	DWQMS Operational Plan	Form 05-12
	Revision Date: March 28, 2014	Revision: 3
	Approved By: Vice President Operations & Engineering	
Title: Richards Landing DWS Annual & Summary Reports 2013		Page 1 of 11

**Richards Landing**  
**Drinking Water System**  
**Waterworks # 20007212**  
  
**Annual & Summary Reports**  
**2013**

ANNUAL REPORT 2013

<b>Drinking-Water System Number:</b>	220007212
<b>Drinking-Water System Name:</b>	Richard's Landing Drinking Water System
<b>Drinking-Water System Owner:</b>	Corporation of the Township of St. Joseph
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	Jan 1 – Dec 31, 2013

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></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 [ ] No [x]</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Township of St. Joseph Municipal Office 1669 Arthur Street Richard's Landing, ON P0R 1J0</p>	<p><b><u>Complete for all other Categories.</u></b></p> <p>N/A</p> <p>Number of Designated Facilities served:</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:</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: N/A

Drinking Water System Name	Drinking Water System Number

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 [ ] 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 [Island Clippings/ Twp newsletter](#)

**Describe your Drinking-Water System**

The water treatment system is comprised of two wells equipped with submersible pumps, one monitoring well, cartridge bag filtration, disinfection (UV and sodium hypochlorite), in-ground storage, with high lift and fire pumps. A diesel generator is located on-site to provide emergency power, and two pressure tanks maintain distribution system pressure during low flow conditions.

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

Sodium Hypochlorite  
Blended Polyphosphate

**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**

Routine Maintenance  
Purchase of chemical feed panel for polyphosphates addition for corrosion control  
Rebuild of High Lift pump #1 motor

**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 - N/A**

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
Jan 18/13	Turbidity	>1.00	NTU	Confirmed meter. Turbidity back to normal upon arrival.	Jan 18-13
Jul 21/13	Turbidity	>1.00	NTU	Confirmed meter. Turbidity back to normal upon arrival.	Jul 21/13
Nov 9/13	Turbidity	>1.00	NTU	Confirmed meter. Turbidity back to normal upon arrival.	Nov 9/13

**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	106	0 - 2	0 - 42	N/A	N/A
Treated	53	0	0	53	0 - 680
Distribution	111	0	0	41	0 - 16

**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 (Filter #1)	105,120	0 - 2.08
Turbidity (Filter #2)	105,120	0 - 2.03
Chlorine	105,120	0.73 - 1.53
Fluoride (If the DWS provides fluoridation)	N/A	N/A

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

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	29-Apr-13	<0.02	ug/L	No
Arsenic	29-Apr-13	0.4	ug/L	No
Barium	29-Apr-13	16.8	ug/L	No
Boron	29-Apr-13	29.0	ug/L	No
Cadmium	29-Apr-13	0.003	ug/L	No
Chromium	29-Apr-13	1.1	ug/L	No
Mercury	29-Apr-13	<0.01	ug/L	No
Lead *				
Selenium	29-Apr-13	<1	ug/L	No
Sodium	29-Apr-13	42.1	mg/L	Yes
Uranium	29-Apr-13	0.347	ug/L	No
Fluoride	29-Apr-13	0.08	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

Parameter	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Date	28-Jan-13	29-Apr-13	29-Jul-13	28-Oct-13
Unit of Measure	mg/L	mg/L	mg/L	mg/L
Nitrite	<0.005	<0.003	<0.003	<0.003
Nitrate	1.73	1.66	1.63	1.59

**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			
Distribution			

\*Relief of sampling (to every 3<sup>rd</sup> 12 month period) in effect until 2016.

