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|--|---|
| Drinking-Water System Number: | 220000460 |
| Drinking-Water System Name: | North Bay Water Drinking Water System |
| Drinking-Water System Owner: | The Corporation of the City of North Bay |
| Drinking-Water System Category: | Large Municipal Residential |
| Period being reported: | January 1, 2024 to December 31, 2024 |

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? Yes [] No []

Is your annual report available to the public at no charge on a web site on the Internet?

Yes [] No []

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

The Corporation of the City of North Bay
P.O. Box 360
200 McIntyre Street East
North Bay, ON P1B 8H8

Complete for all other Categories.

Number of Designated Facilities served:

Did you provide a copy of your annual report to all Designated Facilities you serve?

Yes [] No []

Number of Interested Authorities you report to:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?

Yes [] No []

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.

[X] Public access/notice via the web

[X] Public access/notice via a newspaper

Describe your Drinking-Water System

The City of North Bay water treatment plant (WTP), water distribution facilities and water distribution piping system are owned and operated by the Corporation of the City of North Bay. The City of North Bay Water Treatment System is classified as a "Large Municipal Residential" Drinking-Water System, Class 3 Water Treatment Plant and Class 4 Water Distribution System with the Drinking-Water System Number: 220000460. The WTP is located at 248 Lakeside Drive in North Bay and treats water from Trout Lake which is part of the Mattawa River watershed. The WTP services a population of approximately 54,000, the permit to take water permits water consumption up to 79,500 cubic meters per day.

The water distribution facilities consist of the following:

Ellendale Reservoir, High lift Pump Station & Re-chlorination Facility;
CFB Standpipe;
Canadore Pumping Station;
Cedar Heights Booster pumping station;
Judge Avenue Valve Chamber;
Birches Road Standpipe and Re-chlorination Station; and
Airport Road Standpipe, Booster Pumping Station and Re-chlorination Facility.
Larocque Rd. Standpipe

The membrane filtration water treatment plant has the design capacity of 79,500 cubic meters per day. The plant is a SCADA controlled membrane filtration system with ultraviolet and chlorine disinfection. The plant also doses fluoride, caustic for pH adjustment and Control Max for corrosion control prior to delivery to the distribution system.

The membrane filtration plant meets the Ontario Drinking Water Standards requirements for the removal/disinfection of 3-log *Giardia Lambia*, 2-log *Cryptosporidium* and 4-log Viruses. The membrane filtration Primary Barrier provides a 3- log *Giardia* removal, 2-log *Cryptosporidium* removal. The chlorine/UV disinfection Secondary Barrier provides for a 0.5 *Giardia* removal, 0.5-log *Cryptosporidium* removal and with chlorine addition gives a 4- log virus removal.

In general the North Bay WTP can be described as follows:

Intake

A 1200mm diameter 45 series polyethylene intake pipe, with a capacity of 80,000 cubic meters per day. The pipe, constructed in 1973, extends approximately 300 meters into Delaney Bay of Trout Lake and includes an intake structure consisting of a steel inlet bell mouth with fiber reinforced plastic (FRP) cage and is in approximately 21.5 meters of water at low water level.

Membrane Feed Pump Well/Prescreening

Two (2) parallel sub-surface well chambers with level monitoring containing, two (2) 6mm mesh manual prescreen in series, five (5) vertical turbine pumps (4 duty and one standby) each rated at 20 ML/d feeding the primary membrane system.

Membrane Feed Strainers

Five (5) 300 micron automatic membranes feed strainers (four duties and one standby).

Treatment Plant Process Areas

A building housing the following process components:

- Primary and secondary membrane filtration system;
- Primary and secondary UV disinfection system;
- Two (2) chlorine contact tanks;
- split high lift pump well
- three (3) chemical storage and delivery rooms housing membrane cleaning and neutralization chemical systems, pre-chlorination system, primary disinfection chemical system, secondary chlorination chemical system, pH adjustment system, fluoride and corrosion control addition system.

Also includes;

- High lift pumping room;
- Generator room;
- Electrical room.
- Compressor/blower room

Administration Area

Two floor administrative area including laboratory/control room, server room, multipurpose training room, offices, washrooms, women's and men's locker rooms, janitor room, building mechanical room and storage room.

Membrane Filtration

Eleven (11) pressurized primary membrane racks treating water from the membrane feed strainers, two(2) pressurized secondary membrane racks treating non-chemical backwash water from the primary membrane racks. The primary racks have a maximum production flow rate of 78.7 MLD based on raw water flow rate of 79.5 MLD, Ancillary systems including backwash pumps, instrument air for operating valves and integrity testing membranes, process blowers, and chemical cleaning and neutralization systems.

UV Disinfection Systems

Three (3) 600mm primary UV reactors (two duty and one standby) treating water from the eleven (11) pressurized primary membrane racks and two (2) secondary membrane racks. Two dedicated UV reactors for secondary membrane racks up stream of primary UV reactors. Each reactor contains medium pressure high intensity lamps housed in quartz sleeves; units equipped with self-cleaning mechanism and intensity sensors.

