

Part III Form 2

Section 11. ANNUAL REPORT.

Drinking-Water System Number:	22 000 3047
Drinking-Water System Name:	Cochrane Water Treatment Plant
Drinking-Water System Owner:	Corporation of the Town of Cochrane
Drinking-Water System Category:	Large Municipal Residential System
Period being reported:	January 1, 2009 to December 31, 2009

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [ <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 [ ]</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>Cochrane Telecom Services 153 Sixth Ave., Cochrane, ON P0L 1C0 and Corporation of the Town of Cochrane 171 Fourth Ave., Cochrane, ON P0L 1C0</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</p>
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**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
Cochrane Water Treatment Plant	22 000 3047

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 note on monthly bills

**Describe your Drinking-Water System**

The water treatment works relies on groundwater from 3 wells, each with a capacity of 45.3 litres per second. The maximum flow for each well cannot exceed 50 litres per second. The wells are located at the east side of Water Plant Road, Lot 19, Concession 1, in the Town of Cochrane, next to the Plant. While the population of Cochrane is about 5,500, the Plant has the capacity of delivering 8,000 cubic metres per day.

The treatment process was designed to remove high iron content, manganese and hardness present in the raw water supplied that is produced by the three wells. "Lime Softening" is the process that is used. First, hydrated lime (calcium hydroxide) is added to the water. This increases the pH of the water causing the calcium carbonate, iron and manganese to precipitate out of the water. Most of the precipitated particles settle out in the two settling tanks. Then carbon dioxide is added in re-carbonation tanks to reduce the pH to normal levels with the dual media filters used to filter out any remaining particles. The finished water is now stored in an interconnected twin-celled in-ground clear well/ reservoir that has a capacity of 2,300 cubic metres. Three high-lift pumps, each rated at 83.4 litres per second are used to pump the water into the Town's distribution system. On the other side of town, a 2,700 cubic metre elevated storage tank provides gravity flow to the town. This storage is used during peak demand times in the day, and is available to provide the very high flow rates that could be required by the fire department in case of a large fire. The plan and storage tank (tower) have complete automatic control and alarm systems that notify the operator of any problems. The plant also has an emergency diesel generator that allows water to be treated and pumped in the event of a power outage. Cochrane Water/Sewer Services employs the services of Accuracy Environmental Laboratories Ltd. for all testing of water samples. Accuracy also sub-contracts some of these samples to other laboratories who provide the required testing as per Regulation 170/03. All laboratories employed for Cochrane Water/Sewer Services' water testing are accredited:

Accuracy Environmental Labs Ltd.  
 1470 Government Rd. W. Box 426  
 Kirkland Lake, ON P2N 3J1  
 (705) 642-3361

Caduceon Environmental Labs  
 40 Camelot Drive  
 Ottawa, ON K2G 5X1  
 (613) 228-1145

Maxxam Analytics  
 6740 Campobello Rd.  
 Mississauga, ON L5N 2L8  
 (905) 817-5751

**List all water treatment chemicals used over this reporting period**

**Chlorine Gas – Disinfection**  
**Sodium Bicarbonate – Flocculation/ Coagulation**  
**Hydrated Lime – Softening process**  
**Sodium Silicate – Flocculation / Coagulation**  
**Carbon Dioxide – pH Adjustment**

**Were any significant expenses incurred to?**

- Install required equipment  
 Repair required equipment  
 Replace required equipment – change flow meter for meter well # 5

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

There were six major expenses for 2009

**5<sup>th</sup> Street**  
**8<sup>th</sup> Street**  
**11<sup>th</sup> Avenue and Chalmers Avenue**  
**Ferguson Subdivision**  
**Smoke Testing**  
**Well Study**

**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

**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 Samples	Range of HPC Results (min #)-(max #)
<b>Raw</b>	<b>164</b>	<b>0</b>	<b>0 – 1</b>	<b>0</b>	<b>0</b>
<b>Treated</b>	<b>399</b>	<b>0</b>	<b>0</b>	<b>399</b>	<b>10</b>
<b>Distribution</b>	<b>269</b>	<b>0</b>	<b>0</b>	<b>144</b>	<b>66</b>

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 #)
Turbidity (Raw)	363	0 – 2.00
Turbidity (Treated)	363	0.04 – 0.14
Chlorine (Plant)	364	0.83 – 1.64
Free Chlorine (System)	349	0.34 – 1.65
Post-Residual Chlorine (Plant)	364	0.68 – 2.03
Continuous Free Chlorine Analyser	8760	0.04 – 2.00
Hardness	364	96.00 – 386.00
Temperature	364	7.8°C
pH	364	6.80– 9.3
Colour	364	0
Fluoride **(If the DWS provides fluoridation)	n/a	n/a
Waste Water Suspended Solids		

