



Municipality of
Bayham

July 20, 2010

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RICHMOND COMMUNITY WATER SERVICE
Quarterly Report

Enclosed please find the first Quarterly Report regarding the Richmond Community Water System prepared by the Bayham Water/Wastewater Department. The format and general content is similar to the format utilized for the existing municipal water system. This report is being provided to all users of the Richmond water system for your information. Also attached is a general budget report to outline costs to date (as at June 2010) for further information.

We hope that the information is of assistance.

**Quarterly Report for
The Richmond Community Water System
for the period ending June 30, 2010
Waterworks # 260074854**

Section 1 - Introduction:

This report is a quarterly summary of water quality, published in accordance with Ontario's Drinking Water Protection Regulation. It includes important information regarding the source of water, analytical test results, and how these compare to the standards set by the Province.

Section 2 - Compliance With Provincial Regulations:

The Richmond Community Water System is operated in accordance with provincial regulations.

The following is the criteria used:

- **Use of Accredited Labs:**
Analytical tests to monitor the water quality are conducted by a laboratory audited by the Canadian Association for Environmental Analytical Laboratories (CAEAL) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods.

- **Operation by Licensed Operators:**
The Richmond Water System is operated and maintained by the Municipalities competent and licensed staff. The mandatory licensing program for operators of drinking water facilities in Ontario is regulated under the Ontario Safe Drinking Water Act. Licensing means that an individual meets the education and experience requirements and has successfully passed the certification exams.

- **Sampling and Analytical Requirements:**
The Municipality follows a sampling and analysis schedule required by the Ont. Regulation 170/03 and the Ontario Drinking Water Standards. More information on sampling and analysis, including results are available in this report and from the Municipal Wastewater Treatment Plant.
- **Adherence to Ministry Guidelines and Procedures:**
To ensure the protection of the public's health and operational excellence, the Municipality adheres to the guidelines and procedures developed by the Ministry of the Environment and the Ministry of Health.

Section 3 - System Information:

Facility Name: Richmond Community Water System

Municipal Location: Richmond

Contact:

Water and Wastewater Superintendent: Ed Roloson
(overall responsible operator)

Water and Wastewater Operators: Bob Butler, Adam Swance, Charlie Johnston

Service Area: Community of Richmond servicing 51 residents

Operational Description: Non-Municipal year round residential drinking water system.

Raw Water Source: Groundwater under the direct influence of surface water (GUDI)

Disinfection Method: Sodium hypochlorite flow paced with raw water pumping.

Secondary Disinfection Method: Ultra violet light

Section 4 - Analytical Test Results: Distribution, Raw, Plant

Micro biological Parameters	March	April	May	June	MAC / IMAC
Free Chlorine residual range	0.51 - 1.20	0.54 - 1.05	0.45 - 1.83	0.59 - 1.64	
Total Coliform CFU/100mL					
Number of Samples	10	8	10	8	
Number of Detectable Results	0	0	0	0	
Min / Max					Absent
Exceedences	0	0	0	0	
Resample					
Fecal Coliform or E-Coli Count CFU/100mL					
Number of Samples	10	8	10	8	
Number of Detectable Results	0	0	0	0	
Min / Max					Absent
Exceedences	0	0	0	0	
Heterotrophic Plate Count / Background					
Number of Samples	10	8	10	8	
Number of Detectable Results	0	0	0	0	
Min / Max					500/200 CFU
Exceedences	0	0	0	0	
Resample					
Typical Source of Contamination	Microbial contaminants, such as viruses and bacteria, may come from septic systems, agricultural livestock operations, and wildlife.				
Comments: Samples are collected weekly from the east and west distribution blow offs.					

Operational Parameters Raw Water	March	April	May	June	MAC/IMAC
Total Coliform/ E.Coli CFU/100mL	East well 30/2 West well 128/1	East well 54/3 West well 121/5	East well 57/2 West well 58/6	East well No data overgrowth of total coliform West well 340/15	
Turbidity NTU					
Number of Samples / Value	31 samples (range) 0.26-2.8	30 samples (range) 0.15 – 34.5	31 samples (range) 0.24 – 4.55	30 samples (range) 0.23 – 12.9	

Operational Parameters Treatment Plant Water	March	April	May	June	MAC/IMAC
Daily Free Chlorine Residuals and Turbidity samples (total)	124	120	124	120	
Turbidity NTU					1 NTU
East Turbidity	0.09 – 0.62	0.08 – 0.66	0.08 – 9.88	0.09 – 1.08	
East CL2	0.58 – 1.33	0.74 – 1.43	0.86 – 2.17	0.92 – 1.88	
West Turbidity	0.10 – 0.60	0.09 – 0.83	0.12 – 9.36	0.09 – 1.09	
West CL2	0.62 – 1.30	0.56 – 1.27	1.04 – 2.80	0.78 – 1.88	
Total Flows					
East Distribution	128550 gal avg. daily = 4147 gal	123820 gal avg. daily = 4127 gal	964700 gal avg. daily = 3112 gal	88920 gal avg. daily = 2964 gal	
West Distribution	104220 gal avg. daily = 3362 gal	98630 gal avg. daily = 3288 gal	106650 gal avg. daily = 3440 gal	98380 gal avg. daily = 3279 gal	

Section 5 - Discussion of Analytical Results:

It was found through thorough sampling that there were two adverse turbidity results during this time period of which resulted in a permanent drinking water advisory being issued by the Elgin St. Thomas Health Unit. This advisory will remain in effect until a new source water location is secured.

