

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, 2006 to December 31, 2006

<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 [x]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] 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 Avenue 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
n/a	

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 [] – Not applicable

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 Notice 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 Golf Course 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

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

There were no major expenses for 2006.

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
Mar 10/06	Sodium	21	20	Re-sampled immediately - Reported to Public Health Inspector	Mar 16/06

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 #)
Raw	151	0	0	151	0
Treated	52	0	0	52	0-2
Distribution	260	0	0	260	<2-23

MAC for E.coli = 0 Counts/100 mL

MAC for Total Coliforms = 0 Counts/100 mL

MAC for Background Bacteria = 200 Counts/100 mL

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)	365	0
Turbidity (Treated)	365	0.04 – 0.22
Free Chlorine (Plant)	365	0.68 – 1.64
Free Chlorine (System)	311	0.22 – 1.39
Post Residual Chlorine (Plant)	365	0.72 – 1.67
Continuous Free Chlorine Analyzer	8760	0.04 – 2.00
Hardness	365	100.00 – 291.00
Temperature	365	7.8°C
pH	365	6.74 – 9.47
Colour	365	0
Fluoride** (If the DWS provides fluoridation)	n/a	n/a
Waste water suspended solids	12	3-21

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 Nitrates & Nitrites tested during this reporting period.

Date of sample	Nitrate Result Value	Nitrite Result Value	Unit of Measure	Exceedance
February 21, 2006	<0.1	<0.01	mg/L	No
April 25, 2006	<0.1	<0.1	mg/L	No
October 24, 2006	<0.1	<0.01	mg/L	No
December 12, 2006	<0.1	<0.01	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 21, 2006	36.15	ug/L	35.69	No
April 25, 2006	21.95	ug/L		
October 24, 2006	39.97	ug/L		
December 12, 2006	44.70	ug/L		

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

Summary Lead tested in the Distribution System

Date of sample	No. of Samples	Result Value	Unit of Measure	Standard	Exceedance
May 16, 2006	1	<0.0005	mg/L	10	No

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 16, 2006	<0.001	mg/L	0.006	No
Arsenic	May 16, 2006	<0.001	mg/L	0.025	No
Barium	May 16, 2006	0.018	mg/L	1.0	No
Boron	May 16, 2006	0.03	mg/L	5.0	No
Cadmium	May 16, 2006	<0.005	mg/L	0.005	No
Chromium	May 16, 2006	<0.005	mg/L	0.05	No
Mercury	May 16, 2006	<0.0001	mg/L	0.001	No
Selenium	May 16, 2006	<0.002	mg/L	0.01	No
Uranium	May 16, 2006	<0.0003	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
NP Pesticides					
Alachlor	May 16, 2006	<0.50	ug/L	5	No
Aldicarb	May 16, 2006	<5.0	ug/L	9	No
Atrazine	May 16, 2006	<0.50	ug/L	2.5	No
Atrazine + Desethyl-atrazine	May 16, 2006	<1.0	ug/L	5	No
Bendiocarb	May 16, 2006	<2.0	ug/L	40	No
Carbaryl	May 16, 2006	<5.0	ug/L	90	No
Carbofuran	May 16, 2006	<5.0	ug/L	90	No
Chlorpyrifos	May 16, 2006	<1.0	ug/L	90	No
Cyanazine	May 16, 2006	<1.0	ug/L	10	No
Diazinon	May 16, 2006	<1.0	ug/L	20	No
Desethyl-atrazine	May 16, 2006	<0.50	ug/L	2.5	No
Diclofop-methyl	May 16, 2006	<0.90	ug/L	9	No
Dimethoate	May 16, 2006	<2.5	ug/L	20	No
Malathion	May 16, 2006	<5.0	ug/L	190	No
Metolachlor	May 16, 2006	<0.50	ug/L	50	No
Metribuzin	May 16, 2006	<5.0	ug/L	80	No
Parathion	May 16, 2006	<1.0	ug/L	50	No
Phorate	May 16, 2006	<0.50	ug/L	2	No
Prometryne	May 16, 2006	<0.25	ug/L	1	No
Simazine	May 16, 2006	<1.0	ug/L	10	No
Terbufos	May 16, 2006	<0.70	ug/L	1	No
Trifluralin	May 16, 2006	<0.001	ug/L	45	No
Food Group Parameters					
Diquat	May 16, 2006	<7	ug/L	70	No
Paraquat	May 16, 2006	<1	ug/L	10	No
OC Pesticides					
a Chlordane	May 16, 2006	<0.006	ug/L	1	No
Aldrin	May 16, 2006	<0.006	ug/L	0.2	No
Aldrin + Dieldrin	May 16, 2006	<0.012	ug/L	0.7	No
Chlordane (Total)	May 16, 2006	<0.012	ug/L	7	No
4, 4-DDD	May 16, 2006	<0.006	ug/L	15	No

