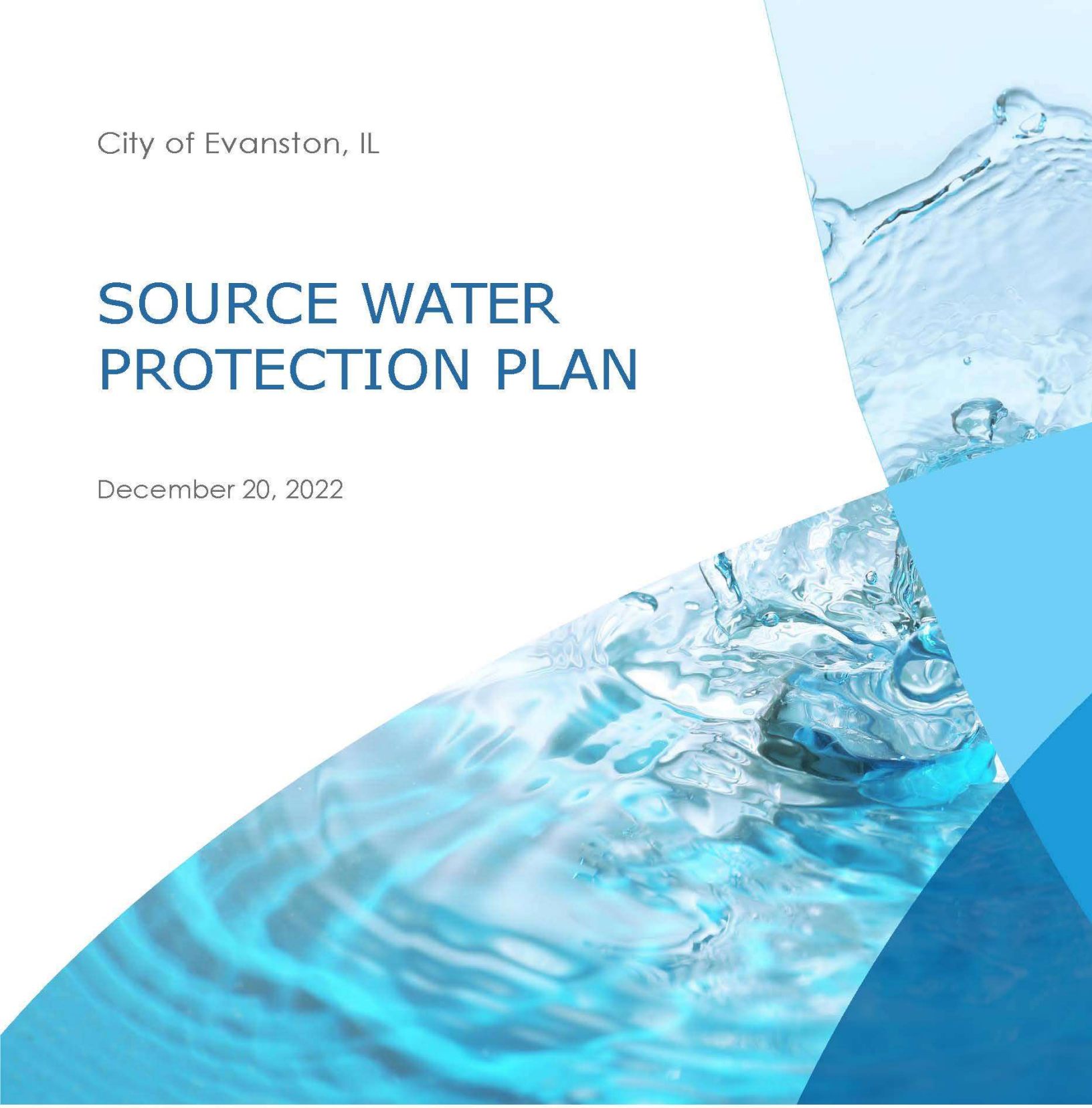
City of Evanston, IL

SOURCE WATER PROTECTION PLAN

December 20, 2022



CMT
Crawford, Murphy & Tilly

waterwell

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Part 1. Vision Statement

1.01 Commitment to Protecting Source Water

The City of Evanston's policy and commitment to protecting source water is reflected in the following Vision Statement developed by the Evanston Source Water Protection Plan team (Plan Authors), which was vetted and supported by Evanston's Utilities Commission and Environment Board. This Vision Statement represents Evanston's ongoing commitment to Source Water Protection:

