	DWQMS Operational Plan	Form 05-22
	Revision Date:	Revision: 2
	Approved By: Vice President Operations & Engineering	
Title: Echo Bay DWS Annual & Summary Reports 2013		Page 1 of 10

Echo Bay Drinking Water System Waterworks # 220009121 Annual & Summary Reports 2013

ANNUAL REPORT 2013

Drinking-Water System Number:	220009121
Drinking-Water System Name:	Echo Bay Drinking Water System
Drinking-Water System Owner:	Township of Macdonald, Meredith & Aberdeen Additional
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	Jan 1 – Dec 31, 2013

<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 [] No [X]</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection. Town Office</p>	<p><u>Complete for all other Categories.</u></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

Describe your Drinking-Water System

Echo Bay's water supply is surface water drawn from Lake George on Lake Huron. The Echo Bay Treatment Plant is equipped with three low lift pumps, two packaged treatment plants, with flocculation, clarification, sedimentation and dual media filtration and two granular activated carbon (GAC) filters. The plant's storage consists of 2 clearwells interconnected with 2 high lift wells equipped with 4 vertical turbine pumps that distribute the water to an elevated storage tank/distribution system. The plant has an on-line chlorine analyzer, turbidity, flow and pH meters.

List all water treatment chemicals used over this reporting period

Aluminum Sulphate
Sodium Hypochlorite
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

- SCADA upgrade and replacement of obsolete PLC components
- Replacement of chemical feed pump
- Roof repairs
- Replacement of Hypo pump and Waste handling pump

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

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	53	0 - 25	0 - 2420	N/A	N/A
Treated	53	0	0	53	0 - 3
Distribution	107	0	0	55	0 - 2

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)*	35,040	0.01 - 0.87 NTU
Turbidity (Filter #2)*	35,040	0.01 - 0.95 NTU
Chlorine	105,120	0.60 - 2.0 mg/L
Fluoride (If the DWS provides fluoridation)	N/A	N/A

*Note – the filters typically do not operate above 0.30 NTU. Alarm set points of 0.30 NTU cause the plant to shut down and lowlift pumps to lockout until turbidity alarm conditions clear to normal operations. In this reporting period, running of filters 1 & 2 at higher turbidity levels was required in November to test chemical dose adjustments while filtering.

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	7-Jan-13	<0.60	ug/L	No
Arsenic	7-Jan-13	<1.0	ug/L	No
Barium	7-Jan-13	<10	ug/L	No
Boron	7-Jan-13	<50	ug/L	No
Cadmium	7-Jan-13	<0.10	ug/L	No
Chromium	7-Jan-13	<1.0	ug/L	No
Mercury	7-Jan-13	<0.10	ug/L	No
Lead *				
Selenium	7-Jan-13	<1.0	ug/L	No
Sodium	7-Jan-13	4.27	mg/L	No
Uranium	7-Jan-13	<2.0	ug/L	No
Fluoride	7-Jan-13	<0.030	mg/L	No

Parameter	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
Date	7-Jan-13	8-Apr-13	8-Jul-13	7-Oct-13
Unit of Measure	mg/L	mg/L	mg/L	mg/L
Nitrite	<0.020	<0.020	<0.020	<0.020
Nitrate	0.340	0.349	0.333	0.314

*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 #)	Number of Exceedances
Plumbing			
Distribution			

- Relief of sampling (to every 3rd 12 month period) in effect till 2014.

