



March 4, 2025

The Corporation of the Municipality of Huron East
72 Main St. S
P.O. Box 610
Seaforth, ON
N0K 1W0

Attention: Brad McRoberts, CAO
RE: Seaforth Well Supply System 2024 Annual Report

Dear Brad,

Please find attached the 2024 Annual Operations Report for the Seaforth Water System, in accordance with Section 11(1) of O. Reg. 170/03. This report covers the period from January 1 to December 31.

Please ensure that a copy of this report is given, without charge, to every person who requests a copy. In addition, please make certain that effective steps are taken to advise residents that copies of the report are available, and of how a copy can be obtained.

As per Schedule 22 of O. Reg. 170/03, please ensure that at least a copy of the Summary Report is given to the members of municipal council no later than March 31, 2025.

Finally, please ensure that a letter is sent to Jacobs verifying that this report has been received and accepted by Council.

If you have any questions regarding the report, we would be pleased to address them, and you should contact the undersigned accordingly.

Sincerely,

Jacobs (OMI Canada Inc.)

A handwritten signature in black ink, appearing to read "Chris Toulouse".

Christopher Toulouse
Project Manager
519-466-8450

cc. B. Mills, Municipality of Huron East
S. Bromley, Municipality of Huron East
J. Bloomfield, Jacobs Acting Area Manager

ANNUAL REPORT

| | |
|--|--|
| Drinking-Water System Number: | 220001511 |
| Drinking-Water System Name: | Seaforth Well Supply System |
| Drinking-Water System Owner: | The Corporation of the Municipality of Huron East |
| Drinking-Water System Category: | Large Municipal Residential |
| Period being reported: | Jan 1st – Dec 31st, 2024 |

| | |
|---|---|
| <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 [x] 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; margin-top: 10px;"> <p>Municipality of Huron East Town Office 72 Main St. S Box 610 Seaforth, ON N0K 1W0</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; 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:</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">n/a</div> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p> |
|---|---|

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 | 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

Water Distribution System Class 2.

As of mid-April 2009, the town of Seaforth draws its water supply from three groundwater wells. All wells are located at 40 Welsh St. The Welsh Street facility consists of an above ground pump house with three groundwater wells each located north of the pump house. TW1 (Test Well #1; but is considered to be a production well) is a 150mm diameter, 85m deep groundwater well located at 48m northwest of the new pump house. It is equipped with a submersible turbine pump at 6.4L/s. PW 1 (Production Well #1) is a 300mm diameter, 105m deep drilled groundwater well located 43m northwest of the pump house. It is equipped with a variable speed submersible turbine pump rated at 35/Ls. PW 2 (Production Well #2) has the same dimensions as PW1 and is located 18m northwest of the pump house. It contains a variable speed submersible turbine pump rated at 40/Ls. Three vertical turbine high lift pumps (one rated at 26L/s and two rated at 44L/s at 48m TDH) convey the water to the distribution system. There is a 670 m³ underground reservoir located on site that provides contact time for the treated water. It also serves as backup emergency storage and fire protection if the water tower is offline. This facility is equipped with a 175-kW generator and automatic transfer switch to provide backup power.

Treatment for the Welsh St. wells consist of a chlorination system that includes two sodium hypochlorite metering pumps (one main and one backup) and one 200 L day tank for sodium hypochlorite. Sodium Silicate is also added to the system (three pumps available, 1 dedicated to each well) as well as a 200L day tank. A continuous online chlorine analyzer equipped with alarms monitor the chlorine residual in the treated water just prior to the point of entry into the distribution system.

Water in excess of demand in the distribution system is pumped to the elevated storage tank (water tower). When a predetermined level in the tower is reached, the distribution pump(s) shut down. The 1930 m³ elevated storage tank was constructed in 1998 and is located at 85 Daly Street. The elevated tank water level cycles based on demand and provides emergency storage, fire protection and peak demand storage for the Seaforth water supply system.

The distribution system supplies water to the entire Town of Seaforth and the Village of Egmondville.

List all water treatment chemicals used over this reporting period

12% Sodium Hypochlorite Solution
Sodium Silicate

Were any significant expenses incurred to?