Chemical systems for:

Primary disinfection

Secondary (residual) disinfection

Fluoride Dosing

pH Adjustment

Corrosion Control

Membrane cleaning

Membrane cleaning solutions neutralization

Chlorine Contact Tank #1 and #2

Two (2) baffled chlorine contact tanks in series with capacities of 688 cubic meters in (tank #1) and 502 cubic meters (tank #2).

High Lift Pump Well #1 and #2

High lift pump well #1 has a capacity of approximately 240 cubic meters and is equipped with one (1) variable speed and two (2) constant speed vertical turbine high lift pumps each rated at 20 MLD. High lift pump well #2 has a capacity of approximately 240 cubic meters and is equipped with one (1) variable speed and one (1) constant speed vertical turbine high lift pump each rated at 20 MLD.

Generator Room

One (1) dual fuel generator set (NG/Diesel) with a rating of 2050KW, to provide power during peak hours and emergency situations.

Wastewater Disposal System**Primary Membrane Backwash Tank**

Tank with a volume of approximately 310 cubic meters,

Two (2) membranes feed pumps supplying water to the Secondary Membrane System.

Secondary Waste Tank

Tank with a volume of approximately 130 cubic meters,

Two (2) pumps, one duty and one standby, to deliver water to the sanitary sewer.

Neutralization Tank #1 and #2

Two (2) tanks each with a volume of 150 cubic meters, pH and Chlorine Residual analyzers. Designed to dechlorinate and adjust pH to suitable levels for wastewater plant.

Sanitary Sewage Disposal

One sump with two (2) submersible pumps in the Administration Area and two (2) sumps and two (2) submersible pumps in the Process Area discharging to the sanitary sewer along Lakeside Drive

The treated water is pumped to the distribution system.

The water distribution facilities can be described as follows:

Ellendale Reservoir High lift Pumping Station and Re-chlorination Facility

The facility is a reinforced concrete at-grade, double cell, un-baffled, treated water reservoir, located at

the east end of Ellendale Drive. The reservoir has an approximate capacity of 18,200 cubic meters, with dimensions of 71 meters by 38 meters by 7 meters. The facility is equipped with a sodium hypochlorite re-chlorination system, on-line continuous water quality analyzer for free chlorine residual monitoring. A 500KW, 346/600V standby diesel generator is available to operate the facility during power outages.

Birch's Road Standpipe and Re-chlorination Station

The facility consists of one (1) 39 meter high, 19 meter diameter, 11,775 cubic meter capacity with a hydrostatic mixing system, the steel standpipe is located near the southwest corner of Birch's Road and Booth Road. The facility is equipped with a sodium hypochlorite re-chlorination system and on-line continuous water quality analyzer for free chlorine. A fixed 7.5kW, 120/240 Volt single phase diesel powered generator to power the re-chlorination and SCADA communications during prolonged power outages.

Larocque Rd. Standpipe

The facility consists of one (1) 22 meter high, 15meter diameter, and 4,000 cubic meter capacity glass fused to steel standpipe with a hydrostatic mixing system. The standpipe is located at the North end of the city on Larocque Rd. to provide water pressure to future development, along with the Canadore College and Nippissing University. There is a 10KW, 120/240V backup generator to maintain communication and SCADA controls during power outages.

Judge Avenue Valve Chamber

The facility consists of two (2) valves and chlorine analyzer designated as the distribution residual compliance point. The station is located near the northeast corner of Judge Avenue and Lakeshore Drive. The facility is equipped with a fixed 7.5kW 120/240 Volt single phase, diesel powered generator to power the valve and SCADA communications during prolonged power outages. Valve control for pressure or tower level integrated with Birches Standpipe. The equipment for a re-chlorination station is located at the facility however not currently in use.

CFB Standpipe

The standpipe is a glass fused to steel un-baffled tank with an electric mixer inside, it is located on the Airport Standpipe property and shares all the buildings resources such as the PLC and standby generator. This Standpipe has a volume of 2,280m³ and supplies water to zone 3 and the Airport Standpipe. The piping at this facility allows this standpipe to also supply water for zone 5 during emergencies and maintenance activities.

Canadore Pumping Station

The facility is equipped with two (2) PRV's, one (1) six inch and one (1) two inch which are responsible for providing water from zone 2 into zone 1. This helps with water age in Laroque standpipe and provides extra fire flow water available to the lower zone.

Cedar Heights Booster Station

This Facility is equipped with two (2) 100 hp high lift pumps responsible for filling the Larocque Rd. Standpipe with a pressurized cushion tank to protect pressure surges in the grid. There is an on-line continuous water quality analyzer to monitor free chlorine residual and a 357kW, 347/600 Volt, 3 phase diesel generator to provide equipment power and SCADA communications during prolonged power outages.