> ***Evanston's Source Water Protection Program is committed to maintaining a sustainable and abundant supply of safe, high-quality drinking water for Evanston and the communities it serves through a proactive and coordinated approach now and into the future.***

Evanston's long history of meeting and exceeding standards of drinking water quality, along with its ongoing efforts described in this Plan, including award-winning conservation and ambassadorship activities, serve as a demonstration of this commitment.

1.02 Available Resources

Evanston has allocated $48,000 of the 2022/2023 budget to the development of a Source Water Protection Plan (SWPP). This document defines that Plan. In addition, a study on the impacts and potential treatment options of per- and polyfluoroalkyl substances (PFAS) has been planned and budgeted. Additional resources may be required for future action steps and will be included in future budgets as needed.

In its 2022 annual budget, Evanston included approximately 1,145 labor hours and $60,400 for activities related to source water protection, including inspection and maintenance of the water intakes, Combined and Sanitary Sewer Overflow inspections, and cleanup of Lake Michigan beaches to prevent contaminants from entering the water source. There are no combined or sanitary sewer outfalls that discharge directly to Lake Michigan.

In addition to the resource allocated above, the following human resources have also been utilized both in the development of this SWPP, as well as continued efforts to protect Evanston's source water:

- Evanston's Water Division Team and SWPP Plan Authors
- Evanston's Utilities Commission
- Evanston's Environment Board
- Evanston's Wholesale Community Customers
- Illinois EPA – Bureau of Water

1.03 Barriers to Source Water Protection

Evanston and its Water Division recognize the following potential barriers to source water protection:

WATER SOURCE SIZE

Evanston sources its water from Lake Michigan, one of the largest bodies of fresh water in the world. The size of the lake, along with the vast number of people and entities who depend on the lake for a variety of purposes, make protection of water quality a complicated and shared responsibility—including across Great Lake states, communities and regulating agencies of various scales.

LIMITED RESOURCES

Like all communities, Evanston must carefully steward finite resources to best meet the needs of its residents. Source water protection is one of many priorities for the community. When necessary, Evanston can call upon the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) and the Illinois Environmental Protection Agency (IEPA) to assist in protecting Evanston's source water.

WET WEATHER DISCHARGES

Evanston has strategically located its water intakes far into Lake Michigan to minimize impacts of point source contaminants near the shore. Evanston has two permitted stormwater outfalls that discharge directly to Lake Michigan. Stormwater and combined sewer outfalls discharging to the North Shore Channel are effectively controlled by the MWRDGC Long Term Control Plan, known popularly as Deep Tunnel. While limited, extreme wet weather flows from nearby water resource recovery facilities, storm sewers, and combined sewers can impact source water quality.

GAPS IN COMMUNITY AWARENESS

With a water source as large and valuable as Lake Michigan, it is difficult to convey the importance of protecting the water quality accurately and adequately to everyone who interacts with the lake, which can lead to gaps in community awareness, along with misconceptions or misinformation. Evanston Water Division deploys multiple efforts to minimize those gaps where possible.

CONTRACTUAL REQUIREMENTS

Evanston has contracted with several communities to provide wholesale water. These agreements may affect the scope and nature of improvements that can be made within the Water Division to additionally protect Evanston's source water.

1.04 Plan Authors

This Plan was assembled by City of Evanston staff listed below with assistance from Crawford, Murphy & Tilly, Inc. (CMT) and Waterwell, LLC. The standard G300-14, "Source Water Protection," produced by the American Water Works Association, and the requirements of the Illinois Administrative Code Title 35, Administrative Code 604, Subtitle F, Subpart C: Source Water Protection Plan were used as guidance.

