

**Part III Form 2
Section 11. ANNUAL REPORT.**

Drinking-Water System Number:	220003993
Drinking-Water System Name:	Palgrave Well Supply
Drinking-Water System Owner:	Regional Municipality of Peel
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2003 to December 2003

<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 Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> Region of Peel 10 Peel Centre Drive, 4th Floor Brampton, Ontario L6T 4B9 </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: fit-content;">None</div> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? N/A Yes [] No []</p> <p>Number of Interested Authorities you report to: <div style="border: 1px solid black; padding: 2px; width: fit-content;">N/A</div></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? N/A Yes [] No []</p>
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List Drinking-Water Systems, which receive all of their drinking water from your system:

None

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? N/A
Yes [x] No []

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

- [x] Public access/notice via the web
- [x] Public access/notice via Government Office
- [x] Public access/notice via a newspaper
- [x] Public access/notice via Public Request

Public access/notice via a Public Library

Public access/notice via other method _____

Describe your Drinking-Water System

The population served in Palgrave is 2946

A groundwater supply system consisting of three (3) wells, servicing the Town of Caledon (Palgrave), located in the Regional Municipality of Peel.

Palgrave Well No.1

A communal well water system supply system consisting of well supply and water treatment and associated appurtenances, located in Lot 36, Concession 8, at 1 Gibson Lake Drive in the Town of Caledon and consisting of the following:

- a drilled well, located in a concrete block well pump house with a submersible well water pump with a rated capacity of 10.6 L/S at a Total Dynamic Head of 100 m, complete with a raw water flowmeter with recording capabilities, check vales, pressure relief vale, air release vale, pump controls, raw and treated water sample taps, manual by-pass and filter to waste capabilities and all associated appurtenances, discharging directly into the distribution system,
- a sodium hypochlorite disinfection system consisting of one (1) metering pump, capable of handling up to 1.4 L/hr of sodium hypochlorite solution supplied from 204 L drums, and an in-line continuous free chlorine residual analyzer with recording and alarming capabilities,
- an iron sequestration system consisting of one (1) metering pump, capable of handling up to 5.83 L/hr of sodium silicate supplied from a 204 drums and
- all instrumentation and equipment compatible with the Owner's SCADA system;

Palgrave Well No.2

A communal well water supply system consisting of well supply and water treatment system and associated appurtenances, located in Lot 26, Concession 8, at 16860 Eight Line in the Town of Caledon and consisting of the following:

- a drilled well, located in a concrete block well pump house with a submersible well water pump with a rated capacity of 30.3 L/s at a TDH of 100 m, complete with a raw water flowmeter with recording capabilities, check vale, pressure relief vale, air release vale, pump controls, raw and treated water sample taps, manual by-pass and filter to waste capabilities and all associated appurtenances, discharging directly into the distribution system,

- a sodium hypochlorite disinfection system consisting of one (1) metering pump, capable of handling up to 3.6 L/hr of sodium hypochlorite solution supplied from 204 L drums, and an in-line continuous free chlorine residual analyzer with recording and alarming capabilities,
- an iron sequestering system consisting of one (1) metering pump, capable of handling up to 5.83 L/hr of sodium silicate supplied from 204 L drums and,
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- all instrumentation and equipment compatible with Owner's SCADA system;

Palgrave Well No.3

A communal well water supply system consisting of well supply and water treatment system and associated appurtenances, located in Lot 27, Concession 8, on the East Side of 8th Line, approximately 190 m North of Pine Avenue in the Town of Caledon and consisting of the following;

- a drilled well, located in a concrete block well pump house with a submersible well water pump with a rated capacity of 68.1 L/s at a TDH of 129.9 m, complete with a raw water flowmeter with recording capabilities, check vale, pressure relief vale, air release vale, pump controls, raw and treated water sample taps, manual by-pass and filter to waste capabilities and all associated appurtenances discharging directly into the distribution system,
- a sodium hypochlorite disinfection system consisting of one (1) metering pump, capable of handling up to 11.83 L/hr of sodium hypochlorite solution supplied from 204 L drums and an in-line continuous free chlorine residual analyzer with recording and alarming capabilities,
- an iron sequestering system consisting of one (1) metering pump, capable of handling up to 9.5 L/hr of sodium silicate supplied from 204 L drums,
- a 250 kW standby diesel generator set complete with automatic transfer switch system, to provide standby power to the facility in the event of power failure, and
- all instrumentation and equipment compatible with the Region's SCADA system;

List all water treatment chemicals used over this reporting period

Sodium Silicates and Sodium Hypochlorite

Were any significant expenses incurred to?