Airport Standpipe, Booster Pumping Station

This 4,000 cubic meter water storage standpipe, booster pumping station and re-chlorination facility was constructed in 2009. With the standpipe, high lift pumps, pressurized cushion tanks and a 500kW back-up diesel generator. This system consists of a standpipe and a series of pumps to facilitate filling of the standpipe and providing pressure to the Airport Rd. and Carmichael Dr. area (Zone 5). Filling the standpipe utilizes three booster pumps (2 duty and 1 standby). The standpipe provides suction pressure for four booster pumps (3 duties and 1 standby) and two fire pumps to provide pressure for Zone 5. Zone 5 is equipped with four (4) pneumatic tanks to mitigate minor pressure fluctuations within the distribution system, and to provide some volume of available storage during power interruptions while the standby power system engages.

List all water treatment chemicals used over this reporting period

Sodium Hydroxide
Sodium Hypochlorite
HydroFluorosilicic Acid
Control Max

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 treatment and distribution of water to Major repair and replacement to ensure reliable the water system.

The major capital repairs and replacements include:

- Replaced multiple chemical dosing pumps on chlorination system at the water treatment plant.
- Upgraded Air reliefs on multiple filter rack runs to correct air issues.
- Rebuilt CIP pump for rack maintenance cleaning.
- Repaired multiple Turbidity analyzers which were causing issues.
- Replaced two water level sensors on UV#1 and UV#2, long term issue causing units to shut down frequently.
- Replaced multiple electronic ballasts in UV units as they failed.
- Replaced multiple defective valves and actuators on filter racks.
- Repaired HVAC system for the water treatment plant.
- Hired an engineer consultant to design a chlorination system for Cedar Heights.

- Engineer Consultant was hired to design a plan to phase in our new filter rack modules as ours are theoretically near the end of life.
- Rebuilt motor for High lift pump #4 after dead short in stator.
- Installation of 205 m of 300mm watermain on McKeown St. from One Kids Place to McNamara St.
- Installation of 215m of 200mm water main on Bond St. between Kirkpatrick St. to abandoned Railway
- Replaced 51m of 150mm watermain on Wickstead Ave. looping into 200mm watermain on Sage Rd. along with three new isolation valves.
- Relined 362m of 250mm water main on Trout Lake Rd. from Giroux St. to Connaught Ave.
- Relined 232m of 600mm water main on Giroux St. to south side of Trout Lake Rd.
- Relined 293.5m of 400mm water main in Lee Park under the overpass on Lakeshore Dr. to Veterans Soccer Field.
- ROV inspection of Airport standpipe was conducted to inspect the internal shape of the tank.

| Incident Date | Parameter | Result | Unit of Measure | Corrective Action | Corrective Action Date |
|------------------|---|-----------------|-----------------|--|------------------------|
| April 3, 2024 | Overgrowth on plate for Total Coliform and E-coli test from bacterial sample. | Plate Overgrown | CFU/100ml | A bacteria sample from 170 6th Ave. W collected on April 3, 2024 had an overgrowth on the plate testing for Total Coliform and E-Coli. Lab reported the bacterial adverse on April 4, 2024 and city reported to SAC and MOH along with flushing and re-sampling as required by regulations. AWQI# 164743 | April 4, 2024 |
| May 16, 2024 | Missed Lead Sample | N/A | mg/L | The contracted lab missed one residential sample required by regulation before deadline of April 15. Notified MECP local Inspector of incident of non-compliance. | May 17, 2024 |
| October 9, 2024 | Free Chlorine Residual below 0.05mg/L | 0.00 | mg/L | Chlorine sample taken from 110 Rita Rd. getting a 0.00mg/L free chlorine residual, reported to SAC and MOH as per regulation. Flushed the water main to restore residual and bacterial sample collected. AWQI # 166610 | October 9, 2024 |
| October 11, 2024 | Lead Exceedance Plumbing | 0.0118 | mg/L | Sample from plumbing at 408 Aberdeen Ave. resulted in a lead exceedance of 0.0118 mg/L. Reported to MOH and MECP as per | October 18, 2024 |



| Incident Date | Parameter | Result | Unit of Measure | Corrective Action | Corrective Action Date |
|------------------|---------------------------------------|--------|-----------------|--|------------------------|
| | | | | regulations on October 18, 2024. Results sent to homeowner through registered mail | |
| October 28, 2024 | Free Chlorine Residual below 0.05mg/L | 0.03 | mg/L | Chlorine sample taken from 73 Campbell Ave. getting a 0.03mg/L free chlorine residual, reported to SAC and MOH as per regulation. Flushed the water main to restore residual and bacterial sample collected. This sample was taken post water filter and would not represent our distribution system, reporting out of precaution. AWQI # 166766 | October 28, 2024 |

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

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 (#)-(#) | Range of Total Coliform Results (#)-(#) | Number of samples Background Colony Counts | Range of Back-ground Colony Counts | Number of HPC Samples | Range of HPC Results (#)-(#) |
|----------------------------------|-------------------|-------------------------|---|--|------------------------------------|-----------------------|------------------------------|
| Raw | 53 | 0 - OG | 3 - OG | 53 | 9 - >200 | N/A | N/A |
| Treated | 53 | 0 - 0 | 0 - 0 | 53 | 0 - 0 | 53 | 0 - 4 |
| Distribution Fixed Sites | 371 | 0 - 0 | 0 - 0 | 371 | 0 - 0 | 106 | 0 - 4 |
| Distribution Random Sites | 530 | 0 - 0 | 0 - 0 | 530 | 0 - 11 | 159 | 0 - 49 |

