

Part III Form 2

Section 11. ANNUAL REPORT.

Drinking-Water System Number:	220003528
Drinking-Water System	Capreol Wells and Distribution System
Drinking-Water System Owner:	City of Greater Sudbury
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	From 2005-01-01 To 2005-12-31

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>www.greatersudbury.ca TDS-Engineering Building</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>Number of Interested Authorities you report to: <input type="text" value="0"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Valley Wells and Distribution System	210000737

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water? Yes No

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method

Describe your Drinking-Water System

This system is supplied by three groundwater wells owned and operated by the City of Greater Sudbury. Wells are located directly beneath the respective pump houses. As per the Engineer's report, all three wells appear to be constructed in the same unconfined aquifer comprising mostly of sand and gravel. The system consists of duty wells M and J, and standby well #6 housed in individual structures. Each pump-house supplies treatment in the form of chlorination, fluoridation and corrosion control with Aquamag. Well #6 has also been upgraded to include Ultra-Violet irradiation as required for Log removal regulations due to the limited contact time of the water before it enters the distribution system. Continuous analyzers for fluoride, free chlorine residual and UV equipment are monitored by a PLC. Standby power generators with automatic transfer switches are located at well M and #6. The distribution system was originally constructed in approximately 1929-1930 and currently serves approximately 3700 residents. The system consists of a combination of PVC, Cast Iron, and Duct tile piping.

List all water treatment chemicals used over this reporting period

Chlorine Gas UN#1017, Hydrofluosilicic Acid (20-30%) UN#1778, Aquamag

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

UV irradiation was required to meet proper Log removal requirements due to the limited contact time of the water before it enters the distribution networks from the well point at #6 Vermillion well. Also, wells M and J wells had major overhauls to their pumps and motor components in 2005. This was done to enhance performance of equipment and to increase yields.

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
2005/11/17	Total Coliform	1	CFU	Resample/Re-test;	2005/11/19
2005/12/22	Pressure	20	psi	Resample/Re-test;	2005/12/22
2005/12/21	Sodium	49	ppm	Resample/Re-test;	2005/12/22
2005/05/29	Fluoride	2.06	ppm	Resample/Re-test;	2005/05/27
2005/05/29	Pressure	20	psi	Resample/Re-test;	2005/05/29
2005/05/17	Pressure	9	psi	Resample/Re-test;	2005/05/17
2005/05/12	Pressure	10	psi	Resample/Re-test;	2005/05/12

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC/Background Samples	Range of HPC/Background Results (min #)-(max #)
Raw: VERMILLION WELL#6					
	53	0 to 0	0 to 35	53	0 to 6
Raw: GREEN'S LAKE J WELL					
	51	0 to 0	0 to 96	51	0 to 11
Raw: GREEN'S LAKE M WELL					
	53	0 to 0	0 to 0	53	0 to 3
Treated: CAPREOL WELL SUPPLY - WELL M&J					
	104	0 to 0	0 to 0	104	0 to 0
Treated: CAPREOL WELL SUPPLY - WELL#6					
	51	0 to 0	0 to 0	51	0 to 0
Distribution	215	0 to 0	0 to 1	215	0 to 34

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

	Number of Grab Samples	Range of Results (min #) - (max #)
Chlorine Residual Distribution System	8,760	0.05 - 1.88

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

CAPREOL WELL SUPPLY - WELL M

Turbidity	8,760	0.02 - 2.00
Chlorine	8,760	0.09 - 1.74
Fluoride (If the DWS provides fluoridation)	8,760	0.07 - 1.36

CAPREOL WELL SUPPLY - WELL#6

Turbidity	8,760	0.04 - 2.00
Chlorine	8,760	0.00 - 1.62
Fluoride (If the DWS provides fluoridation)	576	0.42 - 1.49

CAPREOL WELL SUPPLY - WELL J

Turbidity	8,760	0.01 - 2.00
Chlorine	8,760	0.30 - 1.83
Fluoride (If the DWS provides fluoridation)		

*NOTE: Record the unit of measure if it is **not** milligrams per litre.*

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

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Lead	2005/01/19	<0.001	mg/L	No

CAPREOL WELL SUPPLY - WELL J

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2005/01/19	0.001	mg/L	No
Arsenic	2005/01/19	0.001	mg/L	No
Barium	2005/01/19	0.024	mg/L	No
Boron	2005/01/19	0.0083	mg/L	No
Cadmium	2005/01/19	0.0001	mg/L	No
Chromium	2005/01/19	0.0057	mg/L	No
Mercury	2005/01/19	0.0001	mg/L	No
Selenium	2005/01/19	0.001	mg/L	No
Uranium	2005/01/19	0.001	mg/L	No
Fluoride	2004/01/20	0.1	mg/L	No
Nitrite	2005/01/19	0.05	mg/L	No
	2005/06/09	0.05	mg/L	No
	2005/09/14	0.05	mg/L	No
	2005/12/19	0.05	mg/L	No
Nitrate	2005/01/19	0.1	mg/L	No
	2005/06/09	0.1	mg/L	No
	2005/09/14	0.1	mg/L	No
	2005/12/19	0.1	mg/L	No
Sodium	2005/12/19	13.3	mg/L	No

