

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, 2019 to December 31, 2019

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.
 Public access/notice via the web
 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 Drinking-Water System Number: 220000460. The WTP, located at 248 Lakeside Drive in North Bay, 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 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 Reservoir;

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 along with caustic for pH adjustment and Control Max prior to delivery to the distribution system for corrosion control .

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 for 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 giving 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 m³/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;
- split chlorine contact tank;
- 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, alkalinity adjustment system, and a fluoride 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. 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 storage volumes of 688 cubic meters (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. 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 analyzers for free chlorine and turbidity. Standby power is available with a generator 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 treated water standpipe located near the southwest corner of Birch's Road and Booth Road. The facility is equipped with sodium hypochlorite re-chlorination system, on-line continuous water quality analyzers for free chlorine and turbidity and 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 Nipissing 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 a valve and 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 North Bay Reservoir and Re-chlorination Facility

The facility consists of a double cell 1820 cubic meter capacity, un-baffled reservoir and a re-chlorination facility located at the north end of Manston Crescent. The facility is equipped with on line continuous water quality analyzer for free chlorine and standby power.

Canadore Pumping Station

The facility is equipped with high lift pumps and pressurized cushion tanks to maintain pressure in the pressurized zone of the distribution system servicing Canadore College and Nipissing University. There is an on-line continuous water quality analyzer to monitor free chlorine residual and a 200kW, 347/600 Volt, 3 phase diesel generator to provide power and SCADA communications during prolonged power outages. Site is offline and on standby now that Cedar Heights is in operation.

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 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 facility maintains pressure in the pressurized zone of the distribution system servicing the Airport and Carmichael Drive areas. The overall system consists of pressure zones 4 and 5 which accommodate a total of nine pumps; including three booster pumps (2 duty and 1 standby) for Zone 4, four booster pumps (3 duty and 1 standby) and two fire pumps for Zone 5. The water standpipe is connected to the zone 4 distribution header to provide zone 4 fire flows and peak hour demand. It is also connect to the zone 5 fire pumps suction header to provide zone 5 fire demands. Zone 5 is equipped with four (4) pneumatic tanks connected to the Zone 5 discharge header to mitigate minor pressure fluctuations within the distribution system, and to provide some volume of available storage during power interruptions before the standby power system engages. This will mitigate the potential for negative pressure in the distribution system.

List all water treatment chemicals used over this reporting period

Sodium Hydroxide
Sodium Hypochlorite
Hydrofluosilicic 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 five(5) Turbidity Analyzers on our filter racks with Rosemount Clarity 2 models
- Replaced one(1) fluoride dosing pump with a new Watson Marlow 530 Du peristaltic pump.
- Rebuilt one(1) 350hp US motor on high lift pump # 5
- Had roof of water plant inspected for integrity
- Larocque standpipe was put online
- Repair and painting of Birch's Rd. Stand pipe
- Replaced Cathodic Protection system Birch's Rd. Standpipe

- ROV inspection of Airport Standpipe
- Installation of new 16" Altitude Valve at Birch's Rd. Standpipe
- Installation of a hydrostatic mixing system in Birch's Rd. Standpipe
- Replaced 480m of 200mm water main on Lavase Rd.
- Replaced 110m of 600mm trunk water main on Lakeside Dr.
- Replaced 82m of 200mm water main on Cassells St. between King St. and Duke St.
- Replaced 204m of 250mm water main on Cassells St. between King St. and Duke St.
- Installed 430m of 200mm water main on Greystone Ave.
- Installed 120m of 200mm water main on Chateau Ridge St.
- Installed 80m of 200mm water main on Grand Maple Lane.

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
February 26, 2019	Fluoride Residual	1.66	mg/L	Fluoride residual has gone above the MAC. Occurred while drawing bottom of storage tank. Switched Tanks and allowed residual drop to operating range. AWQI # 144876	February 26, 2019
November 29, 2019	Loss of Pressure in Distribution		psi	Closed valve in distribution caused low pressure in West Ferris while bringing Birch's Standpipe back on-line. Flushed 9 different hydrants and had taken bacti sample sending them to lab. Reported to MOE as required. AWQI#149136	November 29, 2019
December 5, 2019	Historian Data Recording			Historian data collection hardware had filled to capacity, causing it to discontinue saving data from 13:03 December 5 – 11:17 December 6. Cleared old data making space on hard drive. Reported to local inspector as non-compliance. Updating equipment in 2020	December 6, 2019

