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Scott Point Drinking Water System

2024 Annual Water Summary Report

1. INTRODUCTION AND BACKGROUND

The municipality owns and operates drinking water systems to provide residents with safe, potable water. These municipal drinking water systems are regulated under various legislation and legal documents including the Safe Drinking Water Act and Ontario Regulation 170/03 Drinking Water Systems. O. Reg. 170 requires that the municipality complete an annual water report (Section 11) and an annual summary report (Schedule 22). The information required for each of these reports has been combined into this one report. This annual water summary report will be made available for inspection as per O. Reg. 170 subsection 12 (4).

The reports are available free of charge on the municipal website at www.kincardine.ca or by contacting the Environmental Services Department at waterservice@kincardine.ca. Requests will also be received in person or by telephone at the Municipal Administration Centre (1475 Concession 5, 519-396-3468) or the Environmental Services Office (155 Durham Street, Kincardine, 519-396-4660).

1.1. System Description

Drinking-Water System Number:	220007043
Drinking-Water System Name:	Scott Point Drinking Water System
Drinking-Water System Owner:	Municipality of Kincardine
Drinking-Water System Category:	Small Municipal Residential
Period being reported:	Year 2024

The Scott Point Drinking Water System (DWS) consists of a well and a treatment system. The Scott's Point Well #1 was a non-GUDI well (which means that it is a secure well and not under the influence of surface water) with a capacity of 0.9 L/s. Well #1 was decommissioned and replaced with Scott's Point Well #2 on April 9, 2024. Well #2 is a drilled well approximately 73.2m deep and is equipped with a pump rated at 0.9L/s. Well #2 is currently designated as provisional groundwater and will be further evaluated by the ministry based on the on-going two-year routine EC/TC sampling results in the raw well water. The treatment works consists of a raw water flow meter, sodium hypochlorite (NSF approved) for disinfection, an oxidation tank and two multi-media pressure filters for iron removal, a 45 m^3 baffled reservoir and a treated water flow meter. There is on-line monitoring of treated water for free chlorine residual. Pressure for the distribution system is supplied by pressure storage tanks. Two high lift pumps supply water to the pressure tanks and distribution system as well as the backwash filters. The backwash wastewater is directed to a two-stage tank buried on municipal property. The water system serves less than 40 households. There is a backup generator on-site.

1.2. Major Expenses

The system incurred expenses necessary to install, repair or replace required equipment as follows:

Raw water upgrades	$23,675.86
Treatment Upgrades	$5,081.77
Distribution Repairs	$2,419.67
Water Meter upgrades	$44,968.37

2. WATER QUALITY MONITORING

Each municipal drinking water system is required to do testing to ensure that the water supplied to consumers is safe for consumption. Some of these tests such as chlorine residuals are done on site while others, like microbiological testing, must be performed by a licenced laboratory.

2.1. Microbiological Testing

O. Reg. 170 Schedule 11, requires the Scott Point DWS to take a minimum of one sample per month of raw water from the well, and one sample every two weeks of distribution water and have them tested for Escherichia coli (E. coli) and total coliforms (TC). The distribution samples must also be tested for heterotrophic plate count (HPC). Our internal sampling schedule exceeds the minimum requirements by having operations staff collect one treated and one distribution sample every week and have them tested for E. coli, total coliform and HPC.

Any E. coli or total coliform results above zero (0) in treated or distribution water must be reported to the Ministry of the Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH).

Heterotrophic plate count is a colony count of general bacteria population. There is no adverse limit for HPC samples. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water.

The results from the 2024 sampling program are shown in the table below. Well #2 was placed online on April 9, 2024 in place of Well #1.