** One Sample had Overgrown Plate for bacterial sample on April 3, 2024 but not part of the 530 samples taken weekly AWQI#164743**

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

| POE Grab Samples | Number of Grab Samples | Range of Results (min #)-(max #) | ODWQS/Operational Requirement |
|--|------------------------|----------------------------------|-------------------------------|
| Turbidity | 240 | 0.042 – 0.782 NTU | 1.0 NTU max |
| Chlorine | 296 | 1.04 – 1.63 mg/L | 0.05 mg/L min. |
| Fluoride (If the DWS provides fluoridation) | 222 | 0.55 – 0.89 mg/L | 1.5 mg/L max |

| Distribution Free Chlorine Grab Samples | Number of Grab Samples | Range of Results (min #)-(max #) | ODWQS Requirement |
|--|------------------------|----------------------------------|-----------------------|
| Chlorine Fixed Sites | 3283 | 0.27 – 3.49 mg/L | 0.05mg/L min. |
| Chlorine Random Sites | 530 | 0.15 - 1.27 mg/L | 0.05 mg/L min. |

One sample taken October 9, 2024 getting a residual of 0.00 mg/L due to low water usage and was not part of regular 530 samples

| POE on-line Continuous Analyzers | Number of Grab Samples | Range of Results (min #)-(max #) | ODWQS/Operational Requirement |
|--|------------------------|----------------------------------|-------------------------------|
| Turbidity | 8760 | 0.004 – 0.995 NTU | 5.0 NTU max |
| Chlorine | 8760 | 0.91 – 2.30 mg/L | 0.05 mg/L min. |
| Fluoride (If the DWS provides fluoridation) | 8760 | 0.0 – 1.10 mg/L | 1.5 mg/L max |

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 | 15 Jul 24 | <0.0001 | mg/L | no |
| Arsenic | 15 Jul 24 | 0.0001 | mg/L | no |
| Barium | 15 Jul 24 | 0.011 | mg/L | no |
| Boron | 15 Jul 24 | <0.005 | mg/L | no |
| Cadmium | 15 Jul 24 | <0.000015 | mg/L | no |
| Chromium | 15 Jul 24 | <0.0010 | mg/L | no |
| Mercury | 15 Jul 24 | <0.00002 | mg/L | no |
| Selenium | 15 Jul 24 | <0.001 | mg/L | no |
| Uranium | 15 Jul 24 | <0.00005 | mg/L | no |
| Sodium | 15 Jul 24 | 11.7 | mg/L | no |
| Fluoride | 15 Jul 24 | 0.577 | mg/L | no |
| Nitrite | 3 Jan 24 | <RDL | mg/L | no |
| | 4 Apr 24 | <MDL | mg/L | |
| | 3 Jul 24 | <RDL | mg/L | |
| | 7 Oct 24 | <RDL | mg/L | |
| Nitrate | 3 Jan 24 | 0.150 | mg/L | no |
| | 4 Apr 24 | 0.197 | mg/L | |
| | 3 Jul 24 | 0.209 | mg/L | |
| | 7 Oct 24 | 0.235 | mg/L | |

