

**CLARKE CRESCENT  
PORT SYDNEY  
WELL WATER  
2014  
ANNUAL AND SUMMARY  
REPORT**



**DRINKING WATER WORKS PERMIT : 143-204  
MUNICIPAL DRINKING WATER LICENCE: 143-104**

**M.O.E. WATERWORKS# 220005688**

## **INTRODUCTION**

The Clarke Crescent Well Water system in Port Sydney is owned and operated by the District of Muskoka and was originally constructed in 1984. It has a capacity of 90 cubic meters per day (m<sup>3</sup>/day), and the water system currently serves 34 homes.

The plant operates under licence 143-104 and permit 143-204 under the Municipal Drinking Water Licencing Program. The plant also presently operates under MOE Permit To Take Water #5134-8FNR64 (expires January 15, 2021) which allows up to 90.92 m<sup>3</sup>/day to be taken from the well.

The treatment system had significant improvements take place in 2004/2005. These upgrades include a filtration system and primary disinfection by Ultraviolet (UV) light. Secondary disinfection continues to be maintained by chlorination. Water is obtained from a drilled well located at 46 Clarke Crescent.

## Legislation Requirements

### Safe Drinking Water Act

In the Part Two Report of the Walkerton Inquiry, Commissioner Dennis O'Connor recommended that the Ontario Government enact a Safe Drinking Water Act to deal with matters related to treatment and distribution of drinking water. The Safe Drinking Water Act received royal assent in December, 2002.

The purpose of the Act is to gather in one place all legislation and regulations relating to the treatment and distribution of drinking water. The Act serves to protect human health through the control and regulation of drinking water systems and drinking water testing.

The foundation provisions of the Safe Drinking Water Act include:

- Purpose of the Act
- Definitions
- Minister's Powers and Duties
- Inspections
- Compliance and Enforcement
- Appeals and Offences

### Ontario Regulations

The Ontario Government has enacted several supporting regulations under the Safe Drinking Water Act (2000) SDWA. These regulations combine previous requirements under the Ontario Water Resources Act and the new requirements under the SDWA. Key components of the regulations include:

- System Categories
- Groundwater Under Direct Influence Of Surface Water (GUDI)
- Exemptions
- Approval of Systems
- Treatment
- Testing and Operational Checks (General Rules)
- Operational Checks
- Microbiological Testing
- Chemical Testing
- Adverse Conditions
- Corrective Action
- Engineers and Summary Reports

### Municipal Drinking Water Licenses / Certificates of Approval

The Municipal Drinking Water Licensing Program has replaced the Certificate of Approval program for municipal residential drinking water systems. The Ontario Government has implemented the Municipal Drinking Water Licensing Program (MDWLP) as recommended by Justice O'Connor in the Part II Report of the Walkerton Inquiry. Justice O'Connor recommended a new approvals framework for municipal drinking water systems, which would

require owners to obtain a license to operate their systems as well as incorporate the concept of quality management into their operations.

A municipal drinking water license is an approval that is issued by the MOE to owners under the Safe Drinking Water Act, 2002 for the operation of municipal residential drinking water systems. The District of Muskoka operated under various Certificates of Approval until October 2010 when the operating licenses were issued.

Previous Certificates of Approval were required for the establishment, replacement or alteration of all municipal drinking water systems. The Ministry of Environment (MOE) issued Certificates of Approval to ensure that all undertakings comply with the legislation (i.e. Acts and Regulations) and the Ministry's Environmental Guidelines and Procedures developed to provide consistency of approach to various aspects of environmental protection throughout the province.

Municipal Drinking Water Licenses and Permits similar to previous Certificates of Approval provide specific details about the drinking water system including:

Drinking Water System Description

Definitions and Information

General Information – Compliance, Other Legal Requirements, Adverse Affects, Inspections

Performance – Rated Capacity, Management of Residue

Monitoring and Recording – Flow Measuring Devices, Sampling

Operations and Maintenance

### **Comparison to Rated Capacity and Flow Rate**

The Clarke Crescent Well Water System has a rated capacity of 90 m<sup>3</sup>/day. In 2014, the total monthly average flow was 30.5 m<sup>3</sup>/day, which represents 33.8% of the plant's design flow rate. The maximum day flow for the year was 47.9 m<sup>3</sup>/day, however, the 3 year average for maximum day flow is 57.5 m<sup>3</sup>/day, which represents 64% of the design capacity (No problems have been associated with this flow). The District of Muskoka has initiated Bylaw #2003-31 during the summer months, imposing lawn-watering restrictions.

Monthly flows are shown in the attached table.

