

PORT CARLING

WATER

2014

ANNUAL AND SUMMARY

REPORT



DRINKING WATER WORKS PERMIT: 143-205
MUNICIPAL DRINKING WATER LICENCE: 143-105

M.O.E. WATERWORKS # 220002119

INTRODUCTION

Commissioning of the Ferndale water treatment facility started at the beginning of September 2002. The plant went online delivering water to the community of Port Carling on October 3rd, 2002. The District of Muskoka is the owner and operator of the Ferndale Road Water Treatment Plant (WTP). The Ferndale Road Water Treatment Plant consists of a low lift pumping station and a conventional filtration water treatment plant. The treatment process for this facility consists of screening, coagulation-flocculation, sedimentation, filtration, fluoridation and disinfection by chlorination.

The plant operates under licence 143-105 and permit 143-205, issued in October 2010, under the Municipal Drinking Water Licencing Program. The plant also operates under MOE Permit to Take Water #6372-L3U53 (expires November 30, 2018) which permits up to 2,823 m³/day to be taken from the source water, Lake Rosseau. The plant is rated at 1,590 m³/day and is capable of servicing an equivalent population of 1,535 people.

The waterworks currently serves a population of approximately 900 persons.

Legislation Requirements

Safe Drinking Water Act

In the Part Two Report in 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
- Engineer's and Summary Reports

Municipal Drinking Water Licences / Certificates of Approval

The Municipal Drinking Water Licencing Program has replaced the Certificate of Approval program for municipal residential drinking water systems. The Ontario Government has implemented the Municipal Drinking Water Licencing 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 licence to operate their systems as well as incorporate the concept of quality management into their operations.

A municipal drinking water licence 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 licences 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 Licences 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 Rates

The Ferndale Road water treatment plant has a rated capacity of 1,590 m³/day. In 2014, the total monthly average flow for the year was 370 m³/day. The maximum day flow for the year was 754 m³/day, however, the 3 year average for maximum day flow is 788 m³/day, which represents 50% of the plant design capacity. (No problems have been associated with this flow). Monthly flows are shown in the attached table.

The Permit to Take Water (6372-7L3U53) allows the withdrawal of 2,823 m³/day from Lake Rosseau; therefore there were no exceedances of this permit.

Summary of Analytical Results

A total of 627 microbiological regulatory tests were performed in 2014 and all had acceptable results.

There were 156 free chlorine residual tests performed in the distribution system and all results were satisfactory.

Summary of Treatment Chemicals

The following chemicals are used for the treatment of drinking water at the Ferndale Road Water Treatment Plant:

Sodium Hypochlorite: Disinfectant

Polyaluminum Chloride (SternPAC): Primary coagulant

Hydrated Lime: Alkalinity and pH adjustment

Carbon Dioxide: pH adjustment

Sodium Hydroxide: Final pH adjustment

Hydrofluorosilicic Acid: To help prevent tooth decay.

A table summarizing the chemical use and average dosages is included in this report.



OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	220002119
Drinking-Water System Name:	Ferndale Water Treatment Plant
Drinking-Water System Owner:	District Municipality of Muskoka
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 01 to December 31, 2014

<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 []</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [] 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;"> <p>District Municipality of Muskoka 70 Pine Street Bracebridge, Ontario P1L 1N3 (705) 645-6764 www.muskoka.on.ca</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: 100px; margin: 5px 0;">N.A.</div> <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: <div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block; margin-left: 10px;"></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
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 water treatment plant went online delivering water to the community of Port Carling October 3rd 2002. The treatment process for this facility consists of chemically assisted coagulation-flocculation, sedimentation and filtration using multi-media filters with a combination of gravel, sand and anthracite coal. Disinfection in a post-treatment chlorine contact chamber is followed by fluoridation and final pH adjustment before the treated water is pumped to our customers. . Our waterworks currently serves a population of approximately 900 persons. The plant is rated at 1590 cubic meters per day. Our raw water source is Lake Rosseau and our intake is located 1.8 meters above the lakebed at a depth of 24.3 meters and about 800 meters from shore.

List all water treatment chemicals used over this reporting period

Carbon Dioxide, SternPac, Hydrated Lime, Sodium Hypochlorite, Hydrofluorosilicic Acid, and Sodium Hydroxide.