Name	Title
Karra Barnes	CMMS Analyst
Darrell King	Water Production Bureau Chief
Cara Pratt	Sustainability and Resilience Coordinator
Stephen Quinn	Project Manager – Filtration

Bill Thomas	Project Manager Supervisor - Pumping

Part 2. Source Water Assessment

2.01 Importance of Source Water

Evanston's source of water, Lake Michigan, is an incredible source of surface fresh water globally. More than 20 percent of the world's available surface fresh water is contained in Lake Michigan and the other Great Lakes. Evanston recognizes the integral importance of its drinking water source, and works to uphold the tenets of the Great Lakes–St. Lawrence River Basin Water Resources Compact (Great Lakes Compact).

Evanston treats water from three intakes in Lake Michigan to supply water to the more than 77,000 residents and businesses in Evanston, along with an additional population of over 410,000 through its dependent wholesale community customers. At its capacity, Evanston's water treatment plant is able to supply 108 million gallons of drinking water per day. Evanston and its Water Division staff are committed to being good stewards of this precious resource, as demonstrated by the many initiatives and activities outlined in this Plan.

2.02 Dependent Water Supplies

Evanston currently supplies water to the following wholesale community customers:

- Morton Grove Niles Water Commission
  - Village of Morton Grove
  - Village of Niles
- Northwest Water Commission
  - Village of Palatine
  - Village of Buffalo Grove
  - Village of Wheeling
  - Village of Arlington Heights
  - City of Des Plaines
- Village of Skokie
- Village of Lincolnwood

2.03 Delineation of Sources

Evanston uses Lake Michigan as its water source. Lake Michigan is one of the Great Lakes and the sixth largest lake in the world. In addition to being a source of drinking water, it is also a major commercial artery and a recreational resource for millions of people. Exhibit A shows a map of the lake's watershed. Approximately 97 square miles of the watershed are within the State of Illinois. According to an inventory assembled by the Illinois Department of Natural Resources in 1995, the primary land use in Illinois' portion of the watershed is urban, with some forest, woodlands, wetlands, and agricultural use.

Exhibit B shows an approximate location of Evanston's three intakes. Each intake is far offshore, east of Evanston's water treatment plant. Some of the intake structures are heated to prevent the buildup of frazil ice. Construction of a new intake will begin in 2023 and is expected to be completed in 2025. Once the new intake is in service, a current intake will be abandoned leaving three active intakes.

The intake structures are inspected several times annually by Evanston dive teams. The tunnels are also regularly inspected.