### **Summary of Analytical Results**

A total of 666 microbiological regulatory tests were performed in 2014 and all were acceptable results. There were 393 free chlorine residual tests performed in the distribution system and all results were satisfactory.

### **Summary of Treatment Chemicals**

The following chemical is used for the treatment of drinking water at the Clarke Crescent Water Supply System:

Sodium Hypochlorite: Disinfectant

### **Documentation of System Repairs and Upgrades**

No system upgrades or significant repairs were undertaken in 2014.



**OPTIONAL ANNUAL REPORT TEMPLATE**

<b>Drinking-Water System Number:</b>	220005688
<b>Drinking-Water System Name:</b>	Clarke Crescent Well Water Treatment System
<b>Drinking-Water System Owner:</b>	District Municipality of Muskoka
<b>Drinking-Water System Category:</b>	Small Municipal Residential
<b>Period being reported:</b>	January 01 to December 31, 2014

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [ X ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ X ] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px;"> <p>District Municipality of Muskoka 70 Pine Street Bracebridge, Ontario P1L 1N3 www.muskoka.on.ca</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; padding: 2px; width: 100px; margin: 5px 0;">N.A.</div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b> <div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block; margin-left: 10px;"></div></p> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></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 [ ]**



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 \_\_\_\_\_

**Describe your Drinking-Water System**

The Clarke well system services one subdivision consisting of 34 homes. The system was constructed in 1984. The system had significant upgrades in 2004/2005. The treatment process consists of disinfection by UV, chlorination and filtration. The rated water production capacity of this facility is 90 cubic meters per day. The water is obtained from a drilled well located at 46 Clarke Crescent.

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

Sodium Hypochlorite

**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**

**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 14 / 14	Total Coliform	Present		Re-sample	
Oct 16/14	Total Coliform	5	cfu/100ml	Re-sample	Oct 20 2014
Nov 17/14	Total Coliform	Present		Re-sample	Nov 20 2014



**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 #) cfu/100 mL	Range of Total Coliform Results (min #)-(max #) cfu/100 mL	Number of HPC Samples	Range of HPC Results (min #)-(max #) cfu/100 mL
Raw	55	0	0	0	0
Treated	55	0	0	53	0-30
Distribution	165	0	0-5	63	0-1

**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 #)	Geometric Average
Turbidity	8760	0.00-0.03	0.03 NTU
Chlorine	8760	0.98-2.01	1.25 mg/L
Fluoride (If the DWS provides fluoridation)	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.  
MDL = Method Detection Limit*

**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	Apr 14/14	0.02<MDL	ug/L	No
Arsenic	Apr 14/14	0.2<MDL	ug/L	No
Barium	Apr 14/14	24.3	ug/L	No
Boron	Apr 14/14	5.4	ug/L	No
Cadmium	Apr 14/14	0.003<MDL	ug/L	No
Chromium	Apr 14/14	0.9	ug/L	No
*Lead	Apr 14/14	5.08	ug/L	No
Mercury	Apr 14/14	0.01<MDL	ug/L	No
Selenium	Apr 14/14	1<MDL	ug/L	No
Sodium	Apr 14/14	35.3	mg/L	Yes
Uranium	Apr 14/14	0.068	ug/L	No
Fluoride	Apr 14/14	0.06<MDL	mg/L	No
Nitrite	Jan 13/14	0.003<MDL	mg/L	No



<b>Nitrate</b>	Jan 13/14	1.86	mg/L	No
<b>Nitrite</b>	Apr 14/14	0.003<MDL	mg/L	No
<b>Nitrate</b>	Apr 14/14	1.89	mg/L	No
<b>Nitrite</b>	Jul 02/14	0.003<MDL	mg/L	No
<b>Nitrate</b>	Jul 02/14	1.85	mg/L	No
<b>Nitrite</b>	Oct 20/14	0.003<MDL	mg/L	No
<b>Nitrate</b>	Oct 20/14	1.83	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)

<b>Location Type</b>	<b>Number of Samples</b>	<b>Range of Lead Results (min#) – (max #)</b>	<b>Number of Exceedances</b>
<b>Plumbing</b>			
<b>Distribution</b>	2	0.36 – 1.23 ug/L	0