Section 6 - List of all Compounds Detected in Analysis of Water Samples:

Parameter	Compound	MAC or IMAC
Trihalomethanes (quarterly)	East Distribution 12 ug/L West Distribution 13 ug/L	100 ug/L
Lead Pb (tested in 2 nd & 3 rd quarter)	0.30 – 2.90 ug/L	10 ug/L MAC
Nitrates (quarterly)	East Well 9.22 mg/L West Well 9.20 mg/L	10 mg/L

Section 7 - Definitions and Abbreviations:

- **MAC** - Maximum Acceptable Concentration.
- **IMAC** - Interim Maximum Acceptable Concentration.
- **Coliform Bacteria** - A group of commonly occurring rod shaped bacteria. Their presence in a water sample is indicative of inadequate filtration and/or disinfection.
- **Fecal Coliform Bacteria** - Refers to a subgroup of coliform bacteria present in the digestive system of warm blooded animals and humans.
- **Heterotrophic Plate Count (HPC)** - A method of measuring bacterial content in water samples. Also known as Standard Plate Count.
- **Organic Parameter** - A group of chemical compounds containing carbon.
- **Inorganic Parameter** - A group of chemical compounds not containing carbon.
- **Raw Water** - Surface or ground water available as a source of drinking water that has not received any treatment.

Municipality of Bayham
Daily Process Data Collection

7/12/2010

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Facility: Richmond Community Water Inc.
Works: [260074854] - Richmond Community Water
Month: March-10 to June-10

OPERATION EVENTS AND CALL INS FOR 2nd QUARTER 2010

Date	Category	Details
3/20/2010	Oper. Highlight	Call In - 2 hours - Received alarm for UV unit failure on the west side. Feed west side from east side. Reset and checked bulbs on UV unit. Did not reset. Ran both sides off of east side. Flushed west side blow-off and took sample and chlorine residual. UV unit operational the next day.
4/11/2010	Oper. Highlight	Call in - 0.5 hour - Received alarm for UV unit failure on the east side. Upon arrival unit had rest itself. Flushed east side blow-off and took sample and chlorine residual.
4/21/2010	Oper. Highlight	Regular Time - 2 Hours total - Received alarm for UV unit failure on the west side. Upon arrival, the UV unit had rest itself. Flushed west side blow-off and took sample and chlorine residual.
5/14/2010	Oper. Highlight	OT - Total Hours - 18 hours - Rain event causing high turbidity, an adverse was reported for high turbidity level. Tanks were cleaned, filters changed, flushed the distribution at blow-offs, repaired check valve and took samples and chlorine residuals.
5/29/2010	Oper. Highlight	Call In - 6.5 hours - Received call of no water on the east distribution. Upon arrival, low level in the tanks (approx. 3 feet high). The demand was greater than the supply. Slowly refilled tanks. Flushed distribution system at blow-offs. Took samples and chlorine residuals.
6/6/2010	Oper. Highlight	Regular Time - 2 Hours total - High Turbidity level due to rain event. Reported adverse for high turbidity level. Changed filters, flushed distribution at blow-offs, took samples and chlorine residuals.
6/19/2010	Oper. Highlight	Call In - 4 hours - Received alarm for UV unit on the east side indicating bulbs need to be changed. Replaced the bulbs on the east side.
	Operational	

Note: Regular Time = 8 AM to 4:30 PM

Municipality of Bayham
 2010
 Richmond Water System

	2010 Actual (At June 2010)	2010 Budget (Annual)
Revenues		
Water Billings	15,660	88,444
Sundry	0	0
Water Meters	0	0
Water Connect Chgs	0	0
Penalties & Interest	<u>0</u>	<u>0</u>
	15,660	88,444
Expenditures		
Salaries & Wages	9,004	46,260
Statutory Benefits	990	5,089
Non Statutory Benefits	1,350	6,939
Supplies	1,835	600
Tools and Equipment	0	0
Lab Fees	1,572	3,840
Utilities	757	3,456
Advertising	0	0
Association Fees	0	0
Auditing Fees	0	0
System Maintenance	1,179	3,600
Vehicle maintenance	568	3,960
Insurance	0	0
Legal Fees	0	0
Training & Education	0	0
Licences	0	0
Conferences & Seminars	0	0
Telephone & Internet	0	0
Sundry	12,113	14,700
Transfers to Reserves	0	0
Water Quality Management	0	0
Service Contract Secondary System	0	0
Administrative Overhead	0	0
Water Supply	0	0
Utility Adjustments	<u>0</u>	<u>0</u>
	29,368	88,444

Note: Benefits estimated at this time