Exhibit A. Lake Michigan Watershed

EXHIBIT A - LAKE MICHIGAN WATERSHED

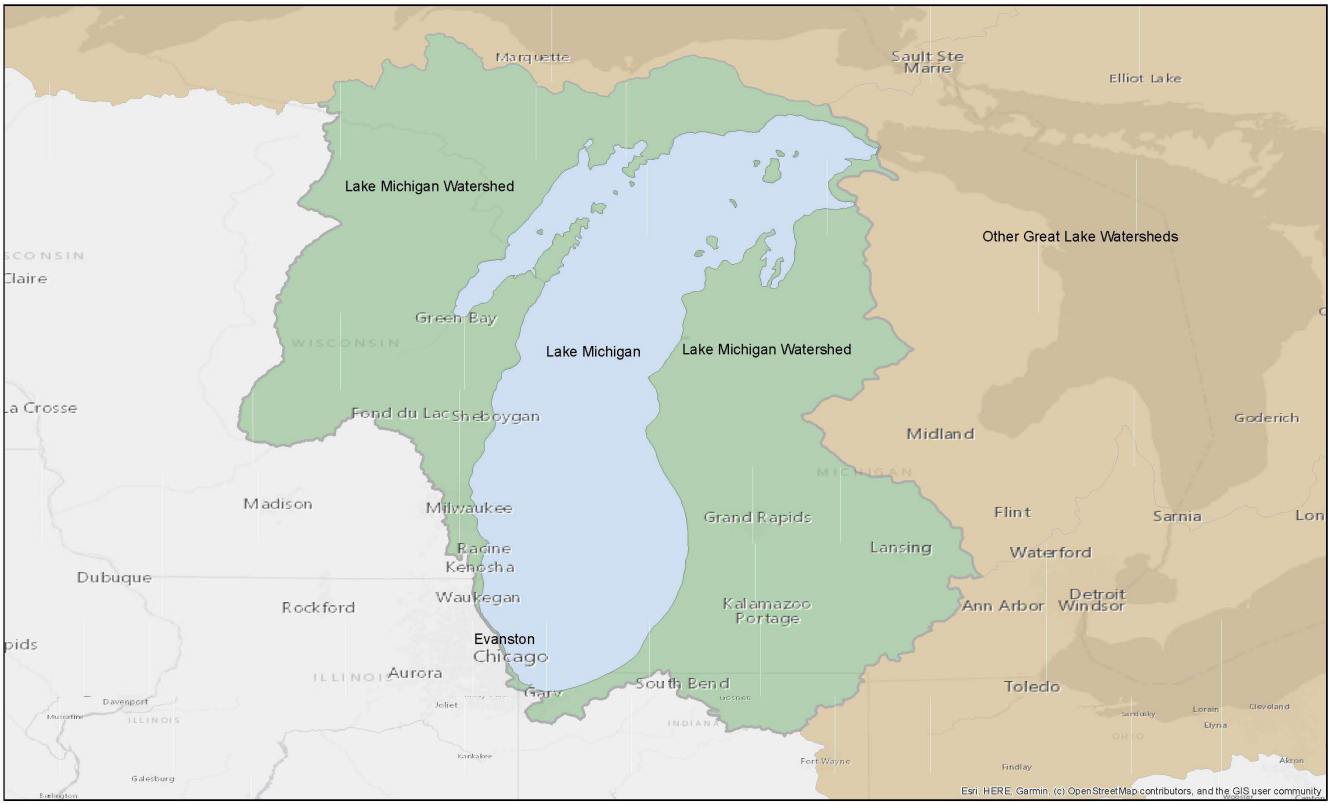

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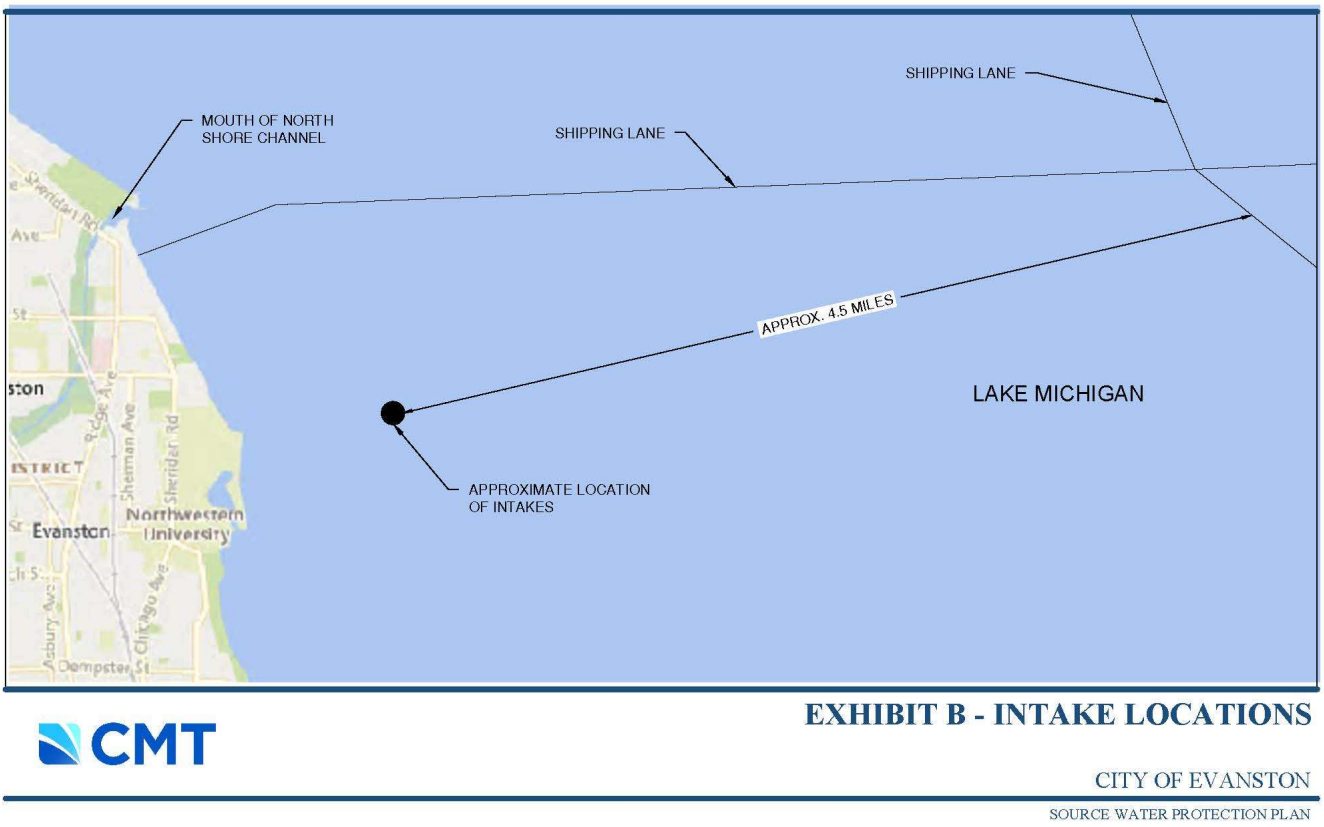
Exhibit B. Intake Locations