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

<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
<b>Alachlor</b>	Apr 14/14	0.02<MDL	ug/L	No
<b>Aldicarb</b>	Apr 14/14	0.01<MDL	ug/L	No
<b>Aldrin + Dieldrin</b>	Apr 14/14	0.01<MDL	ug/L	No
<b>Atrazine + N-dealkylated metabolites</b>	Apr 14/14	0.01<MDL	ug/L	No
<b>Azinphos-methyl</b>	Apr 14/14	0.02<MDL	ug/L	No
<b>Bendiocarb</b>	Apr 14/14	0.01<MDL	ug/L	No
<b>Benzene</b>	Apr 14/14	0.32<MDL	ug/L	No
<b>Benzo(a)pyrene</b>	Apr 14/14	0.004<MDL	ug/L	No
<b>Bromoxynil</b>	Apr 14/14	0.33<MDL	ug/L	No
<b>Carbaryl</b>	Apr 14/14	0.01<MDL	ug/L	No
<b>Carbofuran</b>	Apr 14/14	0.01<MDL	ug/L	No
<b>Carbon Tetrachloride</b>	Apr 14/14	0.16<MDL	ug/L	No
<b>Chlordane (Total)</b>	Apr 14/14	0.01<MDL	ug/L	No
<b>Chlorpyrifos</b>	Apr 14/14	0.02<MDL	ug/L	No
<b>Cyanazine</b>	Apr 14/14	0.03<MDL	ug/L	No
<b>Diazinon</b>	Apr 14/14	0.02<MDL	ug/L	No
<b>Dicamba</b>	Apr 14/14	0.20<MDL	ug/L	No
<b>1,2-Dichlorobenzene</b>	Apr 14/14	0.41<MDL	ug/L	No
<b>1,4-Dichlorobenzene</b>	Apr 14/14	0.36<MDL	ug/L	No
<b>Dichlorodiphenyltrichloroethane (DDT) + metabolites</b>	Apr 14/14	0.01<MDL	ug/L	No
<b>1,2-Dichloroethane</b>	Apr 14/14	0.35<MDL	ug/L	No
<b>1,1-Dichloroethylene (vinylidene chloride)</b>	Apr 14/14	0.33<MDL	ug/L	No



Dichloromethane	Apr 14/14	0.35<MDL	ug/L	No
2-4 Dichlorophenol	Apr 14/14	0.15<MDL	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Apr 14/14	0.19<MDL	ug/L	No
Diclofop-methyl	Apr 14/14	0.40<MDL	ug/L	No
Dimethoate	Apr 14/14	0.03<MDL	ug/L	No
Dinoseb	Apr 14/14	0.36<MDL	ug/L	No
Diquat	Apr 14/14	1<MDL	ug/L	No
Diuron	Apr 14/14	0.03<MDL	ug/L	No
Glyphosate	Apr 14/14	1<MDL	ug/L	No
Heptachlor + Heptachlor Epoxide	Apr 14/14	0.01<MDL	ug/L	No
Lindane (Total)	Apr 14/14	0.01<MDL	ug/L	No
Malathion	Apr 14/14	0.02<MDL	ug/L	No
Methoxychlor	Apr 14/14	0.01<MDL	ug/L	No
Metolachlor	Apr 14/14	0.01<MDL	ug/L	No
Metribuzin	Apr 14/14	0.02<MDL	ug/L	No
Monochlorobenzene	Apr 14/14	0.30<MDL	ug/L	No
Paraquat	Apr 14/14	1<MDL	ug/L	No
Parathion	Apr 14/14	0.02<MDL	ug/L	No
Pentachlorophenol	Apr 14/14	0.15<MDL	ug/L	No
Phorate	Apr 14/14	0.01<MDL	ug/L	No
Picloram	Apr 14/14	1<MDL	ug/L	No
Polychlorinated Biphenyls(PCB)	Apr 14/14	0.04<MDL	ug/L	No
Prometryne	Apr 14/14	0.03<MDL	ug/L	No
Simazine	Apr 14/14	0.01<MDL	ug/L	No
THM (NOTE: annual average from Distribution System)	Samples taken: Jan 13/14 Apr 14/14 Jul 02/14 Oct 20/14	2.4	ug/L	No
Temephos	Apr 14/14	0.01<MDL	ug/L	No
Terbufos	Apr 14/14	0.01<MDL	ug/L	No
Tetrachloroethylene	Apr 14/14	0.35<MDL	ug/L	No
2,3,4,6-Tetrachlorophenol	Apr 14/14	0.14<MDL	ug/L	No
Triallate	Apr 14/14	0.01<MDL	ug/L	No
Trichloroethylene	Apr 14/14	0.44<MDL	ug/L	No
2,4,6-Trichlorophenol	Apr 14/14	0.25<MDL	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Apr 14/14	0.22<MDL	ug/L	No
Trifluralin	Apr 14/14	0.02<MDL	ug/L	No
Vinyl Chloride	Apr 14/14	0.17<MDL	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