Water Source	Number of TC/EC Samples	Range of Total Coliform Results (#-#)	Range of E. coli Results (#-#)	Number of HPC Samples	Range of HPC Results (#-#)
Raw	13	0 – 0	0 – 0	0	--
Treated	53	0 – 0	0 – 0	53	0 – 10
Distribution	53	0 – 0	0 – 0	53	0 – 10

2.2. Chemical Testing

The Safe Drinking Water Act Reg 170 Schedule 13 requires periodic testing of the water for chemical parameters. The Scott Point DWS is required to test for nitrite/nitrates on a quarterly basis. Until recently, trihalomethanes and haloacetic acids were tested quarterly but due to the low levels using Well #1, they were only required to be tested on a quarterly basis every third year. With Well #2 being placed online, the trihalomethanes and haloacetic acids are required to be tested for 12 consecutive quarters before reduced sampling can be applied. The tables below outline other inorganic and organic parameters that are required to be tested every five years and include the date and result of the most recent test. Any result displayed as less than (<) are below the method detection limit of the lab.

Sodium and fluoride levels exceed the Ontario Drinking Water Quality Standards, but they are naturally occurring in the groundwater and do not need to be tested more frequently than every five years.

If the concentration of a parameter is above half of the Maximum Acceptable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by O. Regulation 170. There were no parameters above the half MAC that were required to be tested for quarterly in 2024. Scott's Point Well #2 was placed online on April 9, 2024, and Well #1 was decommissioned.

Scott's Point Well #1

Inorganic Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	July 10/23	<0.6	µg/L	No
Arsenic	July 10/23	<0.02	µg/L	No
Barium	July 10/23	8.23	µg/L	No
Boron	July 10/23	248	µg/L	No
Cadmium	July 10/23	< 0.003	µg/L	No
Chromium	July 10/23	0.30	µg/L	No
Mercury	July 10/23	< 0.01	µg/L	No
Selenium	July 10/23	< 0.04	µg/L	No
Sodium	October 12/22 October 18/22	37.2 33.3	mg/L	Yes
Uranium	July 10/23	0.230	µg/L	No
Fluoride	April 11/23 April 17/23	1.72 1.72	mg/L	Yes
Nitrite	January 15/24 April 8/24	< 0.003 < 0.003	mg/L	No
Nitrate	January 15/24 April 8/24	0.008 0.008	mg/L	No

Scott's Point Well #2

Inorganic Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	April 29/24	<0.6	µg/L	No
Arsenic	April 29/24	<0.2	µg/L	No
Barium	April 29/24	9.45	µg/L	No
Boron	April 29/24	206	µg/L	No
Cadmium	April 29/24	0.031	µg/L	No
Chromium	April 29/24	0.48	µg/L	No
Mercury	April 29/24	<0.01	µg/L	No
Selenium	April 29/24	0.04	µg/L	No
Sodium	July 22/22	40	mg/L	Yes
Uranium	April 29/24	2.51	µg/L	No
Fluoride	July 22/22	1.7	mg/L	Yes
Nitrite	April 29/24 July 8/24 October 7/24	< 0.003 < 0.003 0.004	mg/L	No
Nitrate	April 29/24 July 8/24 October 7/24	0.010 0.006 < 0.006	mg/L	No

Notes:

1. Sodium and fluoride testing information taken from the initial well evaluation report completed by Ian D Wilson Associated Ltd.

2. Well #2 initial sampling in the Ian D. Wilson report showed a gross alpha result of 0.41 Bq/L. Although the ODWQS does not provide specific guidance on interpretation of gross alpha/beta results, footnote 8 of the MECP on-line "Guide for Applying for Drinking Water Works Permit Amendments, Licence Amendments" states: "The identification of individual alpha emitters is required if the repeat gross alpha analysis result exceeds 4.0 Bq/L (repeat analysis required if the first analysis result exceeds 0.1 Bq/L)." A resample for gross alpha was completed on March 26, 2024, before the well was placed into service and a result of 0.2<MDL for Bq/L was received.