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

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	52	0-2	0-7	0	
Treated	52	0-0	0-0	52	0-25
Distribution	158	0-0	0-0	51	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	<i>NOTE: For continuous monitors use 8760 as the number of samples.</i>
Turbidity	8760	0.03-0.10 NTU	0.05 NTU	
Chlorine	8760	1.21-2.14 mg/L	1.73 mg/L	
Fluoride (If the DWS provides fluoridation)	8760	0.46-0.67 mg/L	0.59 mg/L	

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 05/14	0.06	ug/L	No
Arsenic	May 05/14	0.2<MDL	ug/L	No
Barium	May 05/14	9.35	ug/L	No
Boron	May 05/14	6.4	ug/L	No
Cadmium	May 05/14	0.003<MDL	ug/L	No
Chromium	May 05/14	0.50	ug/L	No
*Lead	May 05/14	0.15	ug/L	No
Mercury	May 05/14	0.01<MDL	ug/L	No
Selenium	May 05/14	1<MDL	ug/L	No
Sodium	May 05/14	0.015	mg/L	No
Uranium	May 05/14	0.01<MDL	ug/L	No
Fluoride	May 05/14	0.65	mg/L	No
Nitrite	Feb 10/14	0.003<MDL	mg/L	No
Nitrate	Feb 10/14	0.165	mg/L	No
Nitrite	May 05/14	0.003<MDL	mg/L	No



Nitrate	May 05/14	0.179	mg/L	No
Nitrite	Aug 05/14	0.003<MDL	mg/L	No
Nitrate	Aug 05/14	0.208	mg/L	No
Nitrite	Nov 03/14	0.003<MDL	mg/L	No
Nitrate	Nov 03/14	0.234	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 #)	Unit of Measure	Number of Exceedances
Plumbing	0			
Distribution	4	0.03- 0.17	ug/L	0

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 05/14	0.02<MDL	ug/L	No
Aldicarb	May 05/14	0.01<MDL	ug/L	No
Aldrin + Dieldrin	May 05/14	0.01<MDL	ug/L	No
Atrazine + N-dealkylated metabolites	May 05/14	0.01<MDL	ug/L	No
Azinphos-methyl	May 05/14	0.02<MDL	ug/L	No
Bendiocarb	May 05/14	0.01<MDL	ug/L	No
Benzene	May 05/14	0.32<MDL	ug/L	No
Benzo(a)pyrene	May 05/14	0.004<MDL	ug/L	No
Bromoxynil	May 05/14	0.33<MDL	ug/L	No
Carbaryl	May 05/14	0.01<MDL	ug/L	No
Carbofuran	May 05/14	0.01<MDL	ug/L	No
Carbon Tetrachloride	May 05/14	0.16<MDL	ug/L	No
Chlordane (Total)	May 05/14	0.01<MDL	ug/L	No
Chlorpyrifos	May 05/14	0.02<MDL	ug/L	No
Cyanazine	May 05/14	0.03<MDL	ug/L	No
Diazinon	May 05/14	0.02<MDL	ug/L	No
Dicamba	May 05/14	0.20<MDL	ug/L	No
1,2-Dichlorobenzene	May 05/14	0.41<MDL	ug/L	No
1,4-Dichlorobenzene	May 05/14	0.36<MDL	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	May 05/14	0.01<MDL	ug/L	No
1,2-Dichloroethane	May 05/14	0.35<MDL	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	May 05/14	0.33<MDL	ug/L	No
Dichloromethane	May 05/14	0.35<MDL	ug/L	No
2-4 Dichlorophenol	May 05/14	0.15<MDL	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	May 05/14	0.19<MDL	ug/L	No
Diclofop-methyl	May 05/14	0.40<MDL	ug/L	No



Dimethoate	May 05/14	0.03<MDL	ug/L	No
Dinoseb	May 05/14	0.36<MDL	ug/L	No
Diquat	May 05/14	1<MDL	ug/L	No
Diuron	May 05/14	0.03<MDL	ug/L	No
Glyphosate	May 05/14	1<MDL	ug/L	No
Heptachlor + Heptachlor Epoxide	May 05/14	0.01<MDL	ug/L	No
Lindane (Total)	May 05/14	0.01<MDL	ug/L	No
Malathion	May 05/14	0.02<MDL	ug/L	No
Methoxychlor	May 05/14	0.01<MDL	ug/L	No
Metolachlor	May 05/14	0.01<MDL	ug/L	No
Metribuzin	May 05/14	0.02<MDL	ug/L	No
Monochlorobenzene	May 05/14	0.30<MDL	ug/L	No
Paraquat	May 05/14	1<MDL	ug/L	No
Parathion	May 05/14	0.02<MDL	ug/L	No
Pentachlorophenol	May 05/14	0.15<MDL	ug/L	No
Phorate	May 05/14	0.01<MDL	ug/L	No
Picloram	May 05/14	1<MDL	ug/L	No
Polychlorinated Biphenyls(PCB)	May 05/14	0.04<MDL	ug/L	No
Prometryne	May 05/14	0.03<MDL	ug/L	No
Simazine	May 05/14	0.01<MDL	ug/L	No
THM (NOTE: annual average from Distribution System)	Samples taken: Feb 10/14 May 05/14 Aug 05/14 Nov 03 /14	47	ug/L	No
Temephos	May 05/14	0.01<MDL	ug/L	No
Terbufos	May 05/14	0.01<MDL	ug/L	No
Tetrachloroethylene	May 05/14	0.35<MDL	ug/L	No
2,3,4,6-Tetrachlorophenol	May 05/14	0.14<MDL	ug/L	No
Triallate	May 05/14	0.01<MDL	ug/L	No
Trichloroethylene	May 05/14	0.44<MDL	ug/L	No
2,4,6-Trichlorophenol	May 05/14	0.25<MDL	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	May 05/14	0.22<MDL	ug/L	No
Trifluralin	May 05/14	0.02<MDL	ug/L	No
Vinyl Chloride	May 05/14	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 - Ferndale Rd WTP - Port Carling