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	0-14	0-119	53	0->200	N/A	N/A
Treated	53	0-0	0-0	53	0-3	53	0-5
Distribution Fixed Sites	371	0-0	0-0	371	0-2	106	0-7
Distribution Random Sites	530	0-0	0-0	530	0-7	159	0-23

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	234	0.011 – 0.70 NTU	1.0 NTU max
Chlorine	301	0.89 – 1.66 mg/L	0.05 mg/L min.
Fluoride (If the DWS provides fluoridation)	185	0.0 – 0.94 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	3042	0.21 – 2.88 mg/L	0.05mg/L min.
Chlorine Random Sites	530	0.11-1.53 mg/L	0.05 mg/L min.

POE on-line Continuous Analyzers	Number of Grab Samples	Range of Results (min #)-(max #)	ODWQS/Operational Requirement
Turbidity	8760	0.019 – 2.76 NTU	5.0 NTU max
Chlorine	8760	0.109 – 3.049 mg/L	0.05 mg/L min.
Fluoride (If the DWS provides fluoridation)	8760	0.0 – 1.64 mg/L	1.5 mg/L max

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

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	22 Jul 19	<0.0005	mg/L	no
Arsenic	22 Jul 19	<0.001	mg/L	no
Barium	22 Jul 19	0.01	mg/L	no
Boron	22 Jul 19	<0.01	mg/L	no
Cadmium	22 Jul 19	<0.0001	mg/L	no
Chromium	22 Jul 19	0.001	mg/L	no
Mercury	22 Jul 19	<0.0001	mg/L	no
Selenium	22 Jul 19	<0.001	mg/L	no
Uranium	22 Jul 19	<0.001	mg/L	no
Sodium	22 Jul 19	12.0	mg/L	no
Fluoride	22 Jul 19	0.54	mg/L	no
Nitrite	14 Jan 19 13 Feb 19 10 Apr 19 2 Jul 19 10 Oct 19	<MDL <MDL <MDL <MDL <MDL	mg/L mg/L mg/L mg/L mg/L	no
Nitrate	14 Jan 19 13 Feb 19 10 Apr 19 2 Jul 19 10 Oct 19	<MDL <MDL <MDL <MDL <MDL	mg/L mg/L mg/L mg/L 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
Round 1 Dec 15 2018 to Apr 15 2019	Plumbing	44	<0.0001 – 0.0031	mg/L	0
	Distribution	10	0.0001 – 0.001	mg/L	0
Round 2 June 15 2019 to Oct 15 2019	Plumbing	45	<0.0001 – 0.0148	mg/L	1
	Distribution	8	0.0002 – 0.0051	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	22Jul 19	<0.0005	mg/L	no
Atrazine + N-dealkylated metabolites	22Jul 19	<0.001	mg/L	no
Azinphos-methyl	22Jul 19	<0.002	mg/L	no
Benzene	22Jul 19	<0.0005	mg/L	no
Benzo(a)pyrene	22Jul 19	<0.00001	mg/L	no
Bromoxynil	22Jul 19	<0.0005	mg/L	no
Carbaryl	22Jul 19	<0.005	mg/L	no
Carbofuran	22Jul 19	<0.005	mg/L	no
Carbon Tetrachloride	22Jul 19	<0.0002	mg/L	no
Chlorpyrifos	22Jul 19	<0.001	mg/L	no
Diazinon	22Jul 19	<0.001	mg/L	no
Dicamba	22Jul 19	<0.001	mg/L	no
1,2-Dichlorobenzene	22Jul 19	<0.0004	mg/L	no
1,4-Dichlorobenzene	22Jul 19	<0.0004	mg/L	no
1,2-Dichloroethane	22Jul 19	<0.0002	mg/L	no
1,1-Dichloroethylene (vinylidene chloride)	22Jul 19	<0.0005	mg/L	no
Dichloromethane	22Jul 19	<0.004	mg/L	no
2-4 Dichlorophenol	22Jul 19	<0.0002	mg/L	no
2,4-Dichlorophenoxy acetic acid	22Jul 19	<0.001	mg/L	no
Diclofop-methyl	22Jul 19	<0.0009	mg/L	no