Scott's Point Well #1

Organic Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	July 10/23	< 0.02	µg/L	No
Atrazine + N-dealkylated metabolites	July 10/23	< 0.01	µg/L	No
Azinphos-methyl	July 10/23	< 0.05	µg/L	No
Benzene	July 10/23	< 0.32	µg/L	No
Benzo(a)pyrene	July 10/23	< 0.004	µg/L	No
Bromoxynil	July 10/23	< 0.33	µg/L	No
Carbaryl	July 10/23	< 0.05	µg/L	No
Carbofuran	July 10/23	< 0.01	µg/L	No
Carbon Tetrachloride	July 10/23	< 0.17	µg/L	No
Chlorpyrifos	July 10/23	< 0.02	µg/L	No
Diazinon	July 10/23	< 0.02	µg/L	No
Dicamba	July 10/23	< 0.20	µg/L	No
1,4-Dichlorobenzene	July 10/23	< 0.36	µg/L	No
1,2-Dichlorobenzene	July 10/23	< 0.41	µg/L	No
1,2-Dichloroethane	July 10/23	< 0.35	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	July 10/23	< 0.33	µg/L	No
Dichloromethane	July 10/23	< 0.35	µg/L	No
2-4 Dichlorophenol	July 10/23	< 0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	July 10/23	< 0.19	µg/L	No
Diclofop-methyl	July 10/23	< 0.40	µg/L	No
Dimethoate	July 10/23	< 0.06	µg/L	No
Diquat	July 10/23	< 1	µg/L	No
Diuron	July 10/23	< 0.03	µg/L	No
Glyphosate	July 10/23	< 1	µg/L	No
Malathion	July 10/23	< 0.02	µg/L	No
2 methyl-4-chlorophenoxyacetic acid (MCPA)	July 10/23	<0.00012	µg/L	No
Metolachlor	July 10/23	< 0.01	µg/L	No
Metribuzin	July 10/23	< 0.02	µg/L	No
Monochlorobenzene	July 10/23	< 0.3	µg/L	No
Paraquat	July 10/23	< 1	µg/L	No
Pentachlorophenol	July 10/23	< 0.15	µg/L	No
Phorate	July 10/23	< 0.01	µg/L	No
Picloram	July 10/23	< 1	µg/L	No
Polychlorinated Biphenyls (PCB)	July 10/23	< 0.04	µg/L	No
Prometryne	July 10/23	< 0.03	µg/L	No
Simazine	July 10/23	< 0.01	µg/L	No
Terbufos	July 10/23	< 0.01	µg/L	No
Tetrachloroethylene	July 10/23	< 0.35	µg/L	No
2,3,4,6-Tetrachlorophenol	July 10/23	< 0.20	µg/L	No
Triallate	July 10/23	< 0.01	µg/L	No
Trichloroethylene	July 10/23	< 0.44	µg/L	No
2,4,6-Trichlorophenol	July 10/23	< 0.25	µg/L	No
Trifluralin	July 10/23	< 0.02	µg/L	No
Vinyl Chloride	July 10/23	< 0.17	µg/L	No

Scott's Point Well #2

Organic Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	April 29/24	<0.02	µg/L	No
Atrazine + N-dealkylated metabolites	April 29/24	<0.01	µg/L	No
Azinphos-methyl	April 29/24	<0.05	µg/L	No
Benzene	April 29/24	<0.32	µg/L	No
Benzo(a)pyrene	April 29/24	<0.004	µg/L	No
Bromoxynil	April 29/24	<0.33	µg/L	No
Carbaryl	April 29/24	<0.05	µg/L	No
Carbofuran	April 29/24	<0.01	µg/L	No
Carbon Tetrachloride	April 29/24	<0.17	µg/L	No
Chlorpyrifos	April 29/24	<0.02	µg/L	No
Diazinon	April 29/24	<0.02	µg/L	No
Dicamba	April 29/24	<0.20	µg/L	No
1,4-Dichlorobenzene	April 29/24	<0.36	µg/L	No
1,2-Dichlorobenzene	April 29/24	<0.41	µg/L	No
1,2-Dichloroethane	April 29/24	<0.35	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	April 29/24	<0.33	µg/L	No
Dichloromethane	April 29/24	<0.35	µg/L	No
2-4 Dichlorophenol	April 29/24	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	April 29/24	<0.19	µg/L	No
Diclofop-methyl	April 29/24	<0.40	µg/L	No
Dimethoate	April 29/24	<0.06	µg/L	No
Diquat	April 29/24	<1	µg/L	No
Diuron	April 29/24	<0.03	µg/L	No
Glyphosate	April 29/24	<1	µg/L	No
Malathion	April 29/24	<0.02	µg/L	No
2 methyl-4-chlorophenoxyacetic acid (MCPA)	April 29/24	<0.00012	µg/L	No
Metolachlor	April 29/24	<0.01	µg/L	No
Metribuzin	April 29/24	<0.02	µg/L	No
Monochlorobenzene	April 29/24	<0.3	µg/L	No
Paraquat	April 29/24	<1	µg/L	No
Pentachlorophenol	April 29/24	<0.15	µg/L	No
Phorate	April 29/24	<0.01	µg/L	No
Picloram	April 29/24	<1	µg/L	No
Polychlorinated Biphenyls (PCB)	April 29/24	<0.04	µg/L	No
Prometryne	April 29/24	<0.03	µg/L	No
Simazine	April 29/24	<0.01	µg/L	No
Terbufos	April 29/24	<0.01	µg/L	No
Tetrachloroethylene	April 29/24	<0.35	µg/L	No
2,3,4,6-Tetrachlorophenol	April 29/24	<0.20	µg/L	No
Triallate	April 29/24	<0.01	µg/L	No
Trichloroethylene	April 29/24	<0.44	µg/L	No
2,4,6-Trichlorophenol	April 29/24	<0.25	µg/L	No
Trifluralin	April 29/24	<0.02	µg/L	No
Vinyl Chloride	April 29/24	<0.17	µg/L	No