- ☐ Install required equipment
☒ Repair required equipment
☒ Replace required equipment

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 |
|---------------|-------------|--------|-----------------|--------------------|------------------------|
| Apr 30, 24 | TC, EC, HPC | NDOGN | | Flush and resample | May 2, 3 |
| Apr 9, 24 | Fluoride | 48 | | Resample | Apr 16, 24 |
| Apr 9, 24 | Sodium | 1.69 | | Resample | Apr 16, 24 |

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 (TW1) | 35 | 0 | 0 | N/A | N/A |
| Raw (PW1) | 53 | 0 | 0 | N/A | N/A |
| Raw (PW2) | 53 | 0 | 0 | N/A | N/A |
| Treated Water | 54 | 0 | 0 | 54 | <10 – 20 |
| Distribution | 216 | 0 - NDOGN | 0 - NDOGN | 110 | <10 - NDOGHPC |

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 #) | Unit of Measure |
|------------------|------------------------|----------------------------------|-----------------|
| Turbidity TW1 | 35 | 0.24 – 0.98 | NTU |
| Turbidity PW1 | 53 | 0.26 – 0.97 | NTU |
| Turbidity PW2 | 53 | 0.29 – 0.95 | NTU |
| Treated Chlorine | 8760 | 0.00 – 2.28 | mg/l |

NOTE: For continuous monitors use 8760 as the number of samples.

| | | | |
|------------------------------|------|-------------|------|
| Distribution Chlorine | 8760 | 0.00 – 1.75 | mg/l |
|------------------------------|------|-------------|------|

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

| (<MDL: Below Minimum Detection Limit) | | | | |
|---|----------------------------|----------------------|-----------------|------------|
| Note: Sodium + Fluoride sampling required every 60 months. Inorganic sampling required every 36 months. | | | | |
| Parameter | Sample Date | Result Value Well #1 | Unit of Measure | Exceedance |
| Antimony | Apr 9/24 | <0.6MDL | ug/L | No |
| Arsenic | Apr 9/24 | 0.5 | ug/L | No |
| Barium | Apr 9/24 | 31.4 | ug/L | No |
| Boron | Apr 9/24 | 133 | ug/L | No |
| Cadmium | Apr 9/24 | 0.04 | ug/L | No |
| Chromium | Apr 9/24 | 0.34 | ug/L | No |
| Mercury | Apr 9/24 | <0.01MDL | ug/L | No |
| Selenium | Apr 9/24 | 0.13 | ug/L | No |
| Uranium | Apr 9/24 | 8.22 | ug/L | No |
| Sodium | Apr /24 | 48.0, 47.8 | mg/L | YES |
| Fluoride | Apr /24 | 1.69, 1.48 | mg/L | No |
| Haloacetic Acids (HAA) (Running Annual Ave) | Q1 – Q4 2024 (Distributio) | 5.30 | | Ug/L |
| Trihalomethanes (THM's) (Running Annual Ave) | Q1 – Q4 2024 (Distributio) | 25.75 | | Ug/L |
| Nitrite & Nitrate sampling required Quarterly | | | | |
| Nitrite | Jan 2024 | <0.003 MDL | ug/L | No |
| Nitrate | Jan 2024 | 0.026 | ug/L | No |
| Nitrite | Apr 2024 | <0.003 MDL | ug/L | No |
| Nitrate | Apr 2024 | 0.026 | ug/L | No |
| Nitrite | July 2024 | <0.003 MDL | ug/L | No |
| Nitrate | July 2024 | 0.030 | ug/L | No |
| Nitrite | Oct 2024 | <0.003 MDL | ug/L | No |
| Nitrate | Oct 2024 | 0.028 | ug/L | No |

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)

| Sampling Period | Number of Samples | Range of Lead Results (min#) – (max #) | Unit of Measure | Number of Exceedances |
|---|-------------------|--|-----------------|-----------------------|
| Dec/23 – Apr/24 | 2 | 0.02 – 0.03 | ug/L | No |
| Jun/24 – Oct/24 | 2 | 0.07 – 0.49 | ug/L | No |
| Lead Sampling Conducted by Municipality | | | | |