2.04 Source Water Quality

LOCAL SOURCE WATER QUALITY MONITORING

Evanston collects raw water samples quarterly to test for PFAS and total organic carbon (TOC). Testing is performed by Eurofins Eaton South Bend, a certified laboratory. The most recent quarterly raw water testing was completed on July 18, 2022. A certified Laboratory Report dated July 18, 2022 is included as Appendix A. Lab results from PFAS testing of both raw and finished water samples collected so far in 2022 can be seen in Table 1 Water Quality – PFAS. Lab results for TOC for both raw and finished water samples collected from January 2020 through July 2022 are shown in Table 2 Water Quality – Total Organic Carbon. Raw water samples are collected from the shore wells where water from the intake structures is combined.

In addition, raw water turbidity and temperature are monitored continuously. Water Treatment Plant operators verify these measurements hourly.

Table 1. Water Quality – PFAS

Analyte	Concentration - parts per trillion (ppt)					
	January 19, 2022		April 20, 2022		July 13, 2022	
	Finished Water	Raw Water	Finished Water	Raw Water	Finished Water	Raw Water
Perfluorooctane sulfonate (PFOS)	**2.1**	**2.0**	**2.1**	**2.1**	**2.3**	**2.2**
Perfluorooctanoic acid (PFOA)	**2.3**	**2.3**	**2.4**	**2.5**	**2.1**	**2.3**
Perfluoroundecanoic acid (PFUnA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Perfluorohexanoic acid (PFHxA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Perfluorododecanoic acid (PFDoA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Perfluorodecanoic acid (PFDA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Perfluorohexanesulfonic acid (PFHxS)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Perfluorobutanesulfonic acid (PFBS)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Perfluoroheptanoic acid (PFHpA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Perfluorononanoic acid (PFNA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Perfluorotetradecanoic acid (PFTeDA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Perfluorotridecanoic acid (PFTrDA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
N-methyl Perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
N-ethyl Perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.8	<1.8	<1.8	<1.8	<1.9	<1.9

Table 2. Water Quality – Total Organic Carbon

Date	Total Organic Carbon (TOC) parts per million (ppm)	
	Finished Water	Raw Water
1/9/2020	1.93	1.93
4/1/2020	1.55	1.76
7/1/2020	1.73	1.91
10/1/2020	1.65	1.82
1/6/2021	1.67	1.94
4/6/2021	1.77	1.95
7/1/2021	1.69	1.98
10/11/2021	1.91	2.33
1/5/2022	1.62	1.75
4/1/2022	1.59	1.90
7/6/2022	1.93	2.07