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	7-Jan-13	<0.10	ug/L	No
Aldicarb	7-Jan-13	<1.0	ug/L	No
Aldrin + Dieldrin	7-Jan-13	<0.040	ug/L	No
Atrazine + N-dealkylated metabolites	7-Jan-13	<0.20	ug/L	No
Azinphos-methyl	7-Jan-13	<0.10	ug/L	No
Bendiocarb	7-Jan-13	<0.20	ug/L	No
Benzene	7-Jan-13	<0.50	ug/L	No
Benzo(a)pyrene	7-Jan-13	<0.010	ug/L	No
Bromoxynil	7-Jan-13	<0.20	ug/L	No
Carbaryl	7-Jan-13	<0.20	ug/L	No
Carbofuran	7-Jan-13	<0.20	ug/L	No
Carbon Tetrachloride	7-Jan-13	<0.50	ug/L	No
Chlordane (Total)	7-Jan-13	<0.30	ug/L	No
Chlorpyrifos	7-Jan-13	<0.10	ug/L	No
Cyanazine	7-Jan-13	<0.10	ug/L	No
Diazinon	7-Jan-13	<0.10	ug/L	No
Dicamba	7-Jan-13	<0.20	ug/L	No
1,2-Dichlorobenzene	7-Jan-13	<0.50	ug/L	No
1,4-Dichlorobenzene	7-Jan-13	<0.50	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	7-Jan-13	<0.40	ug/L	No
1,2-Dichloroethane	7-Jan-13	<0.50	ug/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
1,1-Dichloroethylene (vinylidene chloride)	7-Jan-13	<0.50	ug/L	No
Dichloromethane	7-Jan-13	<0.50	ug/L	No
2-4 Dichlorophenol	7-Jan-13	<0.30	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	7-Jan-13	<0.20	ug/L	No
Diclofop-methyl	7-Jan-13	<0.20	ug/L	No
Dimethoate	7-Jan-13	<0.10	ug/L	No
Dinoseb	7-Jan-13	<0.20	ug/L	No
Diquat	7-Jan-13	<1.0	ug/L	No
Diuron	7-Jan-13	<1.0	ug/L	No
Glyphosate	7-Jan-13	<5.0	ug/L	No
Heptachlor + Heptachlor Epoxide	7-Jan-13	<0.20	ug/L	No
Lindane (Total)	7-Jan-13	<0.10	ug/L	No
Malathion	7-Jan-13	<0.10	ug/L	No
Methoxychlor	7-Jan-13	<0.10	ug/L	No
Metolachlor	7-Jan-13	<0.10	ug/L	No
Metribuzin	7-Jan-13	<0.10	ug/L	No
Monochlorobenzene	7-Jan-13	<0.50	ug/L	No
Paraquat	7-Jan-13	<1.0	ug/L	No
Parathion	7-Jan-13	<0.10	ug/L	No
Pentachlorophenol	7-Jan-13	<0.50	ug/L	No
Phorate	7-Jan-13	<0.10	ug/L	No
Picloram	7-Jan-13	<0.20	ug/L	No
Polychlorinated Biphenyls(PCB)	7-Jan-13	<0.035	ug/L	No
Prometryne	7-Jan-13	<0.10	ug/L	No
Simazine	7-Jan-13	<0.10	ug/L	No
THM (NOTE: show latest annual average)	2013 RAA	12.5	ug/L	No
Temephos	7-Jan-13	<0.10	ug/L	No
Terbufos	7-Jan-13	<0.20	ug/L	No
Tetrachloroethylene	7-Jan-13	<0.50	ug/L	No
2,3,4,6-Tetrachlorophenol	7-Jan-13	<0.50	ug/L	No
Triallate	7-Jan-13	<0.10	ug/L	No
Trichloroethylene	7-Jan-13	<0.50	ug/L	No
2,4,6-Trichlorophenol	7-Jan-13	<0.50	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	7-Jan-13	<0.20	ug/L	No
Trifluralin	7-Jan-13	<0.10	ug/L	No
Vinyl Chloride	7-Jan-13	<0.50	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

**Echo Bay
Drinking Water System
Waterworks # 220009121**

**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 MacDonald, Meredith & Aberdeen Additional for the Echo Bay 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: [278-101](#),

Issue Number: [2](#), Issued [August 23, 2011](#)

DRINKING WATER WORKS PERMIT, Permit Number: [278-201](#),

Issue Number: [1](#), Issued [August 11, 2011](#)

Most recent Drinking Water System Inspection Report:

DWS Number: [220009121](#)

Inspected by: [Lori Greco](#)

Inspection Number: [1-AOYY9](#)

Date of Inspection: [November 20, 2013](#)

Date of Previous Inspection: [January 22, 2013](#)