1.0 Water Flow Summary - 2014

Month	Total Monthly (m ³)	Average Day Flow (m ³ /d)	Maximum Day Flow (m ³ /d)	Minimum Day Flow (m ³ /d)	Comments
January	8,777	283	500	81	
February	7,785	278	485	18	
March	8,857	286	447	175	
April	8,823	294	441	203	
May	15,762	508	646	279	
June	16,376	546	702	463	
July	17,213	555	754	415	
August	15,035	485	658	379	
September	11,289	376	523	237	
October	8,842	285	486	142	
November	8,807	294	476	96	
December	8,287	267	736	194	

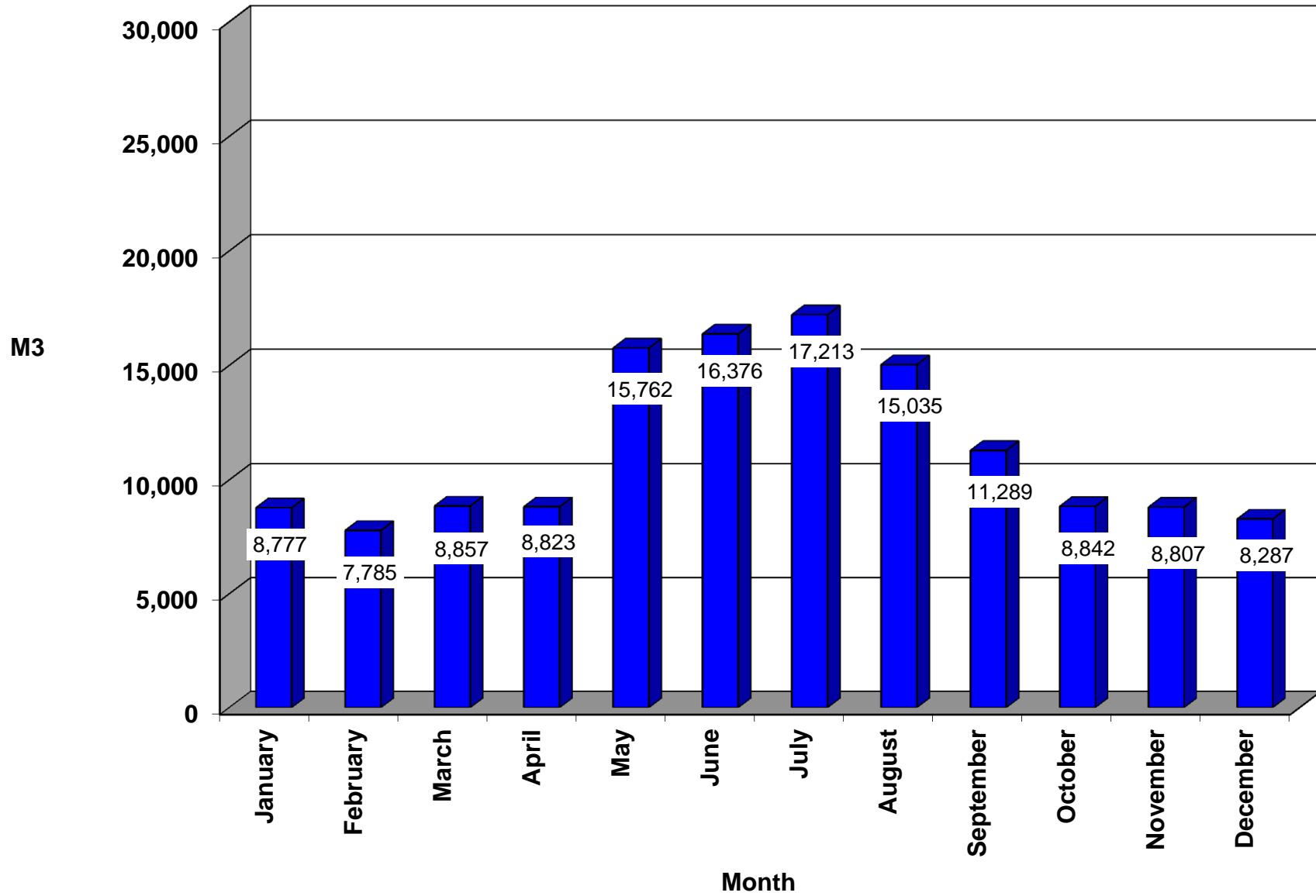
Total 135,853

Average Day 370

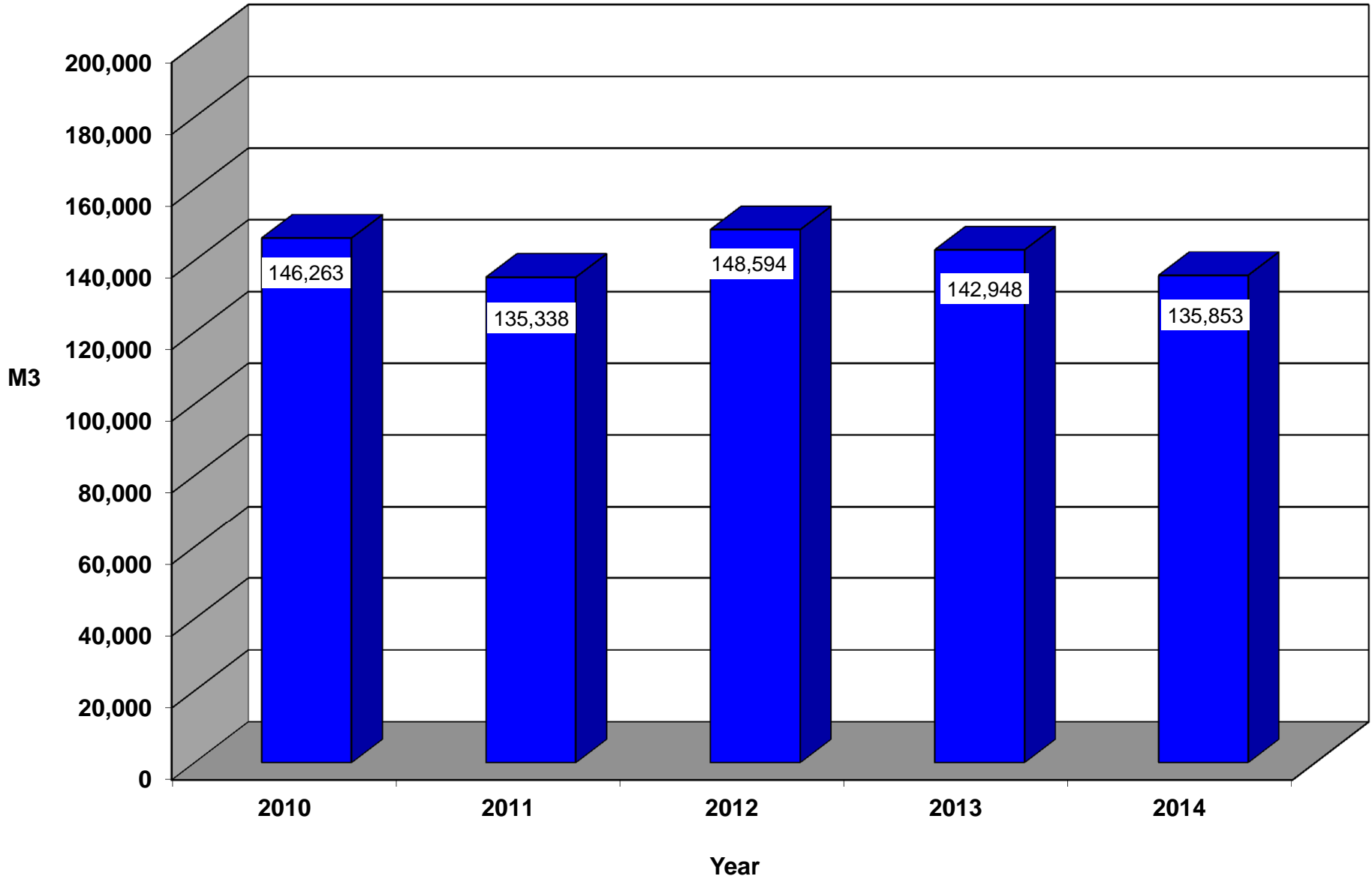
Maximum Day 754