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

Describe
Palgrave Waterworks

Significant Installations	Approximate Expenditure
Palgrave Reservoir Expansion	\$675,000
Water Service Installations	\$6,470

Significant Repairs	Approximate Expenditure
Palgrave Well 2 Wellhead modifications	\$9,000
Watermain Breaks	\$6,500
Fire Hydrant Repairs	\$7,800
Water Distribution System Valve Repairs	\$6,900
Water Service Repairs	\$13,157

Significant Replacements	Approximate Expenditure
Fire Hydrant Replacements	\$4,100
Water Service Replacements	\$800

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 (dd/mm/yy)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (dd/mm/yy)
11/02/03	Background	>300	CFU/100mL	Re-sampled upstream, downstream and the reported location	14/02/03
16/07/03	Lead	0.0218	mg/L	Site was re-samples	16/07/03
02/09/03	Presence Absence Test	Present	P/A 100 mL	Re-sampled the raw and treated water from Well 2	12/09/03
08/12/03	Total Coliform Background	2 >200	CFU/100mL	Re-sampled	16/12/03 16/12/03

Note: Incident date represents the sampling date, corrective action date represents the date the incident was resolved.

Microbiological testing done under section 8 (2) during this reporting period

	Number of Samples	Range of E.Coli or Fecal Results (#-#)	Range of Total Coliform Results (#-#)	Range of Background Results	Number of HPC Samples	Range of HPC Results (#-#)
Palgrave 1 Raw	39	0	0	--	18	0
Palgrave 1 Treated	39	0	0	--	3	0
Palgrave 2 Raw	49	0	0	--	29	0
Palgrave 2 Treated	49	0	0	--	11	0
Palgrave 3 Raw	52	0	0	--	32	0
Palgrave 3 Treated	52	0	0	--	12	0
Distribution	255	0	0 - 2	0 - 200	255	0

Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.

	Number of Grab Samples	Range of Results (#-#) Palgrave Well # 1	Range of Results (#-#) Palgrave Well # 2	Range of Results (#-#) Palgrave Well # 3
Turbidity	8760	0.01 – 0.60	0.01 - 0.52	0.05 - 0.92
Chlorine	8760	0.76 - 1.63	1.06 – 1.55	1.22 - 1.52
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A	N/A

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 or order.

Date of order or C of A	Parameter	Date Sampled	Result	Unit of Measure

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

Parameter	Sample Date (dd/mm/yy)	Result Value Palgrave # 1	Result Value Palgrave #2	Result Value Palgrave # 3	Unit of Measure	Exceedance
Antimony	16/07/03	0.0005	0.00005	0.0005		
Arsenic	14/05/03	<0.002	<0.002	<0.002		
Barium	14/05/03	0.154	0.091	0.130		
Boron	14/05/03	0.012	0.006	0.005		
Cadmium	14/05/03	<0.0001	<0.0001	<0.0001		
Chromium	14/05/03	<0.009	<0.009	<0.009		
Lead	14/05/03	<0.0005	<0.0005	<0.0005		1 exceedance
Mercury	14/05/03	<0.08	<0.08	0.13	ug/L	
Selenium	14/05/03	<0.002	<0.002	<0.002		
Uranium	14/05/03	<0.0001	<0.0001	<0.0001		
Fluoride	14/05/03 26/11/03	0.061	0.082	0.058		
Nitrite	16/07/03 26/11/03	<0.017	<0.017	<0.017		
Nitrate	16/07/03 26/11/03	<0.044	<0.044	<0.044		