STATE SOURCE WATER QUALITY MONITORING

The Illinois Environment Protection Agency (IEPA) also collects surface water quality data for Lake Michigan three times per year. Prior to 2008, the IEPA monitored lake water quality in cooperation with the City of Chicago. Beginning in 2008, the IEPA began a three-pronged Lake Michigan Monitoring Program, focusing on Lake Michigan's Near Shore, Harbors, and Public Water Supplies. Near Shore samples are collected every May, July, and September approximately 3.2 miles (5 kilometers) from the shore and tested for temperature, pH, dissolved oxygen, conductivity, and Secchi, along with a variety of chemical parameters. Similar samples are collected and tested from public water supplies 3 to 4 times per year on a 5-year rotational basis. According to the Illinois Integrated Water Quality Report and Section 303(d) List published in June 2022 by the IEPA's Bureau of Water, all 196 square miles of Lake Michigan open waters were rated as Fully Supporting for public and food processing water supply.

2.05 Finished Water Quality

The US EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. To confirm that tap water meets EPA regulations, water samples are regularly submitted for laboratory analysis. In 2021, as in past years, Evanston's water met EPA and State of Illinois drinking water health standards. No water quality standards violations were reported. Evanston performs quarterly finished water quality sampling and testing. The most recent quarterly finished water quality testing was completed on July 18, 2022 using Test Point 01 at the Water Treatment Plant. Testing was performed by Eurofins Laboratory. A certified Laboratory Report dated July 18, 2022 is included as Appendix A. Lab results from PFAS testing of both raw and finished water samples collected so far in 2022 can be seen in Table 1 Water Quality – PFAS. Lab results for TOC for both raw and finished water samples collected from January 2020 through July 2022 are shown in Table 2 Water Quality – Total Organic Carbon.

2.06 Potential Source Water Contamination Sources

A primary source of potential contamination for Evanston is boating accidents or spills from the significant recreational and shipping traffic in Lake Michigan. While Evanston's intakes are located well offshore, they are near a major shipping lane.

A second source of potential contamination is wet weather flows. Evanston's stormwater outfalls and discharges from MWRDGC are located on the North Shore Channel, an 8-mile constructed channel connecting Lake Michigan with the North Branch of the Chicago River. During high-flow wet weather events, the channel may discharge into Lake Michigan. Significant effort has been made to reduce wet-weather flows, including the construction of MWRDGC's Tunnel and Reservoir Plan (TARP). However, according to MWRDGC, there have been approximately 480 combined sewer overflows into the North Shore Channel in the past 10 years. Stage 1 of the TARP McCook Reservoir was placed in service at the end of 2017 and has reduced the frequency of overflows.

Exhibit B shows the approximate location of Evanston's intakes in relation to the mouth of the North Shore Channel and shipping routes through Lake Michigan.

2.07 Susceptibility to Contamination

IEPA considers surface water sources of community water supply to be susceptible to potential pollution problems. This is the reason for mandatory treatment of surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection.

Due to all of Evanston's intakes being located far offshore, the IEPA does not generally consider shoreline contamination sources to have an impact on water quality for Evanston. Wet weather flows can occasionally impact water quality due to the proximity of the North Shore Channel.

In addition, Lake Michigan hosts many recreational boaters and significant shipping traffic. Evanston's three intakes are susceptible to contamination from boating spills and accidents due to its proximity to a major shipping lane.

Finally, short-term fluctuations and longer-term changes in lake level and temperature can impact water quality and treatment at Evanston's water treatment plant. In addition, Evanston recognizes its potential susceptibility to emerging contaminants that are not yet regulated, such as micro-plastics, pharmaceuticals, and per- and polyfluoroalkyl substances (PFAS).