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

| (<MDL: Below Minimum Detection Limit) Note: Sampling required every 36 months. | | | | |
|--|-------------|----------------------|-----------------|------------|
| Parameter | Sample Date | Result Value Well #1 | Unit of Measure | Exceedance |
| Alachlor | Apr 9/24 | <MDL | ug/L | No |
| Atrazine + N-dealkylated metabolites | Apr 9/24 | <MDL | ug/L | No |
| Atrazine | Apr 9/24 | <MDL | ug/L | No |
| Azinphos-methyl | Apr 9/24 | <MDL | ug/L | No |
| Benzene | Apr 9/24 | <MDL | ug/L | No |
| Benzo(a)pyrene | Apr 9/24 | <MDL | ug/L | No |
| Bromoxynil | Apr 9/24 | <MDL | ug/L | No |
| Carbaryl | Apr 9/24 | <MDL | ug/L | No |
| Carbofuran | Apr 9/24 | <MDL | ug/L | No |
| Carbon Tetrachloride | Apr 9/24 | <MDL | ug/L | No |
| Chlorpyrifos | Apr 9/24 | <MDL | ug/L | No |
| Desethyl atrazine | Apr 9/24 | <MDL | ug/L | No |
| Diazinon | Apr 9/24 | <MDL | ug/L | No |
| Dicamba | Apr 9/24 | <MDL | ug/L | No |
| 1,2-Dichlorobenzene | Apr 9/24 | <MDL | ug/L | No |
| 1,4-Dichlorobenzene | Apr 9/24 | <MDL | ug/L | No |
| 1,2-Dichloroethane | Apr 9/24 | <MDL | ug/L | No |
| 1,1-Dichloroethylene (vinylidene) | Apr 9/24 | <MDL | ug/L | No |
| Dichloromethane | Apr 9/24 | <MDL | ug/L | No |
| 2,4 Dichlorophenol | Apr 9/24 | <MDL | ug/L | No |
| 2,4-Dichlorophenoxy acetic acid (2,4- | Apr 9/24 | <MDL | ug/L | No |

| | | | | |
|----------------------------------|----------|------|------|----|
| Diclofop-methyl | Apr 9/24 | <MDL | ug/L | No |
| Dimethoate | Apr 9/24 | <MDL | ug/L | No |
| Diquat | Apr 9/24 | <MDL | ug/L | No |
| Diuron | Apr 9/24 | <MDL | ug/L | No |
| Glyphosate | Apr 9/24 | <MDL | ug/L | No |
| Malathion | Apr 9/24 | <MDL | ug/L | No |
| MCPA | Apr 9/24 | <MDL | ug/L | No |
| Metolachlor | Apr 9/24 | <MDL | ug/L | No |
| Metribuzin | Apr 9/24 | <MDL | ug/L | No |
| Monochlorobenzene | Apr 9/24 | <MDL | ug/L | No |
| Paraquat | Apr 9/24 | <MDL | ug/L | No |
| Pentachlorophenol | Apr 9/24 | <MDL | ug/L | No |
| Phorate | Apr 9/24 | <MDL | ug/L | No |
| Picloram | Apr 9/24 | <MDL | ug/L | No |
| Polychlorinated Biphenyls(PCB's) | Apr 9/24 | <MDL | ug/L | No |
| Prometryne | Apr 9/24 | <MDL | ug/L | No |
| Simazine | Apr 9/24 | <MDL | ug/L | No |
| Terbufos | Apr 9/24 | <MDL | ug/L | No |
| Tetrachloroethylene | Apr 9/24 | <MDL | ug/L | No |
| 2,3,4,6-Tetrachlorophenol | Apr 9/24 | <MDL | ug/L | No |
| Triallate | Apr 9/24 | <MDL | ug/L | No |
| Trichloroethylene | Apr 9/24 | <MDL | ug/L | No |
| 2,4,6-Trichlorophenol | Apr 9/24 | <MDL | ug/L | No |
| Trifluralin | Apr 9/24 | <MDL | ug/L | No |
| Vinyl Chloride | Apr 9/24 | <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 | ODWQS limit |
|-----------|-------------------|-----------------|----------------|-------------|
| Sodium | 48.0, 47.8 | mg/L | April 2024 | 20 |
| Fluoride | 1.69, 1.48 | mg/L | April 2024 | 1.5 |