## District of Muskoka - Well - Port Sydney

### 1.0 Water Flow Summary - 2014

Month	Total Monthly (m <sup>3</sup> )	Average Daily Flow (m <sup>3</sup> /d)	Peak Daily Flow (m <sup>3</sup> /d)	Minimum Daily Flow (m <sup>3</sup> /d)	Comments
January	873	28	32	26	
February	808	29	38	26	
March	900	29	34	26	
April	874	29	34	27	
May	1,014	34	44	27	
June	1,024	34	48	28	
July	907	29	34	27	
August	907	29	34	27	
September	932	31	35	27	
October	946	31	36	28	
November	947	32	41	27	
December	981	32	35	28	

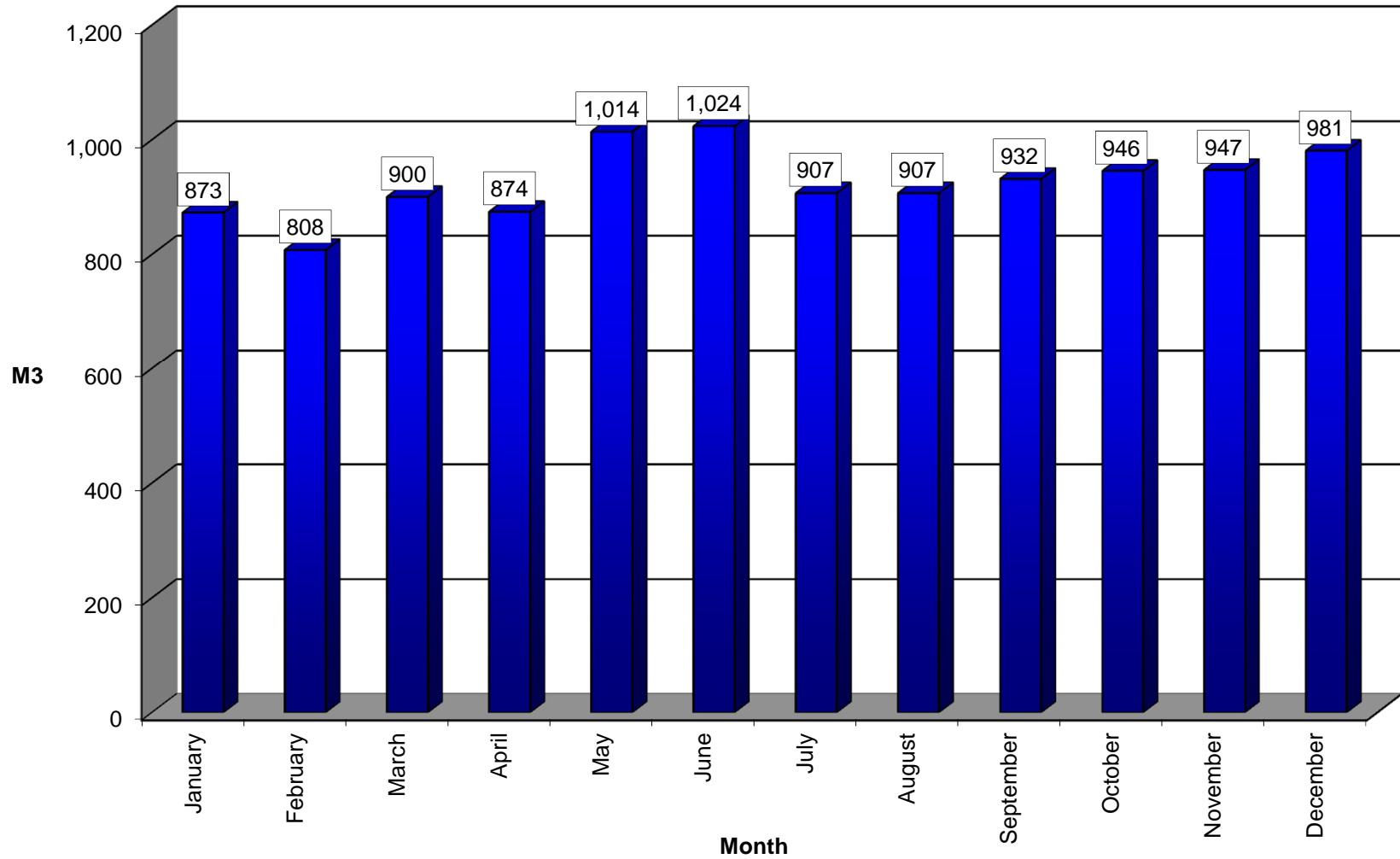
Total

Average Day

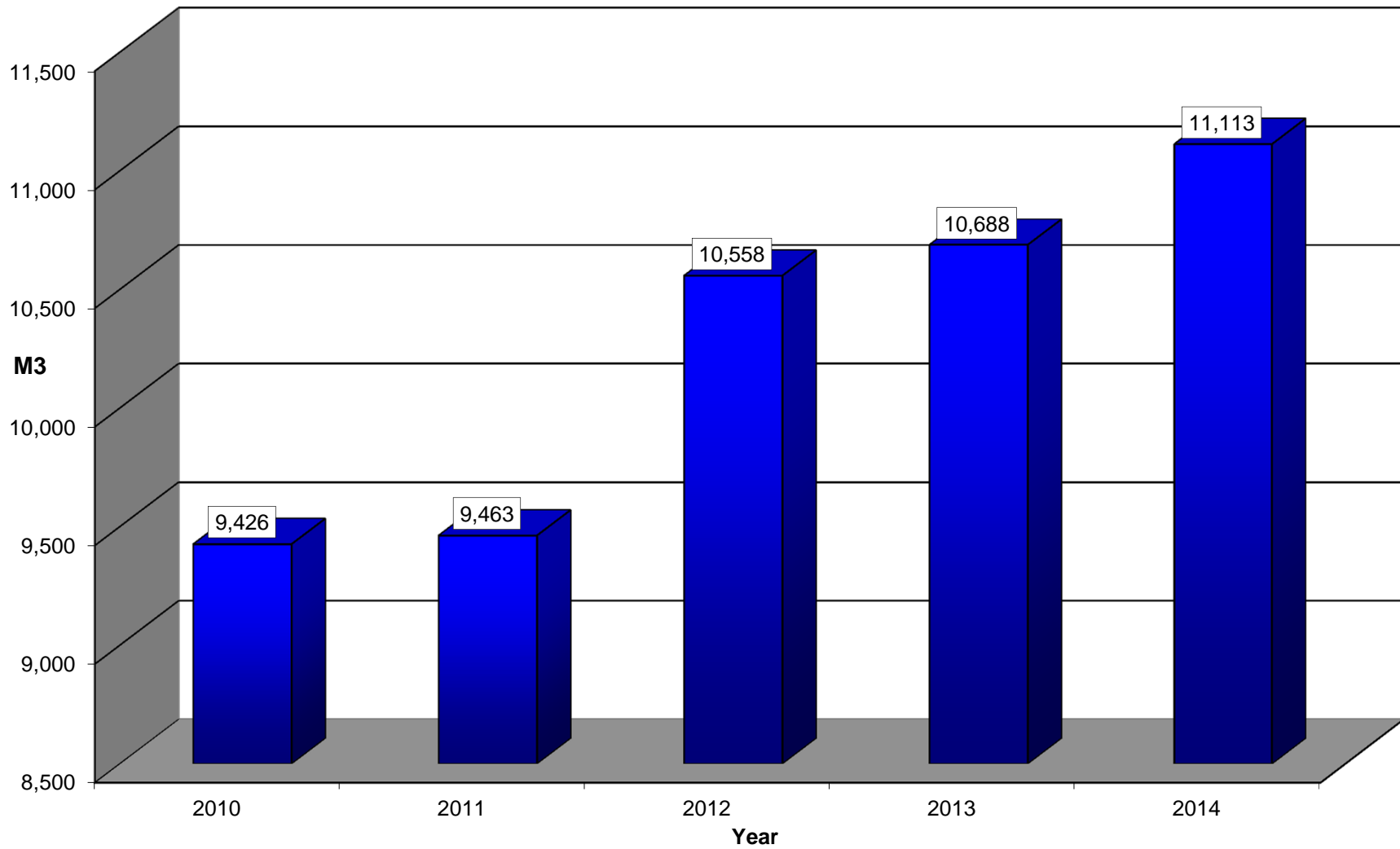
Maximum Day

Minimum Day