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Dimethoate	22Jul 19	<0.0025	mg/L	no
Diquat	22Jul 19	<0.005	mg/L	no
Diuron	22Jul 19	<0.01	mg/L	no
Glyphosate	22Jul 19	<0.01	mg/L	no
Malathion	22Jul 19	<0.0005	mg/L	no
Metolachlor	22Jul 19	<0.001	mg/L	no
Metribuzin	22Jul 19	<0.005	mg/L	no
Monochlorobenzene	22Jul 19	<0.0005	mg/L	no
Paraquat	22Jul 19	<0.001	mg/L	no
Pentachlorophenol	22Jul 19	<0.001	mg/L	no
Phorate	22Jul 19	<0.0005	mg/L	no
Picloram	22Jul 19	<0.005	mg/L	no
Polychlorinated Biphenyls(PCB)	22Jul 19	<0.0001	mg/L	no
Prometryne	22Jul 19	<0.00025	mg/L	no
Simazine	22Jul 19	<0.001	mg/L	no
THM (NOTE: show latest annual average)		63.96	ug/L	no
Terbufos	22Jul 19	<0.0004	mg/L	no
Tetrachloroethylene	22Jul 19	<0.0003	mg/L	no
2,3,4,6-Tetrachlorophenol	22Jul 19	<0.001	mg/L	no
Triallate	22Jul 19	<0.001	mg/L	no
Trichloroethylene	22Jul 19	<0.0003	mg/L	no
2,4,6-Trichlorophenol	22Jul 19	<0.001	mg/L	no
Trifluralin	22Jul 19	<0.001	mg/L	no
Vinyl Chloride	22Jul 19	<0.0002	mg/L	no
2 Methyl-4-Chlorophenoxyacetic acid (MCPA)	22Jul 19	<0.01	mg/L	no

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- dence
Date Sampled	Jan 7 – Mar. 4, 2019	Apr.1 – June. 3, 2019	July 2 – Sept. 3, 2019	Oct. 8 – Dec. 9, 2019	ug/L	
Bromodichloromethane (Average)	2.7 3.4	3.4 3.18	4.0 2.6	3.1 3.0	ug/L	
Bromoform(Average)	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	ug/L	
Chloroform(Average)	67.90 66.61	92.05 86.50	98.73 71.07	77.25 66.7	ug/L	
Dibromochloromethane (Average)	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	ug/L	
Total Trihalomethanes	69.68	92.54	88.35	75.15	ug/L	No
THM Distribution Random Sample Location & HLPS (Averages)	1st Quarter Result Value	2nd Quarter Result Value	3rd Quarter Result Value	4th Quarter Result Value	Unit of Measure	Exceed- dence
Sample Period	Jan 7 – Mar. 4, 2019	Apr.1 – June. 3, 2019	July 2, - Sep. 3, 2019	Oct. 8 – Dec. 9, 2019	ug/L	
Bromodichloromethane	1.4	1.7	1.5	3.5	ug/L	
Bromoform	<0.5	<0.5	<0.5	<0.5	ug/L	
Chloroform	48.94	59.41	56.10	56.91	ug/L	
Dibromochloromethane	<0.5	<0.5	<0.5	<0.5	ug/L	
Total Trihalomethanes	50.28	61.02	57.35	62.46	ug/L	
Total Trihalomethanes 4 Quarter Average (Random & Fixed Sites Included)				63.96	ug/L	No