Minimum Day 18

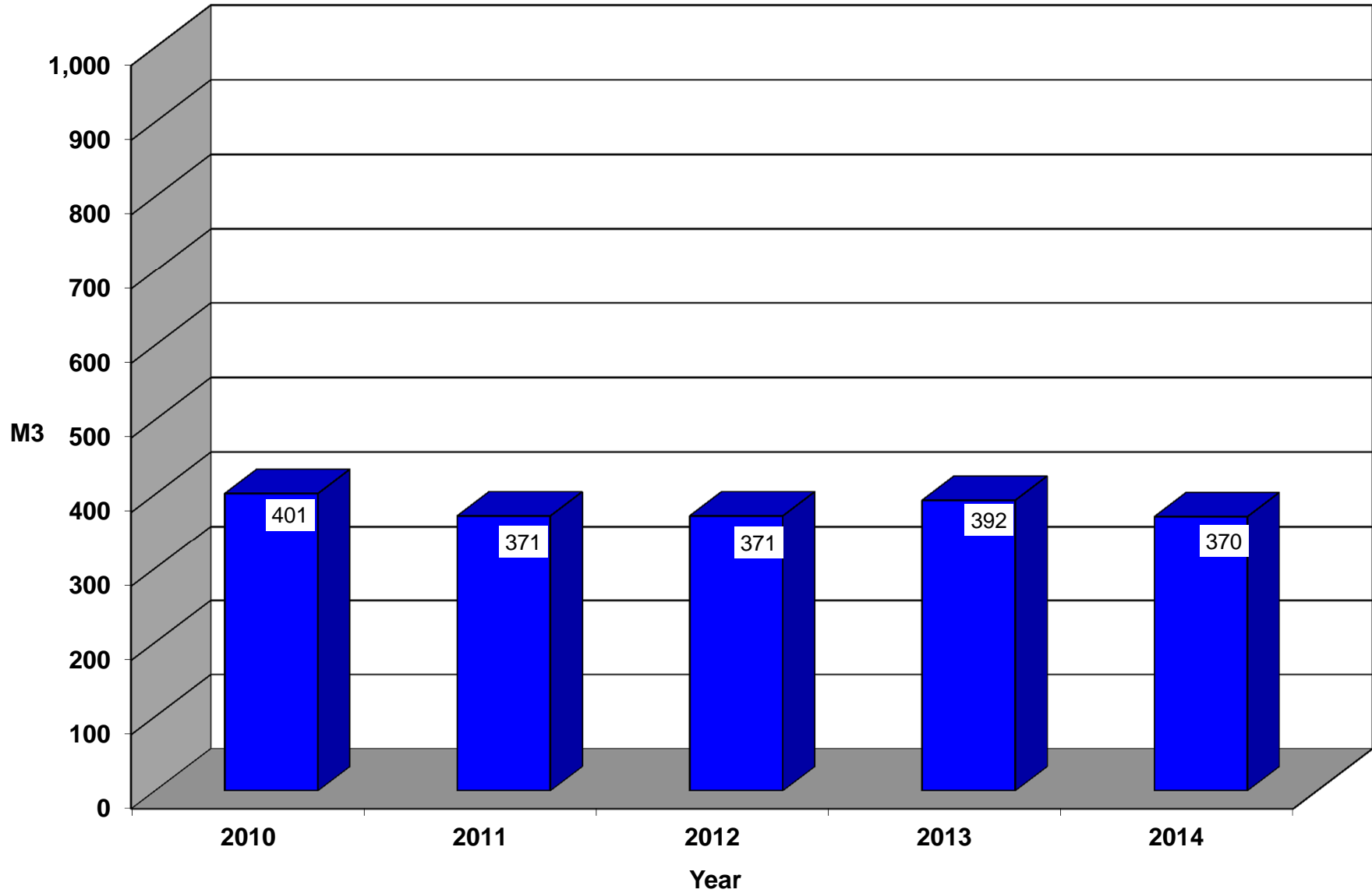
District Municipality of Muskoka
Port Carling - Ferndale Road Water Treatment Plant
Monthly Water Production - 2014



District Municipality of Muskoka
Port Carling - Ferndale Road Water Treatment Plant
Total Water Production 2010-2014