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

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

#### Summary of Nitrates & Nitrites tested during this reporting period

Date of Sample	Nitrates Result Value	Nitrites Result Value	Unit of Measure	Exceedance
February 10, 2009	<0.10	<0.05	mg/L	No
May 20, 2009	<0.10	<0.03	mg/L	No
August 18, 2009	<0.10	<0.05	mg/L	No
November 19, 2009	<0.10	<0.05	mg/L	No

MAC for Nitrate = 10 mg/L MAC FOR Nitrite = 1 mg/L

#### Summary Total Trihalomethanes in the Distribution System during this reporting period

Date of Sample	Result Value	Unit of Measure	Running Average	Exceedance
February 10, 2009	34.8	ug/L	37.625	No
May 20, 2009	33.9	ug/L		
August 18, 2009	27	ug/L		
November 19, 2009	54.8	ug/L		

MAC for Trihalomethane = 100 ug/L (Running Average)

#### Summary Lead tested in the Distribution System during this reporting period

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

Dates of Sample	No. of Samples	Result	Standard	Exceedance
March 23 – 25, 2009 – Home	15	<1.0	10	No
March 23 – 25, 2009 – Non Residence	2	<1.0 - 2.1	10	No
March 23 – 25, 2009 – Hydrants	4	<1.0	10	No
April 3 – 14, 2009 – Home	22	<1.0	10	No
April 3 – 14, 2009 – Non Residence	2	<1.0	10	No
April 3 – 14, 2009 – Hydrants	4	<1.0 - 334*	10	No
October 7 – 19, 2009 – Home	8	<1.0	10	No
October 7 – 19, 2009 – Non Residence	44	<1.0	10	No
October 7 – 19, 2009 - Hydrants	10	<1.0	10	No

\* April 7/09 Error on Lead Hydrants sampling and re-sampled immediately and the sample came back below detectable limits.

## Summary of Inorganic parameters tested during this reporting period or the most recent sample results sampled at the Water Treatment Plant

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance
Antimony	May 20, 2009	<0.5	mg/L	0.006	No
Arsenic	May 20, 2009	<1	mg/L	0.025	No
Barium	May 20, 2009	6.3	mg/L	1	No
Boron	May 20, 2009	2	mg/L	5	No
Cadmium	May 20, 2009	<0.1	mg/L	0.005	No
Chromium	May 20, 2009	1.2	mg/L	0.05	No
Mercury	May 20, 2009	<0.01	mg/L	0.001	No
Selenium	May 20, 2009	<1	mg/L	0.01	No
Uranium	May 20, 2009	<1	mg/L	0.02	No

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

Parameter	Sample Date	Result Value	Unit of Measure	Standard	Exceedance
Alachlor	May 20, 2009	<0.45	ug/L	5	No
Aldicarb	May 20, 2009	<0.62	ug/L	9	No
Atrazine	May 20, 2009	<0.45	ug/L	2.5	No
Atrazine + N-Desethyl-atrazine	May 20, 2009	<0.9	ug/L	5	No
Bendiocarb	May 20, 2009	<1.2	ug/L	40	No
Carbaryl	May 20, 2009	<1.2	ug/L	90	No
Carbofuran	May 20, 2009	<1.2	ug/L	90	No
Chlorpyrifos	May 20, 2009	<0.34	ug/L	90	No
Cyanazine	May 20, 2009	<0.34	ug/L	10	No
Diazinon	May 20, 2009	<0.34	ug/L	20	No
Desethyl-atrazine	May 20, 2009	<0.57	ug/L	2.5	No
Diclofop-methyl	May 20, 2009	<0.2	ug/L	9	No
Dimethoate	May 20, 2009	<0.34	ug/L	20	No
Malathion	May 20, 2009	<0.34	ug/L	190	No

