424	20	2,946	14
April	21,338	711	2,284	28	2,946	78
May	313	10	108	20	2,946	4
June	280	9	88	20	2,946	3
July	258	8	125	18	2,946	4
August	1,358	44	585	26	2,946	20
September	2,195	73	902	20	2,946	31
October	572	18	178	18	2,946	6
November	793	26	341	40	2,946	12
December	761	25	376	29	2,946	13
<b>Total</b>	<b>31,422</b>					

#### 1.4 Dowling Well Supply

##### C of A No. 2014-6B8NDY

**Date: May 14<sup>th</sup>, 2005**

The Dowling water works is a communal groundwater system which supplies water to the community of Dowling. The water works includes two (2) 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, UV irradiation along with fluoride injection for public health. 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. This process allows standby water with poor aesthetic characteristics not enter the distribution system.

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 that were conducted in 2002 with the resulting submission of a GUDI study on July 1, 2002. This study was reviewed by the MOE and as a result, both wells were deemed to be GUDI 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 will need to have enhanced 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

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2005 reportable period.

**Table 1-4  
 Dowling Wells and Distribution System**

Item	Non-Compliance	Measure Taken to Ensure Compliance
<b>MOE Inspection Issues</b>	<ul style="list-style-type: none"> <li>• NONE</li> </ul>	N/A
<b>MOE Orders</b>	<ul style="list-style-type: none"> <li>• NONE</li> </ul>	N/A

## 2005 Adverse Water Quality Incident Report


### 210001665 Dowling Wells and Distribution System

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/05/25	Chlorine	0.04	PPM	Resample/Re-test	2005/06/01
2005/05/31	Chromium	51.8	PPM	Resample/Re-test	2005/06/01

### Annual Flow Summary

The following table 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 2005 reportable period.

		2005 Annual Summary Dowling Wells										
		Lionel Well					Riverside Well					
	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
<b>January</b>	6,089	196	861	36.30	3,600	24	8,507	274	770	32.27	3,600	21
<b>February</b>	4,900	175	917	35.74	3,600	25	8,745	312	760	32.24	3,600	21
<b>March</b>	5,041	163	908	35.61	3,600	25	10,423	336	804	32.32	3,600	22
<b>April</b>	3,445	119	865	36.40	3,600	24	10,350	357	897	32.72	3,600	25
<b>May</b>	5,251	169	1,087	35.88	3,600	30	14,305	464	994	33.61	3,600	28
<b>June</b>	4,555	152	841	36.76	3,600	23	12,317	411	943	33.21	3,600	26
<b>July</b>	504	16	105	37.21	3,600	3	16,517	535	931	32.97	3,600	26
<b>August</b>	4,405	142	893	36.98	3,600	25	12,143	392	890	33.46	3,600	25
<b>September</b>	640	21	151	36.64	3,600	4	14,003	467	925	33.69	3,600	26
<b>October</b>	3,563	115	827	36.91	3,600	23	10,657	344	850	33.52	3,600	24
<b>November</b>	2,254	75	791	36.98	3,600	22	10,788	372	903	33.19	3,600	25
<b>December</b>	7,714	249	1,902	36.73	3,600	53	9,700	313	679	32.97	3,600	19
<b>Total</b>	48,361						138,455					

<b>1.5</b>	<b>Garson Well Supply</b>	<b>(Inco Garson Well)</b>
	<b>C of A No. 2733-6HLNSX</b>	<b>C of A No. 7619-5H8KEL</b>
	<b>Date: November 23<sup>rd</sup>, 2005</b>	<b>Date: January 02, 2003</b>

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
- Garson Well No. 3

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

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 but housed in separate buildings which contain the vertical turbine well pumps. The discharges from the well pumps enter a common building which houses the liquid chlorine disinfection equipment, and fluoride injection equipment.

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 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 City has commenced a project to document water sources in the City as the basis for starting a groundwater protection plan.

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 however, this is only used in the event of emergencies. 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

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2005 reportable period.