CAPREOL WELL SUPPLY - WELL M

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2005/01/19	0.001	mg/L	No
Arsenic	2005/01/19	0.001	mg/L	No
Barium	2005/01/19	0.032	mg/L	No
Boron	2005/01/19	0.0065	mg/L	No
Cadmium	2005/01/19	0.0001	mg/L	No
Chromium	2005/01/19	0.0046	mg/L	No
Mercury	2005/01/19	0.00013	mg/L	No
Selenium	2005/01/19	0.001	mg/L	No
Uranium	2005/01/19	0.001	mg/L	No
Fluoride	2004/01/20	0.1	mg/L	No
Nitrite	2005/01/19	0.05	mg/L	No
	2005/05/05	0.05	mg/L	No
	2005/09/14	0.05	mg/L	No
	2005/12/14	0.05	mg/L	No
Nitrate	2005/01/19	0.1	mg/L	No
	2005/05/05	0.1	mg/L	No
	2005/09/14	0.1	mg/L	No
	2005/12/14	0.1	mg/L	No
Sodium	2005/12/14	15.5	mg/L	No

CAPREOL WELL SUPPLY - WELL#6

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	2005/01/19	0.001	mg/L	No
Arsenic	2005/01/19	0.001	mg/L	No
Barium	2005/01/19	0.073	mg/L	No
Boron	2005/01/19	0.028	mg/L	No
Cadmium	2005/01/19	0.0001	mg/L	No
Chromium	2005/01/19	0.01	mg/L	No
Mercury	2005/01/19	0.0001	mg/L	No
Selenium	2005/01/19	0.001	mg/L	No
Uranium	2005/01/19	0.001	mg/L	No
Fluoride	2004/01/20	0.86	mg/L	No
Nitrite	2005/01/19	0.05	mg/L	No
	2005/05/05	0.05	mg/L	No
	2005/09/14	0.05	mg/L	No
	2005/12/14	0.05	mg/L	No
Nitrate	2005/01/19	0.63	mg/L	No
	2005/05/05	0.85	mg/L	No
	2005/09/14	0.63	mg/L	No
	2005/12/14	0.84	mg/L	No
Sodium	2005/12/14	45.0	mg/L	Yes
	2005/12/23	49.0	mg/L	Yes

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (NOTE: show latest annual average)	2005	0.0157	mg/L	No

CAPREOL WELL SUPPLY - WELL M

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2005/01/19	0.0005	mg/L	No
Aldicarb	2005/01/19	0.0006	mg/L	No
Aldrin + Dieldrin	2005/01/19	0.0002	mg/L	No
Atrazine + N-dealkylated metabolites	2005/01/19	0.0005	mg/L	No
Azinphos-methyl	2005/01/19	0.002	mg/L	No
Bendiocarb	2005/01/19	0.002	mg/L	No
Benzene	2005/01/19	0.0003	mg/L	No
Benzo(a)pyrene	2005/01/19	0.00001	mg/L	No
Bromoxynil	2005/01/19	0.0005	mg/L	No
Carbaryl	2005/01/19	0.005	mg/L	No
Carbofuran	2005/01/19	0.005	mg/L	No
Carbon Tetrachloride	2005/01/19	0.0003	mg/L	No
Chlordane (Total)	2005/01/19	0.0002	mg/L	No
Chlorpyrifos	2005/01/19	0.001	mg/L	No
Cyanazine	2005/01/19	0.001	mg/L	No
Diazinon	2005/01/19	0.001	mg/L	No
Dicamba	2005/01/19	0.001	mg/L	No
1,2-Dichlorobenzene	2005/01/19	0.0003	mg/L	No