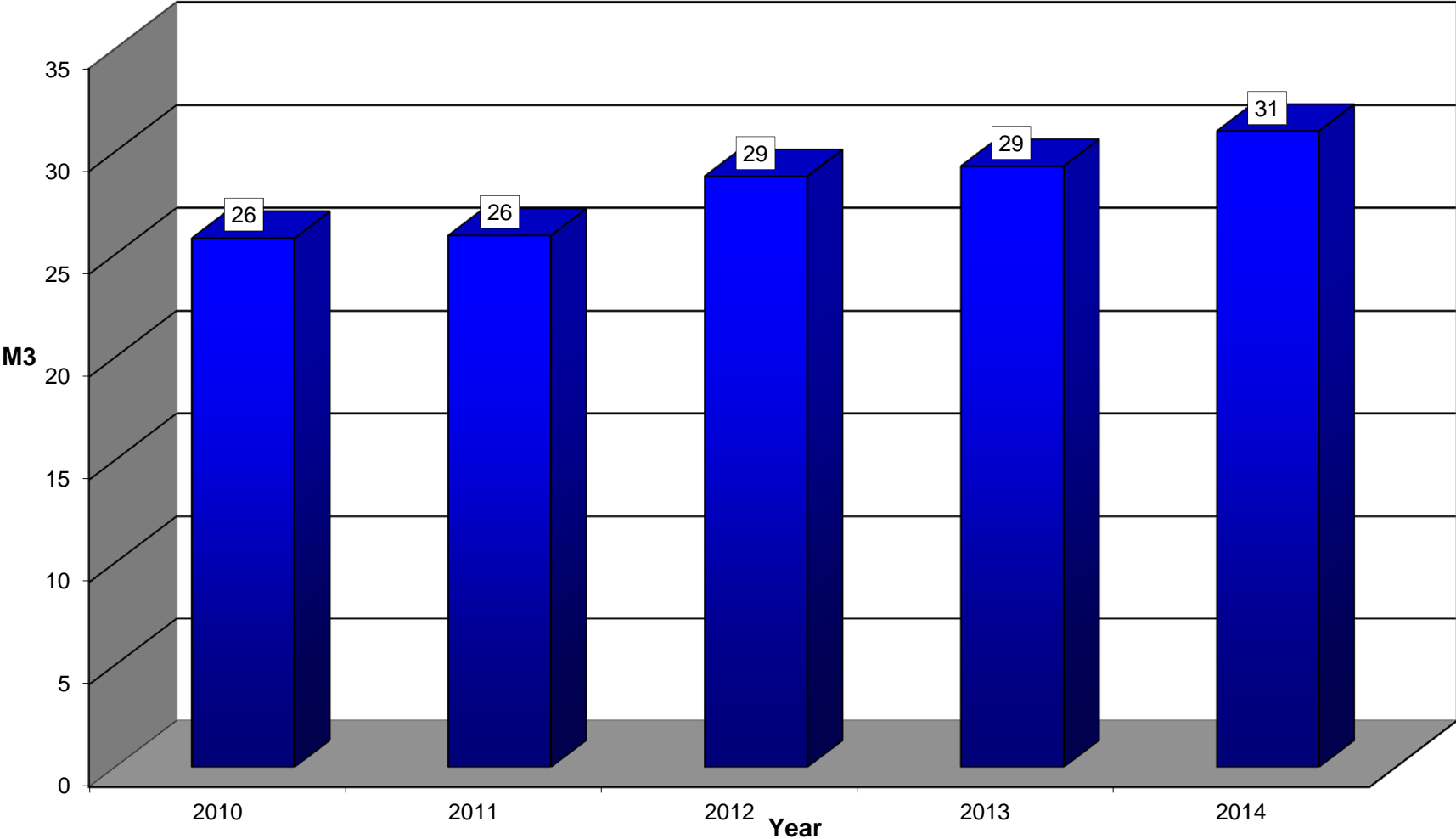
District Municipality of Muskoka  
Clarke Crescent - Port Sydney  
Monthly Water Production 2014



**District Municipality of Muskoka  
Clarke Crescent Well - Port Sydney  
Total Water Production 2010 - 2014**



District Municipality of Muskoka  
Clarke Crescent Well - Port Sydney  
Average Water Production 2010 - 2014



## District of Muskoka - Well - Clarke Crescent

### Table 2: Raw Water Summary - 2014

Date	Alkalinity mg/L	Hardness mg/L	PH	Turbidity NTU	Turbidity Max NTU	True Colour TCU	Temp °C	Cond.	UV T%	LSI	Raw EC / TC Samples cfu/100 ml	Range
January	31	60	6.47	0.21	0.50	0	7.5	199.5	99.5	-2.2	5	0
February	32	59	6.60	0.11	0.18	0	8.1	216.9	99.3	-2.1	4	0
March	28	45	6.64	0.11	0.20	0	9.0	221.7	99.3	-2.1	5	0
April	27	57	6.57	0.11	0.18	0	8.7	221.4	99.5	-2.1	5	0
May	28	57	6.54	0.09	0.10	0	9.3	238.1	99.6	-2.2	4	0
June	28	52	6.65	0.17	0.26	0	8.6	238.7	98.6	-2.2	4	0
July	25	52	6.73	0.11	0.17	0	9.3	228.6	98.3		5	0-1
August	27	51	6.59	0.01	0.10	0	8.3	238.6	99.6	-2.3	4	0
September	30	55	6.59	0.13	0.18	0	8.3	247.8	101.2	-2.1	5	0
October	29	59	6.66	0.11	0.22	0	7.6	241.1	100.5	-2.1	5	0
November	34	61	6.60	0.11	0.19	0	7.4	249.8	100.3	-2.1	4	0
December	29	61	6.54	0.07	0.11	0	9.1	207.5	99.9	-2.2	5	0
Average	29	56	6.60	0.11	0.50	0	8.4	229.1	99.6	-2.2	55	