*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 |
|---|---------------|-------------------|--|-----------------|-----------------------|
| Round 1 Dec 15 2023 to Apr 15 2024 | Plumbing | 43 | 0.00002 – 0.00528 | mg/L | 0 |
| | Distribution | 8 | 0.00010-0.00159 | mg/L | 0 |
| Round 2 June 15 2024 to Oct 15 2024 | Plumbing | 44 | 0.00003 – 0.01180 | mg/L | 1 |
| | Distribution | 8 | 0.00013-0.00032 | mg/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 | 15 Jul 24 | <0.0003 | mg/L | no |
| Atrazine + N-dealkylated metabolites | 15 Jul 24 | <0.0005 | mg/L | no |
| Azinphos-methyl | 15 Jul 24 | <0.001 | mg/L | no |
| Benzene | 15 Jul 24 | <0.0005 | mg/L | no |
| Benzo(a)pyrene | 15 Jul 24 | <0.000006 | mg/L | no |
| Bromoxynil | 15 Jul 24 | <0.0005 | mg/L | no |
| Carbaryl | 15 Jul 24 | <0.003 | mg/L | no |
| Carbofuran | 15 Jul 24 | <0.001 | mg/L | no |
| Carbon Tetrachloride | 15 Jul 24 | <0.0002 | mg/L | no |
| Chlorpyrifos | 15 Jul 24 | <0.0005 | mg/L | no |
| Diazinon | 15 Jul 24 | <0.001 | mg/L | no |
| Dicamba | 15 Jul 24 | <0.001 | mg/L | no |
| 1,2-Dichlorobenzene | 15 Jul 24 | <0.0005 | mg/L | no |
| 1,4-Dichlorobenzene | 15 Jul 24 | <0.0005 | mg/L | no |
| 1,2-Dichloroethane | 15 Jul 24 | <0.0005 | mg/L | no |
| 1,1-Dichloroethylene (vinylidene chloride) | 15 Jul 24 | <0.0005 | mg/L | no |
| Dichloromethane | 15 Jul 24 | <0.005 | mg/L | no |
| 2-4 Dichlorophenol | 15 Jul 24 | <0.0002 | mg/L | no |
| 2,4-Dichlorophenoxy acetic acid | 15 Jul 24 | <0.001 | mg/L | no |
| Diclofop-methyl | 15 Jul 24 | <0.0009 | mg/L | no |
| Dimethoate | 15 Jul 24 | <0.001 | mg/L | no |
| Diquat | 15 Jul 24 | <0.005 | mg/L | no |
| Diuron | 15 Jul 24 | <0.005 | mg/L | no |
| Glyphosate | 15 Jul 24 | <0.025 | mg/L | no |
| HAA (NOTE: show latest annual average) | | 47.99 | ug/L | no |
| Malathion | 15 Jul 24 | <0.005 | mg/L | no |
| Metolachlor | 15 Jul 24 | <0.003 | mg/L | no |
| Metribuzin | 15 Jul 24 | <0.003 | mg/L | no |
| Monochlorobenzene | 15 Jul 24 | <0.0005 | mg/L | no |
| Paraquat | 15 Jul 24 | <0.001 | mg/L | no |
| Pentachlorophenol | 15 Jul 24 | <0.0002 | mg/L | no |
| Phorate | 15 Jul 24 | <0.0003 | mg/L | no |
| Picloram | 15 Jul 24 | <0.005 | mg/L | no |
| Polychlorinated Biphenyls(PCB) | 15 Jul 24 | <0.00005 | mg/L | no |
| Prometryne | 15 Jul 24 | <0.0001 | mg/L | no |
| Simazine | 15 Jul 24 | <0.0005 | mg/L | no |
| THM (NOTE: show latest annual average) | | 69.86 | ug/L | no |
| Terbufos | 15 Jul 24 | <0.0005 | mg/L | no |

| Parameter | Sample Date | Result Value | Unit of Measure | Exceedance |
|--|-------------|--------------|-----------------|------------|
| Tetrachloroethylene | 15 Jul 24 | <0.0005 | mg/L | no |
| 2,3,4,6-Tetrachlorophenol | 15 Jul 24 | <0.0002 | mg/L | no |
| Triallate | 15 Jul 24 | <0.01 | mg/L | no |
| Trichloroethylene | 15 Jul 24 | <0.0005 | mg/L | no |
| 2,4,6-Trichlorophenol | 15 Jul 24 | <0.0002 | mg/L | no |
| Trifluralin | 15 Jul 24 | <0.0005 | mg/L | no |
| Vinyl Chloride | 15 Jul 24 | <0.0002 | mg/L | no |
| 2 Methyl-4-Chlorophenoxyacetic acid (MCPA) | 15 Jul 24 | <0.01 | mg/L | no |

| THM Dist. Sample Location Mid-Canada Line & Pinewood Park Sample Stations | 1 st Quarter Result Value | 2 nd Quarter Result Value | 3 rd Quarter Result Value | 4 th Quarter Result Value | Unit of Measure | Exceed- dance |
|--|---|---|---|---|--------------------|------------------|
| Sample Period | Jan. 2 – Mar. 6, 2024 | Apr.2 – June 3, 2024 | July 2 – Sept. 4, 2024 | Oct. 2 – Dec. 10, 2024 | mg/L | |
| Bromodichloromethane (Average) | 0.0040 0.0040 | 0.0040 0.0040 | 0.0050 0.0047 | 0.0040 0.0035 | mg/L | |
| Bromoform(Average) | <0.005 <0.005 | <0.005 <0.005 | <0.005 <0.005 | <0.005 <0.005 | mg/L | |
| Chloroform(Average) | 0.09350 0.09533 | 0.10467 0.11367 | 0.12267 0.11100 | 0.09000 0.07100 | mg/L | |
| Dibromochloromethane (Average) | <0.002 <0.002 | <0.002 <0.002 | <0.002 <0.002 | <0.002 <0.002 | mg/L | |
| Total Trihalomethanes | 0.09840 | 0.11333 | 0.12167 | 0.08450 | mg/L | |
| THM All Distribution sites (Averages) | 1 st Quarter Result Value | 2 nd Quarter Result Value | 3 rd Quarter Result Value | 4 th Quarter Result Value | Unit of Measure | Exceed- dance |
| Sample Period | Jan. 2 – Mar. 6, 2024 | Apr.2 – June 3, 2024 | July 2, - Sep. 4, 2024 | Oct. 2 – Dec. 10, 2024 | mg/L | |
| Bromodichloromethane | 0.0022 | 0.0025 | 0.0027 | 0.0018 | mg/L | |
| Bromoform | <0.005 | <0.005 | <0.005 | <0.005 | mg/L | |
| Chloroform | 0.06822 | 0.07739 | 0.07144 | 0.05125 | mg/L | |
| Dibromochloromethane | <0.002 | <0.002 | <0.002 | <0.002 | mg/L | |
| Total Trihalomethanes | 0.07106 | 0.08022 | 0.07447 | 0.05369 | mg/L | |