Metolachlor	May 20, 2009	<0.23	ug/L	50	No
Metribuzin	May 20, 2009	<0.23	ug/L	80	No
Parathion	May 20, 2009	<0.23	ug/L	50	No
Phorate	May 20, 2009	<0.34	ug/L	2	No
Prometryne	May 20, 2009	<0.23	ug/L	1	No
Simazine	May 20, 2009	<0.34	ug/L	10	No
Terbufos	May 20, 2009	<0.23	ug/L	1	No
Tribluralin	May 20, 2009	<0.23	ug/L	45	No
<b>Food Group Parameters</b>					
Diquat	May 20, 2009	<7	ug/L	70	No
Parquat	May 20, 2009	<1	ug/L	10	No
<b>OC Pertricides</b>					
a Chlordane	May 20, 2009	<0.054-<0.055	ug/L	1	No
Aldrin	May 20, 2009	<0.054-<0.055	ug/L	0.2	No
Aldrin + Dieldrin	May 20, 2009	<0.004	ug/L	0.7	No
Chlordane (Total)	May 20, 2009	<0.004	ug/L	7	No
4, 4-DDD	May 20, 2009	<0.0011	ug/L	15	No
4, 4 DDE	May 20, 2009	<0.036-<0.037	ug/L	5	No
2, 4 DDT	May 20, 2009	<0.036-<0.037	ug/L	5	No
4, 4 DDT	May 20, 2009	<0.054-<0.055	ug/L	5	No
DDT + Metabolites	May 20, 2009	<0.005	ug/L	30	No
Dieldrin	May 20, 2009	<0.014-<0.015	ug/L	0.5	No
g Chlordane	May 20, 2009	<0.072-<0.074	ug/L	2	No
Heptachlor	May 20, 2009	<0.072-<0.074	ug/L	15	No
Heptachlor Epoxide	May 20, 2009	<0.072-<0.074	ug/L	1	No
Heptachlor + Heptachlor Epoxide	May 20, 2009	<0.054-<0.055	ug/L	2	No
Lindane (Total)	May 20, 2009	<0.054-<0.055	ug/L	4	No
Methoxychlor	May 20, 2009	<0.014-<0.015	ug/L	900	No
Oxychlordane	May 20, 2009	<0.009-<0.092	ug/L	4	No
Triallate	May 20, 2009	<0.23	ug/L	230	No
<b>Herbicides</b>					
Bromoxynil	May 20, 2009	<0.50	ug/L	5	No
Dicamba	May 20, 2009	<0.2	ug/L	120	No
Dinoseb	May 20, 2009	<0.05	ug/L	10	No
Glyphosate	May 20, 2009	<20	ug/L	280	No
Picloram	May 20, 2009	<0.05	ug/L	190	No
2,4-D	May 20, 2009	<0.2	ug/L	100	No
2,4,5 – Trichlorophenoxy acetic acid (2,4,5 – T)	May 20, 2009	<0.5	ug/L	280	No
<b>Phenols</b>					
2,3,4,6-Tetrachlorophenol	May 20, 2009	<0.058	ug/L	100	No
2,4,6-Trichlorophenol	May 20, 2009	<0.058	ug/L	5	No
2,4-Dichlorophenol	May 20, 2009	<0.058	ug/L	900	No
Pentachlorophenol	May 20, 2009	<0.058	ug/L	60	No
<b>VOCs</b>					
1,1 - Dichloroethylene	May 20, 2009	<0.25	ug/L	14	No
1,2 - Dichlorobenzene	May 20, 2009	<0.25	ug/L	200	No
1,2 - Dichloroethane	May 20, 2009	<0.25	ug/L	5	No
1,4 - Dichlorobenzene	May 20, 2009	<0.25	ug/L	5	No

Benzene	May 20, 2009	<0.25	ug/L	5	No
'Bromodichloromethane	May 20, 2009	4.62	ug/L	-	No
Bromoform	May 20, 2009	<0.25	ug/L	-	No
Carbon Tetrachloride	May 20, 2009	<0.25	ug/L	5	No
Chlorobenzene	May 20, 2009	<0.25	ug/L	80	No
Chloroform	May 20, 2009	36.3	ug/L	30	No
'Dibromochloromethane	May 20, 2009	<0.25	ug/L	-	No
Dichloromethane (Methylene Chloride)	May 20, 2009	<0.25	ug/L	50	No
1-Bromo-4-fluorobenzene (Surr.)	May 20, 2009	113	ug/L	-	No
Tetrachloroethylene	May 20, 2009	<0.25	ug/L	30	No
Toluen-d8 (Surr.)	May 20, 2009	106	ug/L	-	No
'Trichloroethylene	May 20, 2009	<0.25	ug/L	50	No
Vinylchloride	May 20, 2009	<0.25	ug/L	2	No
o-Xylene	May 20, 2009		ug/L	-	No
p+m-Xylene	May 20, 2009		ug/L	-	No
<b>Total Trihalomethanes</b>	May 20, 2009		ug/L		No
<b>Semi Volatile Organics</b>					
Diuron	May 20, 2009	<6.2	ug/L	150	No
Githion (Azinphos – methyl)	May 20, 2009	<0.34	ug/L	20	No
Temephos	May 20, 2009	<17	ug/L	280	No
<b>PAHs</b>					
Benzo(a)pyrene	May 20, 2009	<0.0090	ug/L	0.01	No
<b>Phenols</b>					
Polychlorinated Biphenyls(PCB)	May 20, 2009	<0.05	ug/L	3	No

### Summary of most recent sodium date tested at Water Treatment Plant

Date of Sample	No. of Samples	Result Value	Unit of Measure	Standard	Exceedance
March 14/06	1	21	Ug/L	20	Yes

There was an exceedance reported on March 10, 2006 for the sodium parameter. We re-sampled immediately on March 16, 2006. The public Health Inspector Bob Bell was contacted, who communicated the elevated sodium levels to local medical personnel.