HAA Distribution Sample Locations Judge Valve & (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 1 – Mar. 31, 2019	Apr. 1 – June. 30, 2019	July 1, - Sep. 30, 2019	Oct. 1 – Dec. 31, 2019	ug/L	
(Mono)Bromoacetic Acid	< 2.0 < 2.0	< 2.0 < 2.0	< 2.0 < 2.0	< 2.0 < 2.0	ug/L	
(Mono) Chloroacetic Acid	< 2.0 < 2.0	< 2.0 < 2.0	< 2.0 < 2.0	< 2.0 < 2.0	ug/L	
Bromochloroacetic Acid	2.3 <2.0	< 2.0 < 2.0	3.0 2.0	N/A N/A	ug/L	
Dibromoacetic Acid	< 2.0 < 2.0	< 2.0 < 2.0	< 2.0 < 2.0	< 2.0 < 2.0	ug/L	
Dichloroacetic Acid	23.9 19.6	28.7 21.9	26.5 22.2	23.2 18.4	ug/L	
Trichloroacetic Acid	37.4 30.4	44.3 30.2	44.2 33.1	47.1 35.2	ug/L	
Total Haloacetic Acids	56.8	62.55	65.50	62.00	ug/L	
Total Haloacetic Acid Running Quarterly Average				61.70	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	½ MAC VALUE	MAC VALUE	Date of Sample
THM	57.0	ug/L	50	100	Jan.7,2019
THM	57.0	ug/L	50	100	Jan.7,2019
THM	65.9	ug/L	50	100	Jan.7,2019
THM	76.8	ug/L	50	100	Jan.8,2019
THM	86.6	ug/L	50	100	Jan.8,2019
THM	77.4	ug/L	50	100	Jan.8,2019
THM	73.3	ug/L	50	100	Jan.8,2019
THM	51.7	ug/L	50	100	Jan.9,2019
THM	51.4	ug/L	50	100	Jan.9,2019
THM	64.0	ug/L	50	100	Feb.4,2019
THM	68.2	ug/L	50	100	Feb.4,2019
THM	65.2	ug/L	50	100	Feb.4,2019
THM	70.1	ug/L	50	100	Feb.4,2019
THM	58.8	ug/L	50	100	Feb.4,2019
THM	72.7	ug/L	50	100	Feb.4,2019
THM	60.2	ug/L	50	100	Feb.4,2019
THM	69.5	ug/L	50	100	Feb.4,2019
THM	74.7	ug/L	50	100	Feb.8,2019

Parameter	Result Value	Unit of Measure	½ MAC VALUE	MAC VALUE	Date of Sample
THM	71.9	ug/L	50	100	Feb.8,2019
THM	67.0	ug/L	50	100	Feb.8,2019
THM	68.7	ug/L	50	100	Feb.8,2019
THM	63.9	ug/L	50	100	Mar.4,2019
THM	58.9	ug/L	50	100	Mar.4,2019
THM	63.5	ug/L	50	100	Mar.4,2019
THM	60.6	ug/L	50	100	Mar.4,2019
THM	66.0	ug/L	50	100	Apr.1,2019
THM	50.3	ug/L	50	100	Apr.1,2019
THM	62.3	ug/L	50	100	Apr.1,2019
THM	57.9	ug/L	50	100	Apr.1,2019
THM	53.0	ug/L	50	100	Apr.1,2019
THM	72.0	ug/L	50	100	Apr.2,2019
THM	74.6	ug/L	50	100	Apr.2,2019
THM	53.1	ug/L	50	100	Apr.2,2019
THM	50.2	ug/L	50	100	Apr.2,2019
THM	76.9	ug/L	50	100	Apr.2,2019
THM	69.0	ug/L	50	100	Apr.2,2019
THM	107.0	ug/L	50	100	May.6,2019
THM	107.0	ug/L	50	100	May.6,2019
THM	74.8	ug/L	50	100	May.6,2019
THM	79.1	ug/L	50	100	May.6,2019
THM	96.5	ug/L	50	100	May.6,2019
THM	59.0	ug/L	50	100	May.6,2019
THM	95.6	ug/L	50	100	May.6,2019
THM	50.8	ug/L	50	100	May.6,2019
THM	75.6	ug/L	50	100	May.6,2019
THM	70.1	ug/L	50	100	May.6,2019
THM	103.0	ug/L	50	100	May.6,2019
THM	57.8	ug/L	50	100	May.6,2019
THM	68.0	ug/L	50	100	May.6,2019
THM	62.6	ug/L	50	100	May.6,2019
THM	89.3	ug/L	50	100	June 3,2019
THM	97.3	ug/L	50	100	June 3,2019
THM	131.0	ug/L	50	100	June 3,2019
THM	68.2	ug/L	50	100	June 3,2019
THM	74.1	ug/L	50	100	June 3,2019
THM	54.7	ug/L	50	100	June 3,2019
THM	67.4	ug/L	50	100	June 3,2019
THM	51.9	ug/L	50	100	June 3,2019
THM	86.9	ug/L	50	100	June 3,2019
THM	66.0	ug/L	50	100	June 3,2019
THM	79.0	ug/L	50	100	June 3,2019