**Summary of Organic parameters sampled during this reporting period or most recent
 ND= Not Detected**

Parameter	Sample Date (dd/mm/yy)	Result Value Palgrave # 1	Result Value Palgrave # 2	Result Value Palgrave # 3	Unit of Measure	Exceedance
Alachlor	16/07/03	ND	ND	ND	ug/L	
Aldicarb	16/07/03	ND	ND	ND	ug/L	
Aldrin + Dieldrin	16/07/03	ND	ND	ND	ug/L	
Atrazine + N-dealkylated metabolites						
Atrazine	16/07/03	ND	ND	ND	ug/L	
Azinphos-methyl	16/07/03	ND	ND	ND	ug/L	
Bendiocarb	16/07/03	ND	<0.92	ND	ug/L	
Benzene	16/07/03	ND	ND	ND	ug/L	
Benzo(a)pyrene	16/07/03	ND	ND	ND	ug/L	
Bromoxynil	16/07/03	ND	ND	ND	ug/L	
Carbaryl	16/07/03	ND	ND	ND	ug/L	
Carbofuran	16/07/03	ND	ND	ND	ug/L	
Carbon Tetrachloride	16/07/03	ND	ND	ND	ug/L	
Chlordane (Total)	16/07/03	ND	ND	ND	ug/L	
Chlorpyrifos	16/07/03	ND	ND	ND	ug/L	
Cyanazine	16/07/03	ND	ND	ND	ug/L	
Diazinon	16/07/03	ND	ND	ND	ug/L	
Dicamba	16/07/03	ND	ND	ND	ug/L	
1,2-Dichlorobenzene	16/07/03	ND	ND	ND	ug/L	
1,4-Dichlorobenzene	16/07/03	ND	ND	ND	ug/L	
Dichlorodiphenyltrichloroethane (DDT) + metabolites	16/07/03	ND	ND	ND	ug/L	
1,2-Dichloroethane	16/07/03	ND	ND	ND	ug/L	
1,1-Dichloroethylene (vinylidene chloride)	16/07/03	ND	ND	ND	ug/L	
Dichloromethane	16/07/03	ND	ND	ND	ug/L	
2-4 Dichlorophenol	16/07/03	ND	ND	ND	ug/L	
2,4-Dichlorophenoxy acetic acid (2,4-D)	16/07/03	ND	ND	ND	ug/L	
Diclofop-methyl	16/07/03	ND	ND	ND	ug/L	
Dimethoate	16/07/03	<0.46	ND	<0.46	ug/L	
Dinoseb	16/07/03	ND	ND	ND	ug/L	
Diquat	16/07/03	ND	ND	ND	ppb	
Diuron	16/07/03	ND	ND	ND	ug/L	
Glyphosate	16/07/03	ND	ND	ND	ug/L	
Heptachlor + Heptachlor Epoxide	16/07/03	ND	ND	ND	ug/L	
Linadane (Total)	16/07/03	ND	ND	ND	ug/L	
Malathion	16/07/03	ND	ND	ND	ug/L	
Methoxychlor	16/07/03	ND	ND	ND	ug/L	
Metolachlor	16/07/03	ND	ND	ND	ug/L	
Metribuzin	16/07/03	ND	ND	ND	ug/L	
Monochlorobenzene	16/07/03	ND	ND	ND	ug/L	
Paraquat	16/07/03	ND	ND	ND	ppb	
Parathion	16/07/03	ND	ND	ND	ug/L	
Pentachlorophenol	16/07/03	ND	ND	ND	ug/L	
Phorate	16/07/03	ND	ND	ND	ug/L	
Picloram	16/07/03	ND	ND	ND	ug/L	
Polychlorinated Biphenyls(PCB)	16/07/03	ND	ND	ND	ug/L	
Promethyne	16/07/03	ND	ND	ND	ug/L	
Simazine	16/07/03	ND	ND	ND	ug/L	
THM (NOTE: show latest quarterly average)	16/07/03 26/11/03	18.6	24.0	8.47	ug/L ug/L	
Temphos	16/07/03	ND	ND	ND	ug/L	

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Terbufos	16/07/03	ND	ND	ND	ug/L	
Tetrachloroethylene	16/07/03	ND	ND	ND	ug/L	
2,3,4,6-Tetrachlorophenol	16/07/03	ND	ND	ND	ug/L	
Triallate	16/07/03	ND	<0.59	ND	ug/L	
Trichloroethylene	16/07/03	ND	ND	ND	ug/L	
2,4,6-Trichlorophenol	16/07/03	ND	ND	ND	ug/L	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	16/07/03	ND	ND	ND	ug/L	
Trifluralin	16/07/03	ND	ND	ND	ug/L	
Vinyl Chloride	16/07/03	ND	ND	ND	ug/L	

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 category is large municipal residential, small municipal residential, large municipal non residential, small municipal non residential, large non municipal non residential)