**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	29-Apr-13	<0.02	ug/L	No
Aldicarb	29-Apr-13	<0.01	ug/L	No
Aldrin + Dieldrin	29-Apr-13	<0.01	ug/L	No
Atrazine + N-dealkylated metabolites	29-Apr-13	<0.01	ug/L	No
Azinphos-methyl	29-Apr-13	<0.02	ug/L	No
Bendiocarb	29-Apr-13	<0.01	ug/L	No
Benzene	29-Apr-13	<0.32	ug/L	No
Benzo(a)pyrene	29-Apr-13	<0.004	ug/L	No
Bromoxynil	29-Apr-13	<0.33	ug/L	No
Carbaryl	29-Apr-13	<0.01	ug/L	No
Carbofuran	29-Apr-13	<0.01	ug/L	No
Carbon Tetrachloride	29-Apr-13	<0.16	ug/L	No
Chlordane (Total)	29-Apr-13	<0.01	ug/L	No
Chlorpyrifos	29-Apr-13	<0.02	ug/L	No
Cyanazine	29-Apr-13	<0.03	ug/L	No
Diazinon	29-Apr-13	<0.02	ug/L	No
Dicamba	29-Apr-13	<0.20	ug/L	No
1,2-Dichlorobenzene	29-Apr-13	<0.41	ug/L	No
1,4-Dichlorobenzene	29-Apr-13	<0.36	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	29-Apr-13	<0.01	ug/L	No
1,2-Dichloroethane	29-Apr-13	<0.35	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	29-Apr-13	<0.33	ug/L	No
Dichloromethane	29-Apr-13	<0.35	ug/L	No
2-4 Dichlorophenol	29-Apr-13	<0.15	ug/L	No

Parameter	Date	Result Value	Unit of Measure	Exceedance
2,4-Dichlorophenoxy acetic acid (2,4-D)	29-Apr-13	<0.19	ug/L	No
Diclofop-methyl	29-Apr-13	<0.40	ug/L	No
Dimethoate	29-Apr-13	<0.03	ug/L	No
Dinoseb	29-Apr-13	<0.36	ug/L	No
Diquat	29-Apr-13	<1.0	ug/L	No
Diuron	29-Apr-13	<0.03	ug/L	No
Glyphosate	29-Apr-13	<1.0	ug/L	No
Heptachlor + Heptachlor Epoxide	29-Apr-13	<0.01	ug/L	No
Lindane (Total)	29-Apr-13	<0.01	ug/L	No
Malathion	29-Apr-13	<0.02	ug/L	No
Methoxychlor	29-Apr-13	<0.01	ug/L	No
Metolachlor	29-Apr-13	<0.01	ug/L	No
Metribuzin	29-Apr-13	<0.02	ug/L	No
Monochlorobenzene	29-Apr-13	<0.30	ug/L	No
Paraquat	29-Apr-13	<1.0	ug/L	No
Parathion	29-Apr-13	<0.02	ug/L	No
Pentachlorophenol	29-Apr-13	<0.15	ug/L	No
Phorate	29-Apr-13	<0.01	ug/L	No
Picloram	29-Apr-13	<1.0	ug/L	No
Polychlorinated Biphenyls(PCB)	29-Apr-13	<0.04	ug/L	No
Prometryne	29-Apr-13	<0.03	ug/L	No
Simazine	29-Apr-13	<0.01	ug/L	No
THM (NOTE: show latest annual average)	2013 RAA	40.5	ug/L	No
Temephos	29-Apr-13	<0.01	ug/L	No
Terbufos	29-Apr-13	<0.01	ug/L	No
Tetrachloroethylene	29-Apr-13	<0.35	ug/L	No
2,3,4,6-Tetrachlorophenol	29-Apr-13	<0.14	ug/L	No
Triallate	29-Apr-13	<0.01	ug/L	No
Trichloroethylene	29-Apr-13	<0.44	ug/L	No
2,4,6-Trichlorophenol	29-Apr-13	<0.25	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	29-Apr-13	<0.22	ug/L	No
Trifluralin	29-Apr-13	<0.02	ug/L	No
Vinyl Chloride	29-Apr-13	<0.17	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. - N/A

Parameter	Result Value	Unit of Measure	Date of Sample

**Richard's Landing  
Drinking Water System  
Waterworks # 20007212**

**Summary Reports for Municipalities  
2013**

**As required by  
Schedule 22 of O. Reg 170/03**

This report is prepared by PUC Services for the Township of St. Joseph for The Richard's Landing Drinking Water System in accordance with Schedule 22 of O. Reg. 170/03. The report is a requirement for all Large and Small Municipal Residential systems.