**Table 1-5  
 Garson Wells and Distribution System**

Item	Non-Compliance	Measure Taken to Ensure Compliance
<b>MOE Inspection Issues</b>	<ul style="list-style-type: none"> <li>• All microbiological water quality monitoring required by legislation was not being conducted</li>   <li>• Measures were not in place to protect the water source in accordance with the requirements of the Certificate of Approval</li> </ul>	<p>Raw and treated samples were not taken during one week in March of 2005. Investigations showed no samples were obtained for the week in question. Verification of requirements with staff and supervisors was done.</p> <p>An application for extension had been submitted but no further follow-up action had been done by either the City or the MOE in over a year. The City had requested this extension to await new legislation governing “Source Water Protection”. A follow-up correspondence was sent to the local district MOE office as well as Toronto offices of the MOE</p>

MOE Orders	NONE	N/A
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## 2005 Adverse Water Quality Incident Report


### 220003485 Garson Wells and Distribution System


Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/07/22	Background Count	418	CFU/100ml	Resample/Re-test	2005/07/25
2005/11/24	Turbidity	0.99	NTU	Resample/Re-test	2005/11/24
2005/12/21	Sodium	58.1	PPM	Resample/Re-test	2005/12/22

### Annual Flow Summary

The following table 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 2005 reportable period.

 <b>2005 Annual Summary Garson Wells</b>												
Orell # 1 Well							Orell # 3 Well					
	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
January	4,258	137	363	14	1,572	23	13,336	430	1,403	32	3,274	43
February	2,633	91	357	14	1,572	23	10,243	353	640	32	3,274	20
March	6,584	212	476	14	1,572	30	16,281	525	946	33	3,274	29
April	4,982	166	364	8	1,572	23	10,134	338	958	33	3,274	29
May	6,306	203	421	14	1,572	27	13,743	443	1,281	33	3,274	39
June	7,930	264	494	14	1,572	31	21,937	731	1,589	33	3,274	49
July	8,521	275	549	14	1,572	35	14,718	475	1,067	32	3,274	33
August	6,130	198	471	14	1,572	30	14,646	472	1,091	33	3,274	33
September	6,880	229	487	13	1,572	31	9,543	318	490	30	3,274	15
October	6,661	215	333	13	1,572	21	8,995	290	624	29	3,274	19
November	6,186	206	411	14	1,572	26	7,198	240	545	33	3,274	17
December	6,137	198	357	13	1,572	23	12,759	412	711	33	3,274	22
<b>Total</b>	73,20						153,53					

		2005 Annual Summary Garson Wells				
		<b>Inco Garson Well</b>				
	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
January	33,598	1,084	1,329	15	2,981	45
February	32,139	1,108	1,213	14	2,981	41
March	37,701	1,216	1,316	15	2,981	44
April	32,752	1,092	1,314	15	2,981	44
May	33,116	1,068	1,431	17	2,981	48
June	32,315	1,077	1,322	20	2,981	44
July	30,870	996	1,500	20	2,981	50
August	16,381	528	926	16	2,981	31
September	34,732	1,158	1,325	15	2,981	44
October	36,356	1,173	1,305	15	2,981	44
November	38,974	1,299	1,712	20	2,981	57
December	40,408	1,303	1,797	21	2,981	60
<b>Total</b>	<b>399,342</b>					

## 1.6 Blezard Valley Well Supply

### C of A No. 3825-6BMPE5

Date: May 20<sup>th</sup>, 2005

The Blezard Valley Well Supply system is a multi-well groundwater system servicing the communities of Hanmer, Blezard Valley, Val Caron, McCrea Heights, Azilda and Chelmsford. Nine (9) groundwater wells are situated throughout the Valley and each are located in well pumphouses. The communities are interconnected with distribution piping and three (3) 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. Recently 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 for public health. Some of the well pumphouse's incorporate standby diesel generators, summarized as follows:

- Well A - Deschene
- Well B - Kenneth
- Well C - Phillipe
- Well D - Frost
- Well E - Notre Dame

The water supply source is a common groundwater aquifer characterized as a shallow sand and gravel aquifer. A preliminary hydrology study performed during the preparation of the First Engineers' Report classified all of the wells as not under the direct influence (GUDI) 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 B13-3.