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

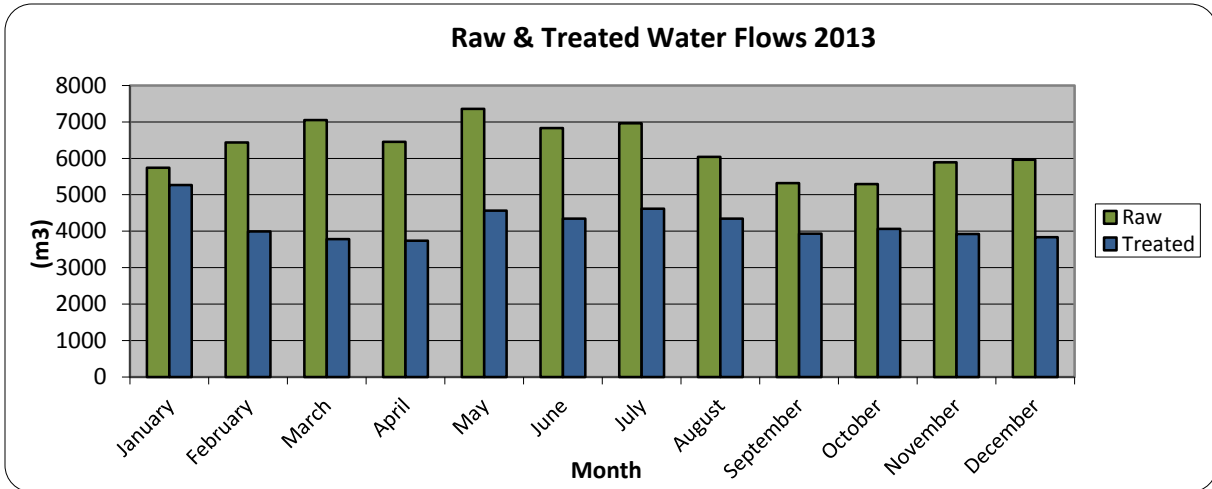
Non- Compliance with Regulatory Requirements and Actions Required:

[N/A](#)

The Echo Bay Drinking Water System has complied with all the requirements set out in the system's Approval, the Act and it's regulations.

Flows Summary 2013

Raw Water Flows 2013						
Month	Raw Water (m ³)	Daily Min (m ³ /d)	Daily Max (m ³ /d)	Daily Average (m ³ /d)	Max Flow Rate (L/s)	% Max. of PTTW (1,418 m ³ /d)
January	5,739.8	111.5	251.7	185.2	8.9	17.8
February	6,439.8	98.6	317.3	230.0	8.8	22.4
March	7,048.7	144.8	367.4	227.4	6.9	25.9
April	6,454.9	129.8	315.7	215.2	7.3	22.3
May	7,357.3	132.8	424.3	237.3	6.9	29.9
June	6,832.3	82.5	382.1	227.7	6.1	26.9
July	6,959.4	153.4	314.8	224.5	7.6	22.2
August	6,040.0	120.1	294.2	194.8	13.9	20.7
September	5,321.3	114.8	293.1	177.4	8.3	20.7
October	5,290.2	97.1	276.0	170.7	8.0	19.5
November	5,888.0	83.5	431.8	196.3	8.9	30.5
December	5,962.6	107.9	329.0	192.3	12.3	23.2



Treated Water Flows 2013						
Month	Treated Water (m ³)	Daily Min (m ³ /d)	Daily Max (m ³ /d)	Daily Average (m ³ /d)	Max Flow Rate (L/s)	% of Rated Capacity using max day volume (1416 m ³ /d)
January	5,267.2	105.9	261.8	169.9	15.8	18.5
February	3,990.6	77.2	197.9	142.5	14.5	14.0
March	3,787.5	68.0	199.3	122.2	14.5	14.1
April	3,742.5	45.0	203.7	124.8	16.6	14.4
May	4,566.2	63.7	295.0	147.3	18.0	20.8
June	4,348.0	32.7	213.8	144.9	14.4	15.1
July	4,617.2	89.1	234.3	148.9	14.4	16.5
August	4,341.6	47.2	208.9	140.1	15.0	14.7
September	3,933.3	48.3	208.4	131.1	14.0	14.7
October	4,066.3	72.8	203.2	131.2	14.0	14.4
November	3,921.3	70.0	211.9	130.7	13.8	15.0
December	3,836.2	56.3	198.4	123.7	13.9	14.0

Capacity Assessment

The Permit to Take Water 6566-6FSPFS authorizes the municipality to draw water from Lake George at a rate not to exceed 1418 m3/d. The maximum daily volume taken was 431.8 m3, 30.5% of the permit limit.

Municipal Drinking Water Licence: 278-101 specifies a maximum rated flow of 1416 m3/day. The max flow rate reported was 295.0 m3, 20.8 % of the rated capacity.

This Summary report for The Echo Bay Drinking Water System for the period of January 1st to December 31st 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 MacDonald, Meredith & Aberdeen Additional council.

_____, _____
Date