| THM Dist. Sample Location Mid-Canada Line & Pinewood Park Sample Stations | 1st Quarter Result Value | 2nd Quarter Result Value | 3rd Quarter Result Value | 4th Quarter Result Value | Unit of Measure | Exceed- dance |
|--|--|--|--|--|----------------------------|--------------------------|
| | | | | | | |
| Total Trihalomethanes 4 Quarter Running Average (Random & Fixed Sites Included) | | | | 0.06986 | mg/L | No |

| HAA Distribution Sample Locations Judge Valve & HLPS (Averages) | 1st Quarter Result Value | 2nd Quarter Result Value | 3rd Quarter Result Value | 4th Quarter Result Value | Unit of Measure | Exceed- dance |
|--|--|--|--|--|----------------------------|--------------------------|
| Sample Period | Jan 1 – Mar. 31, 2024 | Apr.1 – June. 30, 2024 | July 1, - Sep. 30, 2024 | Oct. 1 – Dec. 31, 2024 | | |
| (Mono)Bromoacetic Acid | < RDL < RDL | < 0.0029 < 0.0029 | < 0.0029 < 0.0029 | < 0.0029 < 0.0029 | mg/L | |
| (Mono) Chloroacetic Acid | < RDL < RDL | < 0.0047 < 0.0047 | < 0.0047 < 0.0047 | < 0.0047 < 0.0047 | mg/L | |
| Dibromoacetic Acid | < RDL < RDL | < 0.002 < 0.002 | < 0.002 < 0.002 | < 0.002 < 0.002 | mg/L | |
| Dichloroacetic Acid | 0.0218 0.0208 | 0.0279 0.0210 | 0.0203 0.0245 | 0.0186 0.0134 | mg/L | |
| Trichloroacetic Acid | 0.0260 0.0264 | 0.0397 0.0235 | 0.0273 0.0347 | 0.0240 0.0140 | mg/L | |
| Avg.Total Haloacetic Acids | 0.04750 | 0.05605 | 0.05340 | 0.03500 | mg/L | |
| Total Haloacetic Acid Running Quarterly Average | | | | 0.04799 | mg/L | No |

| Quarterly PFAS Sample (Range) | 1st Quarter Result Value | 2nd Quarter Result Value | 3rd Quarter Result Value | 4th Quarter Result Value | Unit of Measure | Exceed -dance |
|--|--|--|--|--|------------------------|----------------------|
| | Jan. 9, 2024 | April 9, 2024 | July 9, 2024 | October 7, 2024 | ng/L | |
| Perfluorodecanoic Acid (PFDA) | <2.0 | <2.0 | <2.0 | <2.0 | ng/L | |
| Perfluorododecanoic Acid (PFDOA) | <2.0 | <2.0 | <2.0 | <2.0 | ng/L | |
| Perfluorodecane Sulfonic Acid (PFDS) | <2.0 | <2.0 | <2.0 | <2.0 | ng/L | |
| Perfluoroheptanoic Acid 3 (PFHPA) | 3.1 | 3.5 | 3.2 | 3.3 | ng/L | |
| Perfluorohexanoic Acid (PFHXA) | 5.5 | 5.9 | 5.7 | 4.9 | ng/L | |
| Perfluorohexane Sulfonic Acid (PFHXS) | 11.0 | 12.7 | 9.3 | 11.7 | ng/L | |
| Perfluorononanoic Acid (PFNA) | <2.0 | <2.0 | <2.0 | <2.0 | ng/L | |
| Perfluorooctanoic Acid (PFOA) | 2.9 | 3.6 | 3.2 | 3.1 | ng/L | |
| Perfluorooctane Sulfonic Acid (PFOS) | 26.6 | 32.2 | 25.7 | 27.2 | ng/L | |
| Perfluorooctane Sulfonamide (PFOSA) | <2.0 | <2.0 | <2.0 | <2.0 | ng/L | |
| Perfluoroundecanoic Acid (PFUNA) | <2.0 | <2.0 | <2.0 | <2.0 | ng/L | |
| Total Sum for Quarter | 49.1 | 57.9 | 47.1 | 50.2 | ng/L | No |