**District of Muskoka - Well - Clarke Crescent**

**Table 4: Treated Water Summary - 2014**

Date	Free Cl <sub>2</sub> Residual mg/L	Total Cl <sub>2</sub> Residual mg/L	Alkalinity mg/L	Hardness mg/L	PH	Turbidity NTU	Turbidity Max NTU	True Colour TCU	Temp °C	Cond. uS/cm		UV T%	LSI	Treated EC/TC Samples	Range cfu/100 ml	Treated HPC Samples cfu/100 ml	Range cfu/100 ml
January	1.20	1.29	31	59	6.46	0.08	0.10	0	8.1	233.5		100.3	-2.3	5	0	5	0-2
February	1.32	1.45	32	60	6.47	0.06	0.08	0	8.5	228.8		100.1	-2.2	4	0	4	0
March	1.30	1.41	31	56	6.59	0.07	0.10	0	9.2	233.2		99.9	-2.1	5	0	5	0-3
April	1.17	1.39	31	59	6.46	0.05	0.07	0	9.2	228.2		99.9	-2.2	4	0	4	0-30
May	1.30	1.39	32	56	6.31	0.05	0.07	0	9.4	245.7		99.8	-2.2	4	0	4	0
June	1.31	1.41	34	55	6.52	0.05	0.07	0	9.2	249.5		97.9	-2.2	4	0	4	0
July	1.32	1.44	26	55	6.69	0.06	0.07	0	9.9	241.9		98.9	-2.2	5	0	5	0-2
August	1.44	1.53	29	53	6.48	0.07	0.10	0	9.5	248.2		97.6	-2.3	4	0	4	0-2
September	1.21	1.28	29	58	6.55	0.07	0.10	0	9.1	256.0		100.3	-2.2	5	0	5	0
October	1.25	1.35	33	60	6.61	0.04	0.04	0	8.6	249.6		100.5	-2.1	5	0	5	0
November	1.15	1.28	34	59	6.55	0.04	0.06	0	8.9	254.6		100.5	-2.1	5	0	4	2
December	1.11	1.20	32	63	6.39	0.04	0.05	0	8.7	215.1		100.5	-1.4	5	0	5	0
Average	1.26	1.37	31	58	6.51	0.06	0.10	0	9.03	240.4		99.7	-2.1	55		54	



**District of Muskoka - Well - Clarke Crescent**

**Table 6: Distribution Water Summary - 2014**

Date	Free Cl2 Residual mg/L	Total Cl2 Residual mg/L	Alkalinity mg/L	Hardness mg/L	PH	Turbidity NTU	Turbidity Max NTU	True Colour TCU	Temp °C	Cond. uS/cm		UV T%	LSI	Dist. P/A or EC/TC Samples	Range cfu/100 ml	Dist. HPC Samples cfu/100 ml	Range cfu/100 ml
January	1.12	1.21	32	56	6.58				5.8	213.7			-2.2	15	A	5	0
February	1.09	1.19	38	64	6.52				5.2	221.2			-2.2	12	A	4	0
March	1.20	1.30	30	53	6.64				4.0	221.1			-2.2	15	A	4	0
April	1.14	1.23	33	58	6.41				3.6	222.1			-2.1	12	A	4	0
May	1.20	1.33	28	55	6.49				3.3	230.8			-2.4	12	A	4	0
June	1.25	1.37	32	56	6.60				5.9	246.4			-2.2	12	A	4	1
July	1.25	1.36	26	55	6.72				10.0	244.4			-2.2	15	A	5	0
August	1.27	1.46	28	51	6.58				14.2	248.6			-2.2	12	A	4	0
September	1.13	1.22	30	57	6.48				14.0	259.2			-2.1	15	A	4	0
October	1.13	1.26	32	58	6.67				11.3	245.2			-2.0	15	A	6	0
November	1.14	1.26	34	61	6.57				9.0	247.6			-2.1	12	A	4	1
December	1.07	1.16	31	68	6.53				6.4	204.8			-2.1	15	0	9	0
Average	1.17	1.28	31	58	6.57				7.73	233.8			-2.2	162		57	