Trihalomethane (THM) distribution sampling is required quarterly every third year and must also be expressed as a running annual average. The limit as set in the Ontario Drinking Water Quality Standards is 100 ug/L. Trihalomethanes are a by-product of the disinfection process. Scott's Point Well #2 came online April 9, 2024, and Well #1 was decommissioned.

Scott's Point Well #1

Date Sampled	THM Result Value (µg/L)	Running Annual Average (µg/L)	Exceedance
January 15/24	13	15.3	No

Scott's Point Well #2

Date Sampled	THM Result Value (µg/L)	Running Annual Average (µg/L)	Exceedance
April 29/24	15	15.8	No
July 8/24	20	16.8	No
October 7/24	16	16.0	No

Sampling and testing for haloacetic acids (HAA) in the distribution system is a new requirement as of 2017. They are also required quarterly every third year as long as the results are below the limit. The limit as set in the Ontario Drinking Water Quality Standards is 80 ug/L and starting in 2020 must also be expressed as a running annual average. Haloacetic acids are a by-product of the disinfection process. HAA sampling was not required in 2024 for Well #1. HAA sampling commenced again when Well #2 came online on April 9, 2024.

Scott's Point Well #1

Date Sampled	HAA Result Value (µg/L)	Running Annual Average (µg/L)	Exceedance
January 9/23	<5.3	5.3	No
April 11/23	<5.3	5.3	No
July 10/23	5.3	5.3	No
October 10/23	<5.3	5.3	No

Scott's Point Well #2

Date Sampled	HAA Result Value (µg/L)	Running Annual Average (µg/L)	Exceedance
April 29/24	< 5.3	5.3	No
July 8/24	< 5.3	5.3	No
October 7/24	< 5.3	5.3	No

The Scott Point DWS does not have significant levels of lead and so is currently under a reduced-sampling program. Under this sampling program, O. Reg 170 Schedule 15.1 requires sampling for lead every three years and lead-related parameters (pH and alkalinity) every year. Lead, PH and Alkalinity sampling was completed in 2024, below are the results.

Date Sampled	Location Type	Number of Samples	Parameter	Results
March 25, 2024	Distribution	1	Lead (ug/L)	0.02
			pH	8.6
			Alkalinity (mg/L)	98
August 12, 2024	Distribution	1	Lead (ug/L)	0.05
			pH	7.7
			Alkalinity (mg/L)	96

2.3. Operational Monitoring

Sodium hypochlorite is used for primary and secondary disinfection. The free chlorine residual is monitored continuously on the treated water and must be checked a minimum of twice per week in the distribution system.

As a target, the free chlorine residual should be above 0.20 mg/L. A distribution free chlorine level lower than 0.05 mg/L must be reported and corrective action taken.

Our internal sampling schedule exceeds the minimum requirements by having operations staff collect one distribution free chlorine residual every day.