**** Sample Results and Sums are representing Treated Samples at POE. ******

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 | ½ MAC VALUE | MAC VALUE | Date of Sample |
|---------------|--------------|-----------------|-------------|-----------|----------------|
| THM | 0.0740 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| THM | 0.0890 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| THM | 0.0520 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| THM | 0.0540 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| THM | 0.0520 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| THM | 0.0620 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| THM | 0.0630 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| THM | 0.0670 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| THM | 0.0890 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| THM | 0.1080 | mg/L | 0.050 | 0.100 | Jan.2,2024 |
| PFAS(Raw) | 56.40 | ng/L | 35.00 | 70.00 | Jan.9,2024 |
| PFAS(Treated) | 49.10 | ng/L | 35.00 | 70.00 | Jan.9,2024 |
| THM | 0.0740 | mg/L | 0.050 | 0.100 | Jan.10,2024 |
| THM | 0.0710 | mg/L | 0.050 | 0.100 | Jan.10,2024 |
| THM | 0.0710 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0510 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0530 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0900 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0770 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0850 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0610 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0750 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0620 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0960 | mg/L | 0.050 | 0.100 | Feb.5,2024 |
| THM | 0.0700 | mg/L | 0.050 | 0.100 | Feb.7,2024 |
| THM | 0.0790 | mg/L | 0.050 | 0.100 | Feb.7,2024 |
| THM | 0.0740 | mg/L | 0.050 | 0.100 | Mar.4,2024 |
| THM | 0.0870 | mg/L | 0.050 | 0.100 | Mar.4,2024 |
| THM | 0.1040 | mg/L | 0.050 | 0.100 | Mar.4,2024 |
| THM | 0.0550 | mg/L | 0.050 | 0.100 | Mar.4,2024 |
| THM | 0.0610 | mg/L | 0.050 | 0.100 | Mar.4,2024 |
| THM | 0.0540 | mg/L | 0.050 | 0.100 | Mar.4,2024 |
| THM | 0.0600 | mg/L | 0.050 | 0.100 | Mar.4,2024 |
| THM | 0.0650 | mg/L | 0.050 | 0.100 | Mar.4,2024 |
| THM | 0.0940 | mg/L | 0.050 | 0.100 | Mar.4,2024 |
| HAA | 0.0478 | mg/L | 0.040 | 0.080 | Mar.5,2024 |
| HAA | 0.0472 | mg/L | 0.040 | 0.080 | Mar.5,2024 |
| THM | 0.0620 | mg/L | 0.050 | 0.100 | Mar.6,2024 |
| THM | 0.0680 | mg/L | 0.050 | 0.100 | Mar.6,2024 |
| THM | 0.0860 | mg/L | 0.050 | 0.100 | Apr.2,2024 |

| Parameter | Result Value | Unit of Measure | ½ MAC VALUE | MAC VALUE | Date of Sample |
|---------------|--------------|-----------------|-------------|-----------|----------------|
| THM | 0.1090 | mg/L | 0.050 | 0.100 | Apr.2,2024 |
| THM | 0.1080 | mg/L | 0.050 | 0.100 | Apr.2,2024 |
| THM | 0.0720 | mg/L | 0.050 | 0.100 | Apr.2,2024 |
| THM | 0.0620 | mg/L | 0.050 | 0.100 | Apr.2,2024 |
| THM | 0.0660 | mg/L | 0.050 | 0.100 | Apr.2,2024 |
| THM | 0.0560 | mg/L | 0.050 | 0.100 | Apr.2,2024 |
| THM | 0.0750 | mg/L | 0.050 | 0.100 | Apr.2,2024 |
| THM | 0.0780 | mg/L | 0.050 | 0.100 | Apr.2,2024 |
| THM | 0.1070 | mg/L | 0.050 | 0.100 | Apr.2,2024 |
| THM | 0.0850 | mg/L | 0.050 | 0.100 | Apr.4,2024 |
| THM | 0.0960 | mg/L | 0.050 | 0.100 | Apr.4,2024 |
| PFAS(Raw) | 56.80 | ng/L | 35.00 | 70.00 | Apr.9,2024 |
| PFAS(Treated) | 57.90 | ng/L | 35.00 | 70.00 | Apr.9,2024 |
| THM | 0.0840 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.0910 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.0780 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.0830 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.1220 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.0870 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.0610 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.0550 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.0680 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.0690 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.0740 | mg/L | 0.050 | 0.100 | May 7,2024 |
| THM | 0.1120 | mg/L | 0.050 | 0.100 | May 7,2024 |
| HAA | 0.0445 | mg/L | 0.040 | 0.080 | June 3,2024 |
| HAA | 0.0676 | mg/L | 0.040 | 0.080 | June 3,2024 |
| THM | 0.0790 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.0690 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.1230 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.0930 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.0860 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.0620 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.0560 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.0500 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.0660 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.0660 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.1070 | mg/L | 0.050 | 0.100 | June 3,2024 |
| THM | 0.1270 | mg/L | 0.050 | 0.100 | July 2,2024 |
| THM | 0.0880 | mg/L | 0.050 | 0.100 | July 2,2024 |
| THM | 0.0840 | mg/L | 0.050 | 0.100 | July 2,2024 |
| THM | 0.0590 | mg/L | 0.050 | 0.100 | July 2,2024 |
| THM | 0.0540 | mg/L | 0.050 | 0.100 | July 2,2024 |

