



OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	22 000 3047
Drinking-Water System Name:	Cochrane Well Supply
Drinking-Water System Owner:	The Corporation of the Town of Cochrane
Drinking-Water System Category:	Large Municipal Residential System
Period being reported:	January 1, 2011 to December 31, 2011

<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; margin: 5px 0;"> <p style="text-align: center;">Cochrane Water & Wastewater Office 92 2nd St Cochrane, Ontario P0L 1C0</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; padding: 2px; width: 50px; margin: 5px auto;">4</div> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [x] No []</p> <p>Number of Interested Authorities you report to: <div style="border: 1px solid black; padding: 2px; width: 80px; margin: 5px auto;"></div></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 Well Supply	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 A note on their 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 plant 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 & Wastewater 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 & Wastewater 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

None

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
Oct 5/11	Low Cl2	0.03	Mg/l	Flush line resample, install bleeder	Oct 6/11

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	159	<1- <1	<1-5	0	0
Treated	52	<1 - <1	<1 -<1	52	<1-TNTC
Distribution	252	<1 - <1	<1 - <1	252	<1 - TNTC

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	8760	0.031-0.546
Chlorine	8760	0.69-1.52
Fluoride (If the DWS provides fluoridation)		

***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 additional testing and sampling carried out in accordance with the requirement of an approval, 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 the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	May 20, 2009	< 0.5	mg/L	No
Arsenic	May 20, 2009	< 1	mg/L	No
Barium	May 20, 2009	6.3	mg/L	No
Boron	May 20, 2009	2	mg/L	No
Cadmium	May 20, 2009	< 0.1	mg/L	No
Chromium	May 20, 2009	1.2	mg/L	No
*Lead	On Reduced lead sampling schedule			
Mercury	May 20, 2009	< 0.01	mg/L	No
Selenium	May 20, 2009	< 1	mg/L	No
Sodium	April 22, 2010	21.4	mg/L	Yes
Uranium	May 20, 2009	< 1	mg/L	No
Fluoride	April 14, 2010	< 0.1	mg/L	No
Nitrite	Nov. 8, 2011	< 0.05	mg/L	No
Nitrate	Nov. 8, 2011	< 0.1	mg/L	No

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

Summary of lead testing under Schedule 15.1 during this reporting period
(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances



Plumbing	Exempt		
Distribution	Exempt		

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	May 20, 2009	< 0.45	ug/L	No
Aldicarb	May 20, 2009	< 0.62	ug/L	No
Aldrin + Dieldrin	May 20, 2009	< 0.004	ug/L	No
Atrazine + N-dealkylated metabolites	May 20, 2009	< 0.9	ug/L	No
Azinphos-methyl	May 20, 2009	< 0.34	ug/L	No
Bendiocarb	May 20, 2009	< 1.2	ug/L	No
Benzene	May 20, 2009	< 0.25	ug/L	No
Benzo(a)pyrene	May 20, 2009	< 0.0057	ug/L	No
Bromoxynil	May 20, 2009	< 0.50	ug/L	No
Carbaryl	May 20, 2009	< 1.2	ug/L	No
Carbofuran	May 20, 2009	< 1.2	ug/L	No
Carbon Tetrachloride	May 20, 2009	< 0.25	ug/L	No
Chlordane (Total)	May 20, 2009	< 0.054 - < 0.055	ug/L	No
Chlorpyrifos	May 20, 2009	< 0.34	ug/L	No
Cyanazine	May 20, 2009	< 0.34	ug/L	No
Diazinon	May 20, 2009	< 0.34	ug/L	No
Dicamba	May 20, 2009	< 0.2	ug/L	No
1,2-Dichlorobenzene	May 20, 2009	< 0.25	ug/L	No

1,4-Dichlorobenzene	May 20, 2009	< 0.25	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	May 20, 2009	< 0.005	ug/L	No
1,2-Dichloroethane	May 20, 2009	< 0.25	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	May 20, 2009	< 0.25	ug/L	No
Dichloromethane	May 20, 2009	< 0.25	ug/L	No
2-4 Dichlorophenol	May 20, 2009	< 0.058	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	May 20, 2009	< 0.2	ug/L	No
Diclofop-methyl	May 20, 2009	< 0.2	ug/L	No
Dimethoate	May 20, 2009	< 0.34	ug/L	No
Dinoseb	May 20, 2009	< 0.05	ug/L	No
Diquat	May 20, 2009	< 7	ug/L	No
Diuron	May 20, 2009	< 6.2	ug/L	No
Glyphosate	May 20, 2009	< 20	ug/L	No
Heptachlor + Heptachlor Epoxide	May 20, 2009	< 0.054 - < 0.055	ug/L	No
Lindane (Total)	May 20, 2009	< 0.054 - < 0.055	ug/L	No
Malathion	May 20, 2009	< 0.34	ug/L	No
Methoxychlor	May 20, 2009	< 0.23	ug/L	No
Metolachlor	May 20, 2009	< 0.23	ug/L	No
Metribuzin	May 20, 2009	< 0.23	ug/L	No
Monochlorobenzene			ug/L	
Paraquat	May 20, 2009	< 1	ug/L	No
Parathion	May 20, 2009	< 0.23	ug/L	No



Pentachlorophenol	May 20, 2009	< 0.058	ug/L	No
Phorate	May 20, 2009	< 0.34	ug/L	No
Picloram	May 20, 2009	< 0.05	ug/L	No
Polychlorinated Biphenyls(PCB)	May 20, 2009	< 0.05	ug/L	No
Prometryne	May 20, 2009	< 0.23	ug/L	No
Simazine	May 20, 2009	< 0.34	ug/L	No
THM (NOTE: show latest annual average)	2011	0.14	ug/L	No
Temephos	May 20, 2009	< 17	ug/L	No
Terbufos	May 20, 2009	< 0.23	ug/L	No
Tetrachloroethylene	May 20, 2009	< 0.25	ug/L	No
2,3,4,6-Tetrachlorophenol	May 20, 2009	< 0.058	ug/L	No
Triallate	May 20, 2009	< 0.23	ug/L	No
Trichloroethylene	May 20, 2009	< 0.25	ug/L	No
2,4,6-Trichlorophenol	May 20, 2009	< 0.058	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	May 20, 2009	< 0.05	ug/L	No
Trifluralin	May 20, 2009	< 0.23	ug/L	No
Vinyl Chloride	May 20, 2009	< 0.25	ug/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