**Summary Report Requirements:**

The owner of a drinking water system shall ensure that, not later than March 31 of each year, a report is prepared in accordance with Schedule 22 of O. Reg. 170/03 for the preceding calendar year.

The report must include the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence and any orders applicable to the system that were not met at any time during the period covered by the report and specify the duration of the failure. Each failure described must also include the measures that were taken to correct the failure.

The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit, or municipal drinking water licence.

**Regulations:**

Safe Drinking Water Act, 2002 - O. Reg. 170/03 Drinking Water Systems

**System Approval:**

MUNICIPAL DRINKING WATER LICENCE, Licence Number: 284-101,

Issue Number: 1, Issued May 27, 2011

DRINKING WATER WORKS PERMIT, Permit Number: 284-201,

Issue Number: 1, Issued May 27, 2011

**Most recent Drinking Water System Inspection Report:**

DWS Number: 220007212

Inspected by: Clifford Graham

Inspection Number: 1-ANSQT

Date of Inspection: April 08, 2013

Date of Previous Inspection: April 10, 2012

The following table, identifies any non-compliance with requirement of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence and any orders applicable to the system that were not met at any time during the period covered by the report

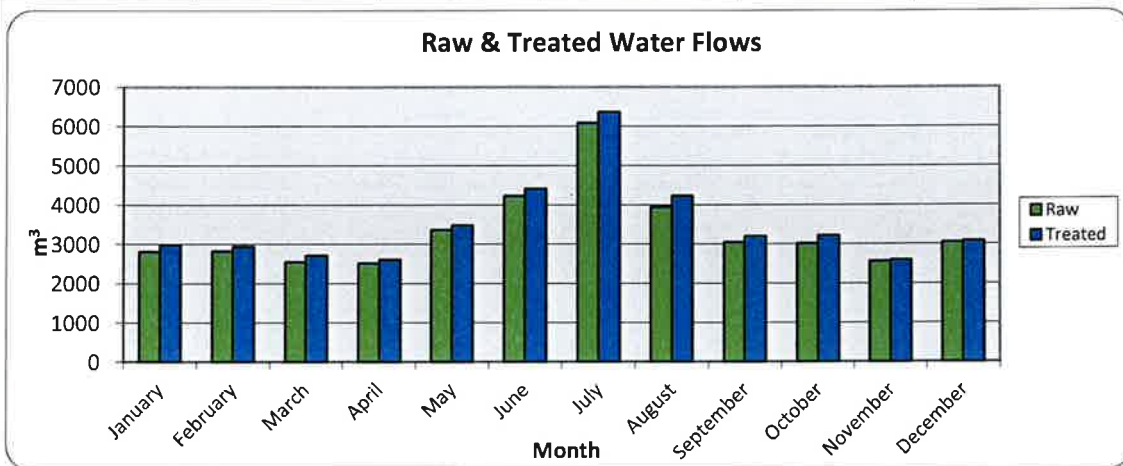


**Non- Compliance with Regulatory Requirements and Actions Required:  
Identified during the April 08, 2013 inspection by Cliff Graham**