All of the wells in the Valley system have insufficient chlorine contact time except Well "F", Linden. Therefore, all wells must be upgraded to incorporate additional contact time as was recently performed at the Garson Well System.

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 reservoirs. 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, the long-term water quality of the Valley Well System is under some risk.

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

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2005 reportable period.

**Table 1-6**  
**Bleazard Valley Wells and Distribution System**

Item	Non-Compliance	Measure Taken to Ensure Compliance
<b>MOE Inspection Issues</b>	<ul style="list-style-type: none"> <li>• Exceedances of maximum flow rates of the rated capacity identified in the C of A were noted.</li>   <li>• All microbiological water quality monitoring required by legislation is not being conducted</li> </ul>	<p>Maintenance of the distribution system (flushing), which may have been the cause. Alarm notification levels have been installed in SCADA to alarm when 90-95% of max flows are reached.</p> <p>On a couple occasions, proper samples had been collected by CGS staff but were not picked-up as required by the contract lab. The City has set up a check-list and fax confirmation of samples received by the lab to ensure samples aren't missed in the future</p>
<b>MOE Orders</b>	NONE	N/A

### 2005 Adverse Water Quality Incident Report

#### 210000737 Valley Wells and Distribution System


Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/05/03	Chlorine Residual	0.00	PPM	Resample/Re-test	2005/05/03
2005/07/01	Total Coliform	57	CFU/100ml	Resample/Re-test	2005/07/04

2005/09/01	Turbidity	0.99	NTU	Resample/Re-test	2005/09/01
2005/09/28	E-Coli	15	CFU/100ml	Resample/Re-test	2005/10/03
2005/10/13	Pressure	15	PSI	Resample/Re-test	2005/10/17
2005/12/21	Sodium	89.8	PPM	Resample/Re-test	2005/12/22

### Annual Flow Summary

The following table 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 2004 reportable period.

 <b>2005 Annual Summary Valley Wells</b>												
Well "B" Kenneth							Well "C" Phillippe					
	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
January	32,710	924	1,377	17	2,288	60	38,920	918	1,710	20	2,288	75
February	34,304	945	1,370	16	2,288	60	40,867	887	1,735	22	2,288	76
March	34,140	892	1,322	16	2,288	58	42,805	893	1,599	19	2,288	70
April	24,677	827	1,423	17	2,288	62	37,909	815	1,785	26	2,288	78
May	22,883	640	1,331	17	2,288	58	38,663	976	1,641	26	2,288	72
June	29,296	845	1,230	14	2,288	54	39,966	820	1,723	20	2,288	75
July	24,652	837	992	15	2,288	43	36,453	935	1,478	19	2,288	65
August	25,510	829	1,048	15	2,288	46	22,580	1,146	1,697	20	2,288	74
September	25,333	889	1,132	15	2,288	49	34,419	1,026	1,654	19	2,288	72
October	30,825	977	1,307	16	2,288	57	20,673	1,024	855	10	2,288	37
November	33,118	1,062	1,333	16	2,288	58	19,952	1,181	800	9	2,288	35
December	34,279	1,013	1,371	17	2,288	60	21,306	1,211	778	9	2,288	34
<b>Total</b>	<b>351,72</b>						<b>394,51</b>					

		Well "A" Deschene					Well "D" Frost Well					
		m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow
January	20,511	476	904	10	1,797	50	52,958	1,121	2,372	27	2,288	104
February	21,660	499	883	10	1,797	49	57,676	1,147	2,358	27	2,288	103
March	24,221	376	880	10	1,797	49	54,460	1,105	2,337	27	2,288	102
April	21,868	523	893	10	1,797	50	50,124	1,329	2,063	24	2,288	90
May	20,560	474	933	11	1,797	52	46,021	1,158	2,078	24	2,288	91
June	22,682	537	911	11	1,797	51	51,991	1,101	2,072	24	2,288	91
July	20,060	564	837	11	1,797	47	43,736	1,218	1,990	24	2,288	87
August	20,424	570	875	11	1,797	49	45,135	1,283	2,017	24	2,288	88
September	20,572	573	885	10	1,797	49	44,954	1,592	2,028	23	2,288	89
October	22,833	731	879	10	1,797	49	51,202	1,526	2,014	23	2,288	88
November	21,800	630	864	10	1,797	48	51,873	1,693	2,140	24	2,288	94
December	23,437	659	848	10	1,797	47	56,685	1,771	2,052	24	2,288	90
Total	260,62						606,81					