**District Municipality of Muskoka
Port Carling - Ferndale Road Water Treatment Plant
Average Day Flow 2010-2014**



The District of Muskoka - Ferndale WTP - Port Carling
Summary of Microbiological Raw Analysis - 2014
Number of Samples Taken

Month	Total Coliform Total for 2014	E-coli Total for 2014	HPC Total for 2014	Adverse Samples Total for 2014
January	4	4	0	0
February	4	4	0	0
March	5	5	0	0
April	4	4	0	0
May	4	4	0	0
June	4	4	0	0
July	5	5	0	0
August	4	4	0	0
September	5	5	0	0
October	4	4	0	0
November	4	4	0	0
December	5	5	0	0

The District of Muskoka - Ferndale WTP - Port Carling
Summary of Microbiological Treated Water Analysis - 2014
Number of Samples Taken

Month	Total Coliform Total for 2014	E-coli Total for 2014	HPC Total for 2014	Adverse Samples Total for 2014
January	4	4	4	0
February	4	4	4	0
March	5	5	5	0
April	4	4	4	0
May	4	4	4	0
June	4	4	4	0
July	5	5	5	0
August	4	4	4	0
September	5	5	5	0
October	4	4	4	0
November	4	4	4	0
December	5	5	5	0

The District of Muskoka - Ferndale WTP - Port Carling
Summary of Microbiological Distribution Analysis - 2014
Number of Samples Taken

Month	Total Coliform Total for 2014	E-coli Total for 2014	HPC Total for 2014	Adverse Samples Total for 2014
January	13	13	4	0
February	13	13	4	0
March	15	15	5	0
April	12	12	4	0
May	12	12	4	0
June	12	12	4	0
July	15	15	5	0
August	12	12	4	0
September	15	15	5	0
October	12	12	4	0
November	12	12	3	0
December	15	15	5	0

2014 SCHEDULED SAMPLE LOCATIONS:

<u>Sample #</u>	<u>Location</u>	<u>Municipal Address</u>
PCW1	PORT CARLING WTP - RAW	1091 FERNDALE RD.
PCW2	PORT CARLING WTP - TREATED	1091 FERNDALE RD.
PCW3	WATER TOWER	165 MEDORA ST.
PCW4	PORT CARLING STP	140 MEDORA ST.
PCW6	CEMENTARY	45 JOSEPH ST.
PCW7	23 FERNDALE RD.	23 FERNDALE RD.
PCW8	TOWNSHIP OFFICE PUBLIC TAP	1 BAILEY ST.
PCW9	CARR BROS	2 JOSEPH ST.
PCW10	ISLAND PARK	100 JOSEPH ST.

District of Muskoka - Ferndale Rd WTP - Port Carling

2.0 Raw Water Monthly Analysis Summary - 2014

Month	Alkalinity	Hardness	pH	Turbidity	True Colour	Temperature	TDS	Langliers Saturation Index
<i>Parameter</i>	<i>mg/l</i>	<i>mg/l</i>	<i>pH</i>	<i>ntu</i>	<i>tcu</i>	<i>Celcius</i>	<i>mg/l</i>	
January	15	14	6.7	0.4	11	7.0	~	-2.9
February	14	15	6.5	0.3	10	6.3	~	-3.1
March	14	16	6.7	0.3	11	6.8	~	-3.0
April	13	17	6.6	0.3	8	6.4	~	-2.9
May	15	17	6.7	0.4	10	7.8	~	-2.8
June	13	15	6.6	0.4	14	8.3	~	-3.0
July	13	16	6.6	0.4	13	9.1	~	-2.8
August	13	16	6.4	0.5	11	9.9	~	-3.1
September	14	14	6.4	0.4	13	10.9	~	-3.3
October	14	15	6.3	0.4	12	10.4	~	-3.3
November	14	17	6.6	0.4	12	9.1	~	-2.9
December	13	15	6.7	0.3	11	7.8	~	-2.9
Average	14	16	6.6	0.4	11	8.3	~	-3.0