**District of Muskoka -Port Sydney WTP 220005688  
7.0 DISTRIBUTION SAMPLING SUMMARY - 2014  
Regulation Requirements**

<i>Parameter</i>	<i>I.D.</i>						DDW CC5 Timber Trail Sample Station	DDW CC5 Timber Trail Sample Station	DDW CC5 Timber Trail Sample Station	DDW CC5 Timber Trail Sample Station		
<i>DDW</i>	<i>Units</i>	<i>MAC</i>	<i>Half MAC</i>	<i>AO/OG</i>	<i>RDL</i>	<i>MDL</i>	Jan 13/14 09:14	Apr 14/14 09:05	Jul 02/14 11:35	Oct 20/14 10:00	<i>Average</i>	<i>Max</i>
Trihalomethanes Total	µg/L	100	50	-	10	0.37	2.3	1.9	2.7	2.6	2.4	2.7
Lead	µg/L	10	5	-	2	0.01	1.23	0.36				
MAC - Maximum Acceptable Concentration							Half MAC - Half of the Maximum Acceptable Concentration					
OG - Operational Guideline							AO - Aesthetic Objective					
RDL - MOE Required Reporting Detection Limit							MDL - SGS Canada Inc. Method Detection Limit.					

**District of Muskoka - Well - Clarke Crescent**  
**9.0 Chemical Usage Summary -2014**

**District of Muskoka - (Clarke Crescent Water System)**

Month	Powdered Activated Carbon		CO2		Hydrated Lime		Coagulant	
	Average Dosage mg/L	Total kg	Average Dosage mg/L	Total kg	Average Dosage mg/L	Total kg	Average Dosage mg/L	Total Kg
January								
February								
March								
April								
May								
June								
July								
August								
September								
October								
November								
December								
<i>Unit Cost</i>								
Total Yearly		0		0		0		0

Month	Sodium Hydroxide		Fluoride		Sodium Hypochlorite		Soda Ash	
	Average Dosage mg/L	Total Kg	Average Dosage mg/L	Total kg	Average Dosage mg/L	Total Kg	Average Dosage mg/L	Total Kg
January					2.83	23.1		
February					3.93	29.8		
March					2.89	25.1		
April					2.64	21.7		
May					2.80	25.9		
June					2.75	26.5		
July					2.74	24.1		
August					2.72	25.2		
September					2.71	24.4		
October					2.79	25.6		
November					2.79	25.4		
December					2.78	25.8		
Average Monthly	0.0	0	0.00	0	2.86	25.21	0	0
Total Yearly		0		0		302.5		0

## District of Muskoka - Adverse water Quality Report

### 10.0 Adverse Water Quality Summary

Sample		Lab ID #	Location	Parameter	Result	Mac / Imac	Comments
Date	Time						

1	Oct 14 2014	12:00	SGS	Clarke Cr CC4	P/A	A	0	Suspect poor quality bottles. Entire system flushed and resampled until two consecutive samples returned clear.
R1	Oct 16 2014	13:15	SGS	Timber Trl CC5	EC/TC	5	0	
R2	Oct 21 2014	11:45	SGS	Timber Trl CC5	EC/TC	0	0	
R3								

Sample		Lab ID #	Location	Parameter	Result	Mac / Imac	Comments
Date	Time						

2	NOV 17 2014	9:40	SGS	CLARKE CR SS	P/A	PMAC	0.00	Suspect contaminated bottles. Sysyem flushed and resampled.
R1	NOV 20 2014	11:00	SGS	Treated water	EC/TC	0	0	
R2	NOV 20 2014	10:30	SGS	Spring creek SS	EC/TC	0	0	
R3	NOV 20 2014	10:50	SGS	Clarke Cr SS	EC/TC	0	0	
	NOV 20 2014	10:40	SGS	Timber trl SS	EC/TC	0	0	

Sample		Lab ID #	Location	Parameter	Result	Mac / Imac	Comments
Date	Time						

3								
R1								
R2								
R3								

Sample		Lab ID #	Location	Parameter	Result	Mac / Imac	Comments
Date	Time						

4								
R1								
R2								
R3								
R4								

## **CLARKE CRESCENT WATER DISTRIBUTION SUMMARY 2014**

### **New Services**

No new services were installed.

### **Broken Water mains**

There were no broken water mains.

### **Service Leaks**

There were no service leaks.

### **Frozen Services**

There were no frozen services.

### **New Water mains**

There were no new water mains installed.

### **Valve Replacement**

No valves were replaced or repaired.

### **Curb stops**

One curb stops were replaced or repaired.

### **Locates**

8 locates were requested in 2014.