		Well "H" Michelle Well					Well "E" Notre Dame					
		m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow
January	41,429	334	1,663	26	2,289	73	39,525	1,407	2,024	24	3,105	65
February	44,721	968	2,060	26	2,289	90	38,754	1,282	1,598	23	3,105	51
March	48,275	912	1,889	25	2,289	83	36,721	1,258	1,494	18	3,105	48
April	45,245	903	1,945	26	2,289	85	19,892	1,136	1,329	16	3,105	43
May	48,206	1,029	2,174	26	2,289	95	15,684	1,133	1,303	15	3,105	42
June	49,056	977	2,391	28	2,289	104	27,952	1,128	1,321	15	3,105	43
July	43,094	978	1,861	26	2,289	81	33,608	1,436	1,298	15	3,105	42
August	37,132	1,025	1,698	22	2,289	74	11,844	1,340	1,218	19	3,105	39
September	36,173	1,192	1,784	23	2,289	78	7,092	1,525	1,028	17	3,105	33
October	36,641	1,140	1,486	22	2,289	65	2,541	1,416	740	16	3,105	24
November	37,820	1,319	1,560	21	2,289	68	0	1,560	0	0	3,105	0
December	44,776	1,379	1,667	22	2,289	73	0	1,388	0	0	3,105	0
Total	512,56						233,61					

		Well "F" Linden					Well "G" Pharand					
		m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow
January	56,888	1,427	2,526	31	3,268	77	33,546	1,095	1,578	21	2,289	69
February	14,954	1,249	2,376	31	3,268	73	25,952	1,019	1,800	21	2,289	79
March	50,213	2,024	2,636	32	3,268	81	24,731	1,190	1,548	21	2,289	68
April	51,176	2,020	2,567	30	3,268	79	19,747	1,055	1,285	16	2,289	56
May	49,856	1,695	2,217	26	3,268	68	18,639	1,104	1,178	16	2,289	51
June	57,324	1,638	2,239	26	3,268	69	33,473	1,023	1,425	17	2,289	62
July	48,627	1,313	2,100	25	3,268	64	26,836	1,102	1,218	16	2,289	53
August	56,924	1,504	2,180	25	3,268	67	29,949	1,092	1,226	16	2,289	54
September	50,562	1,798	2,187	25	3,268	67	29,055	955	1,245	15	2,289	54
October	56,551	1,779	2,172	25	3,268	66	32,797	415	1,312	15	2,289	57
November	52,817	1,920	2,159	25	3,268	66	33,241	236	1,326	15	2,289	58
December	59,166	1,923	2,139	25	3,268	65	36,142	551	1,346	16	2,289	59
<b>Total</b>	<b>605,05</b>						<b>344,10</b>					

		Well "I" Well				
		m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow
January	24,423	1,275	1,082	13	1,973	55
February	22,129	1,294	1,080	13	1,973	55
March	17,707	1,297	1,081	13	1,973	55
April	21,500	1,293	1,613	19	1,973	82
May	48,259	1,192	1,606	19	1,973	81
June	45,875	1,295	1,606	20	1,973	81
July	41,286	1,251	1,604	20	1,973	81
August	33,286	1,055	1,324	15	1,973	67
September	36,402	385	1,326	15	1,973	67
October	35,629	918	1,324	15	1,973	67
November	34,201	754	1,385	15	1,973	70
December	34,048	941	1,324	15	1,973	67
<b>Total</b>	<b>394,745</b>					

## **1.7 Levack Fluoride System**

**C of A No. 3125-5TEN2Y**

**Date: November 21, 2003**

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

The Levack water supply system owned by Inco is not the subject of this Compliance 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 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 Inco must prepare a GUDI study. Inco served notice late in 2003 that they intend to end supply agreement.