District of Muskoka - Ferndale Rd WTP - Port Carling

4.0 Treated Water Monthly Analysis Summary - 2014

Month	Alkalinity	Hardness	pH	Turbidity			TRUE Colour	Iron	Manganese	Chlorine			TDS	Langliers Saturation Index
				Average	High	Low				Free	High	Low		
<i>Parameter</i>	<i>mg/l</i>	<i>mg/l</i>	<i>pH</i>	<i>ntu</i>	<i>ntu</i>	<i>ntu</i>	<i>tcu</i>	<i>mg/l</i>	<i>mg/l</i>	<i>mg/l</i>	<i>mg/l</i>	<i>mg/l</i>	<i>mg/l</i>	
January	46	44	7.5	0.12	0.16	0.10	1	0.01	~	1.78	1.92	1.67	~	-1.2
February	43	43	7.5	0.12	0.13	0.11	1	0.01	~	1.76	1.99	1.62	~	-1.2
March	47	46	7.4	0.10	0.23	0.08	1	0.01	~	1.74	1.89	1.39	~	-1.2
April	45	44	7.4	0.10	0.17	0.08	1	0.01	~	1.75	1.90	1.51	~	-1.2
May	41	39	7.5	0.11	0.14	0.09	1	0.01	~	1.71	2.02	1.25	~	-1.2
June	42	40	7.5	0.10	0.12	0.09	1	0.01	~	1.84	2.10	1.61	~	-1.2
July	43	42	7.5	0.10	0.13	0.08	1	0.01	~	1.78	2.07	1.62	~	-9.4
August	42	42	7.5	0.10	0.20	0.08	0	0.01	~	1.70	2.04	1.49	~	-1.1
September	45	43	7.6	0.11	0.17	0.08	1	0.01	~	1.61	1.83	1.39	~	-1.1
October	45	44	7.5	0.08	0.09	0.07	0	0.01	~	1.69	2.02	1.53	~	-1.0
November	47	47	7.4	0.08	0.10	0.07	1	0.01	~	1.71	2.08	1.56	~	-1.2
December	50	48	7.6	0.09	0.12	0.06	1	0.01	~	1.68	1.80	1.55	~	-0.9
Average	44	44	7.5	0.10	0.15	0.08	1	0.01	N/A	1.73	1.97	1.52	~	-1.8

District of Muskoka - Ferndale Rd WTP - Port Carling

6.0 Distribution Water Monthly Analysis Summary - 2014 PCW9 at 2 Joseph Street - Location of Greatest Retention Time

Month	Alkalinity	Hardness	pH	Turbidity	Colour	Free Chlorine	TDS	Langliers Saturation Index
<i>Parameter</i>	<i>mg/l</i>	<i>mg/l</i>		<i>ntu</i>	<i>TCU</i>	<i>mg/l</i>	<i>mg/l</i>	
January	35	45	7.5	~	1	1.37	~	-1.1
February	42	43	7.5	~	2	1.58	~	-1.7
March	44	45	7.5	~	1	1.46	~	-1.2
April	46	45	7.5	~	0	1.18	~	-1.2
May	44	40	7.5	~	1	1.37	~	-1.1
June	41	42	7.6	~	1	1.30	~	-1.1
July	40	42	7.7	~	0	1.20	~	-3.8
August	42	42	7.6	~	0	1.16	~	-1.0
September	44	42	7.6	~	1	1.15	~	-0.9
October	46	45	7.7	~	1	1.03	~	-0.8
November	47	48	7.7	~	0	1.23	~	-0.9
December	50	49	7.7	~	1	1.11	~	-0.9
Average	43	44	7.6	~	1	1.3	~	-1.3

District of Muskoka - Ferndale Rd WTP - Port Carling

7.0 Distribution Water Quarterly Sampling Summary - 2014

Trihalomethanes		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	DDW PCW3	DDW PCW3	DDW PCW3	DDW PCW3		
<i>DDW</i>	<i>Units</i>	<i>MAC/IMAC</i>	<i>AO/OG</i>	<i>ODWS RDL</i>	<i>LRL MDL</i>	<i>Feb 10/14</i>	<i>May 05/14</i>	<i>Aug 05/14</i>	<i>Nov 03/14</i>	<i>Average</i>	<i>Max</i>

Trihalomethanes Total	µg/L	100	-	10	8	53	47	51	36	47	53
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Lead		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>		DDW PCW3				
2 JOESPH ST. PCW9	<i>Units</i>	<i>MAC/IMAC</i>	<i>AO/OG</i>	<i>ODWS RDL</i>	<i>LRL MDL</i>		<i>May 05/14</i>			<i>Average</i>	<i>Max</i>

Lead	µg/L	-	300	150	20		0.15			0.15	0.15
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District of Muskoka - Ferndale Rd WTP - Port Carling