4, 4-DDE	May 16, 2006	<0.006	ug/L	5	No
2, 4-DDT	May 16, 2006	<0.006	ug/L	5	No
4, 4-DDT	May 16, 2006	<0.006	ug/L	5	No
DDT + Metabolites	May 16, 2006	<0.024	ug/L	30	No
Dieldrin	May 16, 2006	<0.006	ug/L	0.5	
g Chlordane	May 16, 2006	<0.006	ug/L	2	No
Heptachlor	May 16, 2006	<0.006	ug/L	1	No
Heptachlor Epoxide	May 16, 2006	<0.006	ug/L	2	No
Heptachlor + Heptachlor Epoxide	May 16, 2006	<0.12	ug/L	3	No
Lindane (Total)	May 16, 2006	<0.006	ug/L	4	No
Methoxychlor	May 16, 2006	<0.24	ug/L	900	No
Oxychlordane	May 16, 2006	<0.006	ug/L	4	
Triallate	May 16, 2006	<1.0	ug/L	230	No
Herbicides					
Bromoxynil	May 16, 2006	<0.050	ug/L	5	No
Dicamba	May 16, 2006	<1.0	ug/L	120	No
Dinoseb	May 16, 2006	<1.0	ug/L	10	No
Glyphosate	May 16, 2006	<1.0	ug/L	280	No
Picloram	May 16, 2006	<5.0	ug/L	190	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	May 16, 2006	<1.0	ug/L	280	No
Phenols					
2-4 Dichlorophenol	May 16, 2006	<0.50	ug/L	900	No
Pentachlorophenol	May 16, 2006	<0.50	ug/L	60	No
2,3,4,6-Tetrachlorophenol	May 16, 2006	<0.50	ug/L	100	No
2,4,6-Trichlorophenol	May 16, 2006	<0.50	ug/L	5	No
VOCs					
Benzene	May 16, 2006	<0.10	ug/L	5	No
Bromodichloromethane	May 16, 2006	4	ug/L	-	No
Bromoform	May 16, 2006	<0.20	ug/L	-	No
Carbon Tetrachloride	May 16, 2006	<0.10	ug/L	5	No
Chlorobenzene	May 16, 2006	<0.10	ug/L	80	No
Chloroform	May 16, 2006	19.1	ug/L	-	No
Dibromochloromethane	May 16, 2006	0.5	ug/L	-	No
1,2-Dichlorobenzene	May 16, 2006	<0.20	ug/L	200	No
1,4-Dichlorobenzene	May 16, 2006	<0.10	ug/L	5	No
1,2-Dichloroethane	May 16, 2006	<0.10	ug/L	5	No
1,1-Dichloroethylene (vinylidene chloride)	May 16, 2006	<0.10	ug/L	14	No
Dichloromethane	May 16, 2006	<0.50	ug/L	50	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	May 16, 2006	<0.10	ug/L	100	No
Ethylbenzene	May 16, 2006	<0.10	ug/L	-	No
Tetrachloroethylene	May 16, 2006	<0.10	ug/L	30	No
THM (NOTE: show latest annual average)	May 16, 2006	35.69	ug/L	100	No
Toluene	May 16, 2006	<0.20	ug/L	-	No
Trichloroethylene	May 16, 2006	<0.10	ug/L	50	No
Vinyl Chloride	May 16, 2006	<0.20	ug/L	2	No

o – Xylene	May 16, 2006	<0.10	ug/L	-	No
p + m - Xylene	May 16, 2006	<0.10	ug/L	-	No
Semi -Volatile Organics					
Diuron	May 16, 2006	<10	ug/L	150	No
Guthion (Azinphos-methyl)	May 16, 2006	<2	ug/L	20	No
Temephos	May 16, 2006	<10	ug/L	280	No
PAHs					
Benzo(a)pyrene	May 16, 2006	<0.0090	ug/L	0.01	No
Phenols					
Polychlorinated Biphenyls(PCB)	May 16, 2006	<0.05	ug/L	3	No

Summary of most recent sodium data tested at Water Treatment Plan

Date of Sample	No. of Samples	Result Value	Unit of Measure	Standard	Exceedence
March 10, 2006	1	21	ug/L	20	Yes

There was an exceedence 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.