The water works in Levack will invariably require upgrades to ensure full compliance with O. Reg. 170/03. The exact extent of the upgrades is unknown at this time.

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**

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2005 reportable period.

**Table 1-7**  
**Levack Fluoridation Station**

Item	Non-Compliance	Measure Taken to Ensure Compliance
<b>MOE Inspection Issues</b>	<ul style="list-style-type: none"> <li>The required minimum levels of residual disinfectant are not maintained throughout the distribution system, records do not indicate residuals were above the 0.05 ppm levels at all times, and corrective actions were not taken in relation to this event.</li> </ul>	One incident of low chlorine residual was noted on the on-line equipment at the fluoridation building. Certified operators investigated but no further action was required at the time based upon the fact that the residual was back to normal range. All staff were advised of required corrective actions as part of legislation when low chlorine residuals are detected.
<b>MOE Orders</b>	NONE	N/A

**2005 Adverse Water Quality Incident Report**


**260006490 Levack Distribution System**

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/08/19	HPC	>500	CFU/100mL	Resample/Re-test;	2005/08/22
2005/09/29	HPC	500	CFU/100 ml	Resample/Re-test;	2005/10/03

### Annual Flow Summary

The following table 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 2005 reportable period.

						
2005 Annual Summary Levack						
Levack Fluoridation Facility						
	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
January	30,422	968	1,019	12	1,056	96
February	20,916	920	1,017	12	1,056	96
March	20,464	865	766	9	1,056	73
April	18,607	844	655	8	1,056	62
May	18,457	822	639	7	1,056	61
June	19,654	834	883	10	1,056	84
July	18,426	767	667	8	1,056	63
August	17,095	780	608	7	1,056	58
September	17,105	884	651	8	1,056	62
October	17,300	631	618	7	1,056	59
November	17,175	560	651	8	1,056	62
December	18,991	842	692	8	1,056	66
<b>Total</b>	234,612					

## 1.8 Falconbridge Water System

**C of A No. 3517-5VULKG**

**Date: February 04, 2004**

The Falconbridge water system, as owned and operated by the City, is a Fluoridation station and Building. Water is supplied to the Fluoride Building from the Falconbridge Ltd. new Deep-wells located southeast of the Sudbury Airport. The well that formally fed the town-site was located southeast of Falconbridge proper and was named “Pumphouse No. 4”. This well was deemed to be “GUDI” and as such required filtration and treatment upgrades, which is the reason behind Falconbridge moving to the new deep wells located some distance away. The water is treated to comply with O. Reg. 170/03 by Falconbridge Ltd. then delivered to the community of Falconbridge via the City’s fluoride building.

The Falconbridge well supply system that is owned by Falconbridge is not the subject of this Compliance Report, however, a brief explanation of the system is provided for continuity. The former Falconbridge Deep Well No. 4 is a groundwater well situated adjacent to Boucher Lake, southeast of Falconbridge. The groundwater quality had deteriorated due to historical mining activities therefore; a recharge system is now operated adjacent to PW No. 4. The recharge pit is filled with water from the Wanapitei River and a pump system also owned by Falconbridge. The resultant water quality is generally in compliance with the ODWS, however, it is considered to be potentially under direct influence of surface water.

Falconbridge has completed considerable upgrades to their water works to ensure compliance with O. Reg. 170/03. Falconbridge has reviewed and developed an alternative groundwater source and developed a new well field near the Sudbury Airport near Skeed. OCWA has been contracted to operate these new facilities for Falconbridge, which now feeds the town of Falconbridge. The old #4 well has been isolated from the distribution network and used solely for the mines as fire protection and process water.

The distribution network in the community of Falconbridge is owned by the City but was developed by Falconbridge 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

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2005 reportable period.