Free Chlorine Residual	Number of Grab Samples	Range of Results (#-#)
Treated Water	Continuous monitoring	0.01 – 5.00
Distribution Water	365	0.42 – 1.29

Notes:

1. Monthly lockout valve testing causes false min residuals to be recorded for treated water. True minimum for 2024 was 0.43mg/L.
2. Feb 28-Membrane and electrolyte changed causing false high residual of 5.0mg/L
3. May 15-Membrane and electrolyte changed causing false residuals of 5.0mg/L and 0.01mg/L
4. Dec 12-No distribution residual due to bad weather and road closures

O. Reg 170 Schedule 7 requires that turbidity in the raw water is tested at least once every month. Consistent turbidity results greater than 5 NTU could indicate surface water influence on the well. Note: Well #2 was brought online on April 9, 2024 and Well #1 was taken offline.

Well #1

Raw Water	Number of Grab Samples	Range of Results (#-#)
Turbidity	14	0.19 – 0.62

Well #2

Raw Water	Number of Grab Samples	Range of Results (#-#)
Turbidity	37	0.2 – 0.74

3. WATER QUANTITY

The following tables list the quantities and flow rates of the water supplied to the distribution system during the reporting period covered by this report, including monthly average and maximum daily flows and a comparison to the rated capacity specified in the system Municipal Drinking Water Licence. The rated capacity of the treatment system is 77.76 m^3/day. There is no maximum flow rate specified for water supplied to the distribution system.

Month	Total Treated Flow (m3)	Average Daily Flow (m^3/day)	% Average Day/Rated Capacity (m^3/day)	Maximum Daily Flow (m^3/day)	% Maximum Day/Rated Capacity (m^3/day)
January	979	32	41%	43	56%
February	416	14	18%	20	26%
March	433	16	21%	18	23%
April	437	15	19%	24	31%
May	470	15	20%	20	26%
June	501	17	21%	22	28%
July	629	20	26%	27	35%
August	676	22	28%	29	37%
September	675	22	29%	33	43%
October	559	18	23%	27	35%
November	427	14	18%	21	27%
December	433	14	18%	31	40%
Annual	**6,636**	**18**	**24%**	**43**	**56%**

Month	Average Daily Flow Rate (L/s)	Maximum Daily Flow Rate (L/s)
January	0.37	2.50
February	0.17	2.50
March	0.16	2.50
April	0.17	2.58
May	0.18	2.12
June	0.19	2.50
July	0.24	1.70
August	0.25	2.04
September	0.26	1.83
October	0.21	2.58
November	0.17	2.13
December	0.16	1.54
Annual	0.21	2.58

4. ADVERSE WATER QUALITY INCIDENTS AND NON-COMPLIANCE FINDINGS

Any adverse results from microbiological samples, chemical samples or observations of operational conditions that indicate adverse water quality are reported to the Spills Action Centre (SAC) of the Ministry of the Environment, Conservation and Parks and the Medical Officer of Health (MOH). All adverse conditions are responded to immediately and corrective actions taken. There were no reportable incidents in 2024.

The previous annual Ministry of the Environment, Conservation and Parks Inspection took place on December 19, 2023, for the period of December 8, 2022, to December 19, 2023. There were no non-compliance issues noted in the report. An unannounced on-site inspection took place on January 23, 2025, for the 2024-25 inspection year. No issues were found on site; at the time of publication of this report the final inspection report has not been issued.

O. Reg 170 Schedule 22 requires the municipality to identify any requirements of the Act, Regulations, Drinking Water Works Permit, Municipal Drinking Water Licence and any Order that the system failed to meet during the reporting period. There was one issue identified in 2024 in the table below.

Drinking Water Legislation	**Requirements the System Failed to Meet**	**Duration**	**Corrective Actions**
MDWL Schedule C, section 4.0	Level transducer for reservoir not calibrated on an annual basis Reservoir level transducer used for CT calculations was not calibrated at least once every 12 months. Identified in internal DWQMS Audit on Sept 26.	No record of calibration on transducer	Had the reservoir level transducer calibrated by a third party on Oct 15; added transducer to the annual calibration listing