Non- Compliance	The Richards Landing drinking water system is in non-compliance with the requirement to alarm turbidity readings for an 8 minute period following the start-up of the well pump. O.R. 170/03 s 6-5(1)1 and (1.1)1.
Action Required	<p>The owner shall take the following steps to ensure that the drinking water system is in compliance with section 6-5 of O.Reg. 170/03:</p> <ol style="list-style-type: none"> <li>1. By July 31, 2013 investigate and implement any possible modifications to alleviate turbidity spikes on the pump start-up, and remove the 8 minute delay of the turbidity alarm.</li> <li>2. By July 31, 2013, if a resolution to the turbidity spikes cannot be found, submit an application for regulatory relief to the Approving Director to allow a delay of the turbidity alarm and the recording of turbidity readings during pump start-up, along with all necessary supporting documentation.</li> <li>3. By August 31, 2013 provide written notification to the inspecting officer of the resolution of this issue.</li> </ol>
Corrective Actions	<ol style="list-style-type: none"> <li>1. Investigation was completed with the following actions:             <ol style="list-style-type: none"> <li>a. Purchased and installed de-bubbler chamber as per manufacturer recommendation.</li> <li>b. Installed a test check valve on filter effluent line on one of the turbidity units (with no success)</li> <li>c. Enabled "Bubble Reject" filter in both ABB turbidity meters as per manufacturer recommendation</li> <li>d. Reinstalled turbidity meters back to original location</li> <li>e. Elevated drain lines from turbidity meters above the piping system as they were syphoning the filters empty when the raw pump(s) were off. "Remove the problem at the source"</li> <li>f. Removed alarm delay timer from logic in Seimens PLC.</li> <li>g. Tested high turbidity alarms to confirm immediate call-out</li> </ol> </li> <li>2. N/A</li> <li>3. Written notification of summary report was submitted by Aug 31<sup>st</sup>, 2013</li> </ol>

**Flows Summary 2013**

Raw Water Flows 2013					
Month	Raw Water (m <sup>3</sup> )	Min Day (m <sup>3</sup> /d)	Max Day (m <sup>3</sup> /d)	Average Day (m <sup>3</sup> /d)	% of Max. Day to PTTW (1037 m <sup>3</sup> /d)
January	2,796	58	202	90.1	19.5
February	2,822	61	173	100.8	16.7
March	2,541	73	117	82.0	11.3
April	2,515	24	139	83.8	13.4
May	3,358	2	202	108.3	19.5
June	4,225	82	207	140.8	20.0
July	6,079	125	346	196.1	33.4
August	3,932	45	178	126.8	17.2
September	3,038	25	150	101.3	14.5
October	3,007	65	153	97.0	14.8
November	2,554	46	115	85.1	11.1
December	3,041	50	211	101.4	20.3



Treated Water Flows 2013					
Month	Treated Water (m <sup>3</sup> )	Min Day (m <sup>3</sup> /d)	Max Day (m <sup>3</sup> /d)	Average Day (m <sup>3</sup> /d)	% of Max. Day to Rated Capacity (1011 m <sup>3</sup> /d)
January	2,968	71	211	95.7	20.9
February	2,929	72	158	104.6	15.6
March	2,705	71	112	87.3	11.1
April	2,599	78	99	86.6	9.8
May	3,468	86	204	111.9	20.2
June	4,400	105	194	146.7	19.2
July	6,363	127	354	205.3	35.0
August	4,219	102	201	136.1	20.0
September	3,197	66	172	106.6	17.0
October	3,208	83	152	103.5	15.0
November	2,588	71	101	86.3	10.0
December	3,070	79	149	102.3	14.7

**Capacity Assessment**

*The Permit to Take Water authorizes the municipality to draw water from the wells at a rate not to exceed 1037 m<sup>3</sup>/d. The maximum daily volume taken was 346 m<sup>3</sup>, 33.4% of the permit limit.*

*Municipal Drinking Water Licence: 284-101 specifies a maximum rated flow of 1011 m<sup>3</sup>/day. The maximum flow rate reported was 354 m<sup>3</sup>, 35.0 % of the rated capacity.*

*This Summary report for The Richard's Landing Drinking Water System for the period of January 1<sup>st</sup> to December 31<sup>st</sup> 2013 has been prepared in accordance to Schedule 22 of O. Reg 170/03. The report has been reviewed and accepted by the Township of St. Joseph council.*

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Date