1,4-Dichlorobenzene	2005/01/19	0.0003	mg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	2005/01/19	0.0001	mg/L	No
1,2-Dichloroethane	2005/01/19	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2005/01/19	0.0003	mg/L	No
Dichloromethane	2005/01/19	0.0003	mg/L	No
2-4 Dichlorophenol	2005/01/19	0.0005	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2005/01/19	0.001	mg/L	No
Diclofop-methyl	2005/01/19	0.0009	mg/L	No
Dimethoate	2005/01/19	0.003	mg/L	No
Dinoseb	2005/01/19	0.001	mg/L	No
Diquat	2005/01/19	0.007	mg/L	No
Diuron	2005/01/19	0.01	mg/L	No
Glyphosate	2005/01/19	0.01	mg/L	No
Heptachlor + Heptachlor Epoxide	2005/01/19	0.0002	mg/L	No
Linadane (Total)	2005/01/19	0.0001	mg/L	No
Malathion	2005/01/19	0.005	mg/L	No
Methoxychlor	2005/01/19	0.0001	mg/L	No
Metolachlor	2005/01/19	0.0005	mg/L	No
Metribuzin	2005/01/19	0.005	mg/L	No
Monochlorobenzene	2005/01/19	0.0003	mg/L	No
Paraquat	2005/01/19	0.001	mg/L	No
Parathion	2005/01/19	0.001	mg/L	No
Pentachlorophenol	2005/01/19	0.0005	mg/L	No
Phorate	2005/01/19	0.0005	mg/L	No
Picloram	2005/01/19	0.005	mg/L	No
Polychlorinated Biphenyls(PCB)	2005/01/19	0.0006	mg/L	No
Prometryne	2005/01/19	0.0003	mg/L	No
Simazine	2005/01/19	0.001	mg/L	No
Temephos	2005/01/19	0.01	mg/L	No
Terbufos	2005/01/19	0.0007	mg/L	No
Tetrachloroethylene	2005/01/19	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2005/01/19	0.0005	mg/L	No
Triallate	2005/01/19	0.001	mg/L	No
Trichloroethylene	2005/01/19	0.0003	mg/L	No
2,4,6-Trichlorophenol	2005/01/19	0.0005	mg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	2005/01/19	0.001	mg/L	No
Trifluralin	2005/01/19	0.001	mg/L	No
Vinyl Chloride	2005/01/19	0.0003	mg/L	No

CAPREOL WELL SUPPLY - WELL#6

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	2005/01/19	0.0005	mg/L	No
Aldicarb	2005/01/19	0.005	mg/L	No
Aldrin + Dieldrin	2005/01/19	0.0002	mg/L	No
Atrazine + N-dealkylated metabolites	2005/01/19	0.0005	mg/L	No
Azinphos-methyl	2005/01/19	0.002	mg/L	No
Bendiocarb	2005/01/19	0.002	mg/L	No
Benzene	2005/01/19	0.0003	mg/L	No
Benzo(a)pyrene	2005/01/19	0.00001	mg/L	No
Bromoxynil	2005/01/19	0.0005	mg/L	No

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Carbaryl	2005/01/19	0.005	mg/L	No
Carbofuran	2005/01/19	0.005	mg/L	No
Carbon Tetrachloride	2005/01/19	0.0003	mg/L	No
Chlordane (Total)	2005/01/19	0.0002	mg/L	No
Chlorpyrifos	2005/01/19	0.001	mg/L	No
Cyanazine	2005/01/19	0.001	mg/L	No
Diazinon	2005/01/19	0.001	mg/L	No
Dicamba	2005/01/19	0.001	mg/L	No
1,2-Dichlorobenzene	2005/01/19	0.0003	mg/L	No
1,4-Dichlorobenzene	2005/01/19	0.0003	mg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	2005/01/19	0.0001	mg/L	No
1,2-Dichloroethane	2005/01/19	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2005/01/19	0.0003	mg/L	No
Dichloromethane	2005/01/19	0.0003	mg/L	No
2-4 Dichlorophenol	2005/01/19	0.0005	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2005/01/19	0.001	mg/L	No
Diclofop-methyl	2005/01/19	0.0009	mg/L	No
Dimethoate	2005/01/19	0.003	mg/L	No
Dinoseb	2005/01/19	0.001	mg/L	No
Diquat	2005/01/19	0.007	mg/L	No
Diuron	2005/01/19	0.01	mg/L	No
Glyphosate	2005/01/19	0.01	mg/L	No
Heptachlor + Heptachlor Epoxide	2005/01/19	0.0002	mg/L	No
Linadane (Total)	2005/01/19	0.0001	mg/L	No
Malathion	2005/01/19	0.005	mg/L	No
Methoxychlor	2005/01/19	0.0001	mg/L	No
Metolachlor	2005/01/19	0.0005	mg/L	No
Metribuzin	2005/01/19	0.005	mg/L	No
Monochlorobenzene	2005/01/19	0.0003	mg/L	No
Paraquat	2005/01/19	0.001	mg/L	No
Parathion	2005/01/19	0.001	mg/L	No
Pentachlorophenol	2005/01/19	0.0005	mg/L	No
Phorate	2005/01/19	0.0005	mg/L	No
Picloram	2005/01/19	0.005	mg/L	No
Polychlorinated Biphenyls(PCB)	2005/01/19	0.0007	mg/L	No
Prometryne	2005/01/19	0.0003	mg/L	No
Simazine	2005/01/19	0.001	mg/L	No
Temephos	2005/01/19	0.01	mg/L	No
Terbufos	2005/01/19	0.0007	mg/L	No
Tetrachloroethylene	2005/01/19	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2005/01/19	0.0005	mg/L	No
Triallate	2005/01/19	0.001	mg/L	No
Trichloroethylene	2005/01/19	0.0003	mg/L	No
2,4,6-Trichlorophenol	2005/01/19	0.0005	mg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	2005/01/19	0.001	mg/L	No
Trifluralin	2005/01/19	0.001	mg/L	No
Vinyl Chloride	2005/01/19	0.0003	mg/L	No