| Parameter | Result Value | Unit of Measure | ½ MAC VALUE | MAC VALUE | Date of Sample |
|---------------|--------------|-----------------|-------------|-----------|----------------|
| THM | 0.0510 | mg/L | 0.050 | 0.100 | July 2,2024 |
| THM | 0.0600 | mg/L | 0.050 | 0.100 | July 2,2024 |
| THM | 0.1060 | mg/L | 0.050 | 0.100 | July 2,2024 |
| PFAS(Raw) | 48.00 | ng/L | 35.00 | 70.00 | July 9,2024 |
| PFAS(Treated) | 47.10 | ng/L | 35.00 | 70.00 | July 9,2024 |
| THM | 0.0680 | mg/L | 0.050 | 0.100 | July 10,2024 |
| THM | 0.0810 | mg/L | 0.050 | 0.100 | July 10,2024 |
| Sodium | 11.70 | mg/L | 10.00 | 20.00 | July 15,2024 |
| THM | 0.0540 | mg/L | 0.050 | 0.100 | Aug. 6,2024 |
| THM | 0.1390 | mg/L | 0.050 | 0.100 | Aug. 6,2024 |
| THM | 0.0910 | mg/L | 0.050 | 0.100 | Aug. 6,2024 |
| THM | 0.0840 | mg/L | 0.050 | 0.100 | Aug. 6,2024 |
| THM | 0.0640 | mg/L | 0.050 | 0.100 | Aug. 6,2024 |
| THM | 0.0550 | mg/L | 0.050 | 0.100 | Aug. 6,2024 |
| THM | 0.0670 | mg/L | 0.050 | 0.100 | Aug. 6,2024 |
| THM | 0.0620 | mg/L | 0.050 | 0.100 | Aug. 6,2024 |
| THM | 0.1160 | mg/L | 0.050 | 0.100 | Aug. 6,2024 |
| THM | 0.0670 | mg/L | 0.050 | 0.100 | Aug. 14,2024 |
| THM | 0.0950 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.1180 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.0560 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.0650 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.0580 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.0820 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.0610 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.0590 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.0550 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.1240 | mg/L | 0.050 | 0.100 | Sept.3,2024 |
| THM | 0.0790 | mg/L | 0.050 | 0.100 | Sept.4,2024 |
| THM | 0.0740 | mg/L | 0.050 | 0.100 | Sept.4,2024 |
| HAA | 0.0592 | mg/L | 0.040 | 0.080 | Sept.4,2024 |
| HAA | 0.0476 | mg/L | 0.040 | 0.080 | Sept.4,2024 |
| THM | 0.0630 | mg/L | 0.050 | 0.100 | Oct.2,2024 |
| THM | 0.0580 | mg/L | 0.050 | 0.100 | Oct.2,2024 |
| THM | 0.0500 | mg/L | 0.050 | 0.100 | Oct.7,2024 |
| THM | 0.0930 | mg/L | 0.050 | 0.100 | Oct.7,2024 |
| THM | 0.0640 | mg/L | 0.050 | 0.100 | Oct.7,2024 |
| THM | 0.0630 | mg/L | 0.050 | 0.100 | Oct.7,2024 |
| THM | 0.0690 | mg/L | 0.050 | 0.100 | Oct.7,2024 |
| PFAS(Raw) | 53.80 | ng/L | 35.00 | 70.00 | Oct.7,2024 |
| PFAS(Treated) | 50.20 | ng/L | 35.00 | 70.00 | Oct.7,2024 |
| THM | 0.0590 | mg/L | 0.050 | 0.100 | Nov.4,2024 |
| THM | 0.0550 | mg/L | 0.050 | 0.100 | Nov.4,2024 |

| Parameter | Result Value | Unit of Measure | ½ MAC VALUE | MAC VALUE | Date of Sample |
|------------|---------------|-----------------|--------------|--------------|--------------------|
| THM | 0.0760 | mg/L | 0.050 | 0.100 | Nov.4,2024 |
| THM | 0.0960 | mg/L | 0.050 | 0.100 | Nov.4,2024 |
| THM | 0.0520 | mg/L | 0.050 | 0.100 | Nov.4,2024 |
| THM | 0.0520 | mg/L | 0.050 | 0.100 | Nov.4,2024 |
| THM | 0.0560 | mg/L | 0.050 | 0.100 | Nov.4,2024 |
| THM | 0.0750 | mg/L | 0.050 | 0.100 | Nov.4,2024 |
| THM | 0.0800 | mg/L | 0.050 | 0.100 | Nov.4,2024 |
| THM | 0.0670 | mg/L | 0.050 | 0.100 | Nov.6,2024 |
| THM | 0.0660 | mg/L | 0.050 | 0.100 | Nov.6,2024 |
| THM | 0.0580 | mg/L | 0.050 | 0.100 | Dec.10,2024 |
| HAA | 0.0426 | mg/L | 0.040 | 0.080 | Dec.10,2024 |
| | | | | | |
| | | | | | |

PFAS limits are not regulated at this point, the 70ng/L is a recommended limit by MECP

***THM and HAA (MAC Limits) our calculated by Running Quarterly Averages ***