Parameter	Result Value	Unit of Measure	½ MAC VALUE	MAC VALUE	Date of Sample
THM	68.2	ug/L	50	100	June 3,2019
THM	85.3	ug/L	50	100	Jul.2,2019
THM	58.4	ug/L	50	100	Jul.2,2019
THM	53.9	ug/L	50	100	Jul.2,2019
THM	81.9	ug/L	50	100	Jul.2,2019
THM	56.5	ug/L	50	100	Jul.2,2019
THM	105.0	ug/L	50	100	Aug.6,2019
THM	91.9	ug/L	50	100	Aug.6,2019
THM	65.2	ug/L	50	100	Aug.6,2019
THM	68.6	ug/L	50	100	Aug.6,2019
THM	112.0	ug/L	50	100	Aug.6,2019
THM	51.8	ug/L	50	100	Aug.6,2019
THM	63.8	ug/L	50	100	Aug.6,2019
THM	56.4	ug/L	50	100	Aug.6,2019
THM	66.3	ug/L	50	100	Aug.6,2019
THM	66.2	ug/L	50	100	Aug.6,2019
THM	73.4	ug/L	50	100	Aug.6,2019
9THM	51.5	ug/L	50	100	Aug.6,2019
THM	132.0	ug/L	50	100	Sep.3,2019
THM	88.0	ug/L	50	100	Sep.3,2019
THM	70.2	ug/L	50	100	Sep.3,2019
THM	71.7	ug/L	50	100	Sep.3,2019
THM	102.0	ug/L	50	100	Sep.3,2019
THM	86.4	ug/L	50	100	Sep.3,2019
THM	76.4	ug/L	50	100	Sep.3,2019
THM	73.9	ug/L	50	100	Sep.3,2019
THM	79.9	ug/L	50	100	Sep.3,2019
THM	69.3	ug/L	50	100	Sep.3,2019
THM	77.9	ug/L	50	100	Sep.3,2019
THM	111.0	ug/L	50	100	Oct.8,2019
THM	69.2	ug/L	50	100	Oct.8,2019
THM	65.9	ug/L	50	100	Oct.8,2019
THM	66.4	ug/L	50	100	Oct.8,2019
THM	61.6	ug/L	50	100	Oct.8,2019
THM	63.3	ug/L	50	100	Oct.8,2019
THM	76.1	ug/L	50	100	Oct.8,2019
THM	74.2	ug/L	50	100	Oct.8,2019
THM	63.3	ug/L	50	100	Oct.8,2019
THM	67.7	ug/L	50	100	Oct.8,2019
THM	63.6	ug/L	50	100	Oct.8,2019
THM	112.0	ug/L	50	100	Oct.10,2019
THM	64.1	ug/L	50	100	Oct.10,2019
THM	53.4	ug/L	50	100	Oct.10,2019

Parameter	Result Value	Unit of Measure	½ MAC VALUE	MAC VALUE	Date of Sample
THM	62.9	ug/L	50	100	Oct.10,2019
THM	58.6	ug/L	50	100	Nov.18,2019
THM	60.5	ug/L	50	100	Nov.18,2019
THM	56.9	ug/L	50	100	Nov.18,2019
THM	62.8	ug/L	50	100	Nov.18,2019
THM	63.9	ug/L	50	100	Nov.18,2019
THM	58.4	ug/L	50	100	Nov.18,2019
THM	76.5	ug/L	50	100	Nov.18,2019
THM	61.9	ug/L	50	100	Nov.18,2019
THM	55.3	ug/L	50	100	Nov.18,2019
THM	61.8	ug/L	50	100	Nov.18,2019
THM	74.8	ug/L	50	100	Nov.20,2019
THM	87.5	ug/L	50	100	Nov.20,2019
THM	62.3	ug/L	50	100	Nov.20,2019
THM	91.8	ug/L	50	100	Nov.20,2019
THM	76.9	ug/L	50	100	Nov.20,2019
THM	50.0	ug/L	50	100	Dec.9,2019
THM	83.9	ug/L	50	100	Dec.9,2019
THM	79.8	ug/L	50	100	Dec.9,2019
THM	76.3	ug/L	50	100	Dec.9,2019
THM	63.9	ug/L	50	100	Dec.9,2019
THM	51.6	ug/L	50	100	Dec.9,2019
THM	63.9	ug/L	50	100	Dec.9,2019
THM	78.6	ug/L	50	100	Dec.9,2019
THM	51.9	ug/L	50	100	Dec.9,2019