9.0 Chemical Usage Summary - 2014

Month	Powdered Activated Carbon			CO2			Hydrated Lime			Coagulant		
	Average Dosage mg/L	Total kg	Estimated Monthly Cost	Average Dosage mg/L	Total kg	Estimated Monthly Cost+ Rental	Average Dosage mg/L	Total kg	Estimated Monthly Cost	Average Dosage mg/L	Total Kg	Estimated Monthly Cost
January	0.0	0.0		29.5	243		41.3	389		13.1	67	
February	0.0	0.0		25.8	204		42.7	343		8.7	56	
March	0.0	0.0		32.4	297		55.4	509		7.2	65	
April	0.0	0.0		28.7	260		56.0	512		8.4	75	
May	0.0	0.0		22.6	372		44.7	734		7.1	117	
June	0.0	0.0		23.8	414		41.8	726		7.9	136	
July	0.0	0.0		21.3	387		43.0	777		7.2	129	
August	0.0	0.0		19.9	319		42.4	686		7.1	115	
September	0.0	0.0		23.0	280		46.7	559		7.4	89	
October	0.0	0.0		29.2	287		49.3	484		7.8	76	
November	0.0	0.0		30.9	283		49.5	459		7.9	72	
December	0.0	0.0		31.9	280		50.8	436		8.2	70	
Average Monthly	0.0	0.0		26.6	302		47	551.2		8.2	89	
Total Yearly					3,626			6,614			1,067	

Month	Sodium Hydroxide			Fluoride			Chlorine			Soda Ash		
	Average Dosage mg/L	Total Kg	Estimated Monthly Cost	Average Dosage mg/L	Total kg	Estimated Monthly Cost	Average Dosage mg/L	Total Kg	Estimated Monthly Cost	Average Dosage mg/L	Total Kg	Estimated Monthly Cost
January	2.1	19		0.87	6.6		4.05	35		0.0	0.0	
February	2.3	17		0.89	5.9		3.92	30		0.0	0.0	
March	2.2	20		0.63	5.2		3.15	30		0.0	0.0	
April	2.6	24		0.64	5.5		3.65	32		0.0	0.0	
May	2.3	37		0.55	8.6		3.39	54		0.0	0.0	
June	2.5	42		0.54	8.7		4.03	68		0.0	0.0	
July	2.5	45		0.55	9.2		3.80	67		0.0	0.0	
August	2.4	38		0.55	8.2		3.89	61		0.0	0.0	
September	2.5	29		0.54	6.0		3.83	44		0.0	0.0	
October	2.5	23		0.57	4.8		4.03	38		0.0	0.0	
November	2.9	25		0.62	5.3		4.03	36		0.0	0.0	
December	3.6	30		0.62	5.2		4.25	35		0.0	0.0	
Average Monthly	2.5	29		0.63	6.6		3.83	44		0.0	0.0	
Total Yearly		347			79			529				

Month	Potassium Permanganate			Polymer		
	Average Dosage mg/L	Total Kg	Estimated Monthly Cost	Average Dosage mg/L	Total Kg	Estimated Monthly Cost
January	0.0	0.0		0.0	0.0	
February	0.0	0.0		0.0	0.0	
March	0.0	0.0		0.0	0.0	
April	0.0	0.0		0.0	0.0	
May	0.0	0.0		0.0	0.0	
June	0.0	0.0		0.0	0.0	
July	0.0	0.0		0.0	0.0	
August	0.0	0.0		0.0	0.0	
September	0.0	0.0		0.0	0.0	
October	0.0	0.0		0.0	0.0	
November	0.0	0.0		0.0	0.0	
December	0.0	0.0		0.0	0.0	
Average Monthly	0.0	0.0		0.0	0.0	
Total Yearly						

2014 PORT CARLING WATER DISTRIBUTION SUMMARY

New Services

There was a 150mm valve and service line installed to the new sewage treatment plant. There was 1 service upgraded from 19mm to 50mm on Bruce Wilson Dr. There was 1 new yard hydrant installed at the Ferndale Rd. dead-end.

Broken Watermains

There were no water main breaks.

Service Leaks

There were 2 service leaks that the District was responsible for repairing.

Frozen Services

There was 1 frozen water service to report.

New Watermains

No new watermains were installed.

Valve Replacements

No valves were replaced. 67 of the 110 valves were operated.

Fire Hydrants

Routine hydrant maintenance was performed which includes, inspecting, operating, and greasing each individual hydrant, seasonal flushing, scoping, and snow removal numerous times through the winter months. There are 86 hydrants of which 3 are privately owned. 25 fire hydrants were painted.

Meter Installations

District staff continued to maintain the water meters in Port Carling. A total of 16 meters were repaired, 27 meters were replaced as part of the aged meter change out program, and 1 new meter was installed.

Air Vacuum Release Valves

Air Vacuum release valves were drained, operated, and inspected and all were in good working condition. 1 new air release valve was installed on the service to the new sewage treatment plant.

Locates

There were 45 written locates requested and completed.