CAPREOL WELL SUPPLY - WELL J

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
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Alachlor	2005/01/19	0.0005	mg/L	No
Aldicarb	2005/01/19	0.005	mg/L	No
Aldrin + Dieldrin	2005/01/19	0.0002	mg/L	No
Atrazine + N-dealkylated metabolites	2005/01/19	0.0005	mg/L	No
Azinphos-methyl	2005/01/19	0.002	mg/L	No
Bendiocarb	2005/01/19	0.002	mg/L	No
Benzene	2005/01/19	0.0003	mg/L	No
Benzo(a)pyrene	2005/01/19	0.00001	mg/L	No
Bromoxynil	2005/01/19	0.0005	mg/L	No
Carbaryl	2005/01/19	0.005	mg/L	No
Carbofuran	2005/01/19	0.005	mg/L	No
Carbon Tetrachloride	2005/01/19	0.0003	mg/L	No
Chlordane (Total)	2005/01/19	0.0002	mg/L	No
Chlorpyrifos	2005/01/19	0.001	mg/L	No
Cyanazine	2005/01/19	0.001	mg/L	No
Diazinon	2005/01/19	0.001	mg/L	No
Dicamba	2005/01/19	0.001	mg/L	No
1,2-Dichlorobenzene	2005/01/19	0.0003	mg/L	No
1,4-Dichlorobenzene	2005/01/19	0.0003	mg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	2005/01/19	0.0001	mg/L	No
1,2-Dichloroethane	2005/01/19	0.0003	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2005/01/19	0.0003	mg/L	No
Dichloromethane	2005/01/19	0.0003	mg/L	No
2-4 Dichlorophenol	2005/01/19	0.0005	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2005/01/19	0.001	mg/L	No
Diclofop-methyl	2005/01/19	0.0009	mg/L	No
Dimethoate	2005/01/19	0.003	mg/L	No
Dinoseb	2005/01/19	0.001	mg/L	No
Diquat	2005/01/19	0.007	mg/L	No
Diuron	2005/01/19	0.01	mg/L	No
Glyphosate	2005/01/19	0.01	mg/L	No
Heptachlor + Heptachlor Epoxide	2005/01/19	0.0002	mg/L	No
Linadane (Total)	2005/01/19	0.0001	mg/L	No
Malathion	2005/01/19	0.005	mg/L	No
Methoxychlor	2005/01/19	0.0001	mg/L	No
Metolachlor	2005/01/19	0.0005	mg/L	No
Metribuzin	2005/01/19	0.005	mg/L	No
Monochlorobenzene	2005/01/19	0.0003	mg/L	No
Paraquat	2005/01/19	0.001	mg/L	No
Parathion	2005/01/19	0.001	mg/L	No
Pentachlorophenol	2005/01/19	0.0005	mg/L	No
Phorate	2005/01/19	0.0005	mg/L	No
Picloram	2005/01/19	0.005	mg/L	No
Polychlorinated Biphenyls(PCB)	2005/01/19	0.0007	mg/L	No
Prometryne	2005/01/19	0.0003	mg/L	No
Simazine	2005/01/19	0.001	mg/L	No
Temephos	2005/01/19	0.01	mg/L	No
Terbufos	2005/01/19	0.0007	mg/L	No
Tetrachloroethylene	2005/01/19	0.0003	mg/L	No
2,3,4,6-Tetrachlorophenol	2005/01/19	0.0005	mg/L	No

Triallate	2005/01/19	0.001	mg/L	No
Trichloroethylene	2005/01/19	0.0003	mg/L	No
2,4,6-Trichlorophenol	2005/01/19	0.0005	mg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	2005/01/19	0.001	mg/L	No
Trifluralin	2005/01/19	0.001	mg/L	No
Vinyl Chloride	2005/01/19	0.0003	mg/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample

(Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non municipal year round residential, large non municipal non residential)