**Table 1-8**  
**Falconbridge Fluoridation Station**

Item	Non-Compliance	Measure Taken to Ensure Compliance
<b>MOE Inspection Issues</b>	<ul style="list-style-type: none"> <li>• None for 2005</li> </ul>	N/A
<b>MOE Orders</b>	NONE	N/A

## 2005 Adverse Water Quality Incident Report


### 260006477 Falconbridge Distribution System

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/07/16	HPC	1000	CFU/100ml	Resample/Re-test	2005/07/18
2005/08/10	Chlorine	0.02	Mg/L	Resample/Re-test	2005/08/10
2005/12/21	Sodium	20.6	PPM	Resample/Re-test	2005/12/22

### Annual Flow Summary

The following table 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 2005 reportable period.

 <b>2005 Annual Summary Falconbridge</b> <b>Falconbridge Fluoridation Facility</b>						
	m3 Total Flow	Average Daily Flow m3/d	Maximum Daily Flow m3/d	Instantaneous Peak Flow L/s	m3/d C of A Maximum Flow	% Capacity
January	6,635	353	251	2.90	727	35
February	5,580	388	233	2.70	727	32
March	6,352	378	228	2.69	727	31
April	6,741	378	280	3.22	727	39
May	9,463	384	627	7.44	727	86
June	11,891	451	631	7.36	727	87
July	13,096	396	654	7.69	727	90
August	8,939	303	470	5.31	727	65
September	6,808	237	296	3.48	727	41
October	6,320	228	250	2.86	727	34
November	6,804	211	258	2.95	727	35
December	7,628	225	281	3.35	727	39
<b>Total</b>	96,257					

**1.9 Other Distribution Systems (Onaping, Vermillion)**

The distribution systems of Onaping, and Vermillion do not have system specific certificates to operate but fall under the owners certificate for the treatment facility. The owners of the Onaping and Vermillion *treatment* facilities are Falconbridge and Inco and as such, have responsibility for these systems and are not the subject of this report. The City owns and operates the distribution networks in the communities of Onaping and Vermillion. The City has obligations to test, maintain and report on these distribution works as part of the new regulations.

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

**ONAPING**

**Non-Compliance with Act, Regulations, Order or Approvals**

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2004 reportable period.

**Table 1-9  
 Onaping Distribution System**

<b>Item</b>	<b>Non-Compliance</b>	<b>Measure Taken to Ensure Compliance</b>
<b>MOE Inspection Issues</b>	<ul style="list-style-type: none"> <li>• Secondary disinfection chlorine residual monitoring is not being conducted on a daily basis</li> </ul> <p>The donor has not agreed in writing to ensure that he will maintain secondary disinfection in the receiver and that he will sample and test the water in the receiver as though it was part of the donor's system</p>	<p>This was from 2003 when the new regulation came into effect in June and the on-line analyzer was not in place until September 7<sup>th</sup>, 2003.</p> <p>Relating to new regulation changes, the City was dependant on the owner of the supply to monitor free chlorine residuals entering the Onaping distribution system. This agreement was verbal and no formal written agreement was in place. Since April 1, 2004</p>

		the City has on-line monitoring in this distribution system with remote feedback of data to the SCADA system at Wanapitei where it is staffed 24/7.
<b>MOE Orders</b>	NONE	N/A

## 2005 Adverse Water Quality Incident Report

### 260006503 Onaping Distribution System

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/03/10	Total Coliform	1	CFU/100ml	Resample/Re-test	2005/03/14

### VERMILLION

#### Non-Compliance with Act, Regulations, Order or Approvals

The following table provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2005 reportable period.

**Table 1-10**  
**Vermillion Distribution System**

Item	Non-Compliance	Measure Taken to Ensure Compliance
<b>MOE Inspection Issues</b>	The required minimum levels of residual disinfectant are not maintained throughout the distribution system, records do not indicate that chlorine residual levels in the distribution system were above 0.05 mg/l free in all cases	This issue has been addressed by the addition of the on-line analyzer back in 2003/2004. The readings from this analyzer are communicated to the SCADA at the Wanapitei control room on a 24/7 basis.
<b>MOE Orders</b>	NONE	N/A

## 2005 Adverse Water Quality Incident Report

### 260006789 Vermillion Distribution System

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2005/11/12	HPC	970	CFU/100ml	Resample/Re-test	2005/11/15
2004/07/30	Total Coliform	1	CFU/100ml	Resample/Re-test	2005/11/15