2.08 Existing Source Water Protection

The following measures have been taken by Evanston and other stakeholders to protect Lake Michigan as a water source:

STRATEGIC INTAKE LOCATION, DESIGN, AND INSPECTION

Evanston selected strategic locations for its water intakes and designed them in a way that protects the raw water quality. The intakes sit on the lakebed well below the water surface, minimizing impacts from surface contamination. Each intake is far offshore, far enough that the IEPA does not consider shoreline impacts to the lake to be a factor on Evanston's source water quality. The intake locations are also purposely obscured from sight and kept confidential to avoid intentional contamination.

Some of the intake structures are heated to prevent frazil ice buildup, allowing steady and predictable source water flow even in icy lake conditions. Intake structures are inspected by divers several times annually, and intake tunnels are inspected periodically.

Three intake sites provide redundancy should water quality or structural issues render any one of the intakes temporarily unusable. In addition, the capacity of Evanston's intake structures, pumping, and infrastructure

are designed to be significantly higher than historical or projected maximum daily demand for the water treatment plant to provide redundancy.

FILTER BACKWASH WATER

Waste filter backwash water is discharged via the public sanitary sewer system and is treated by the MWRDGC at its O'Brien Water Reclamation Plant. Evanston does not return its backwash water to Lake Michigan, a former practice that was discontinued approximately 50 years ago.

TUNNEL AND RESERVOIR PLAN (TARP)

While not undertaken by Evanston directly, the Tunnel and Reservoir Plan (TARP) has contributed significantly to the protection of Lake Michigan's water quality. MWRDGC, which provides water reclamation services for Evanston, adopted TARP in 1972 and completed Phase I of the construction in 2006. TARP is a system of tunnels and reservoirs to capture and treat pollutant-loaded combined sewer flow during a wet weather event. TARP has reduced the number of combined sewer overflows to Chicago-area waterways by about half and has prevented billions of gallons of combined sewage from entering waterways. Continued work on TARP is anticipated to further reduce combined sewer overflows and improve water quality in Lake Michigan.

WATER QUALITY MONITORING AND ALERTS

Evanston's Water Division monitors lake conditions such as water temperature and adjusts treatment as needed. Incoming water turbidity and temperature are also continuously monitored. The Water Division receives alerts from the IEPA when lake incidents may lead to unusual water quality. MWRDGC alerts Evanston when a wet weather discharge to Lake Michigan from the North Shore Channel is anticipated and confirms after it has occurred. Evanston also receives and provides communication alerts with its neighboring water suppliers who treat water from Lake Michigan in order to alert each other of unusual lake conditions or water quality.

Regular water quality monitoring not only raises awareness of any needs for short-term adjustment of treatment, but can also indicate trends that help inform source water protection planning over time.

INVASIVE SPECIES PROTECTION

Zebra and quagga mussels are two aquatic species that are native to eastern Europe but have invaded Lake Michigan. The mussels are prolific breeders and attach to hard surfaces such as intake grates in freshwater bodies. Evanston has installed a chlorine line to the intake structures to prevent buildup of these mussels and maintain flow through the intakes.

ADDITIONAL CARBON FEED TREATMENT

Evanston Water Division maintains a carbon feed system that is not required as part of its normal treatment train but can be integrated into the treatment processes if unusual source water quality leads to taste and odor concerns.

MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT

Evanston complies with requirements of the General Stormwater Permit for Municipal Separate Storm Sewer Systems (MS4). The permit requires holders to develop a stormwater management program of best

management practices and measurable goals for several stormwater control initiatives. These initiatives protect Lake Michigan from contaminated storm runoff.

PRO-ACTIVE WATER CONSERVATION

Evanston has a long-standing commitment to stewardship of Lake Michigan as its drinking water source. Evanston has a number of current initiatives and activities to help preserve this important water resource, which includes its award-winning Water Conservation and Efficiency Plan, an outdoor irrigation ordinance that restricts lawn watering dates and times, a Climate Action and Resilience Plan that includes water conservation and efficiency goals, a recently updated green building ordinance that helps to conserve water, as well as being a USEPA WaterSense community partner. Evanston has a Benchmarking Ordinance that requires commercial buildings to annually report their energy and water consumption to encourage energy and water conservation.

Evanston does regular educational outreach with the community through water bill inserts, an online water FAQs webpage, its WaterSmart Tool for residents, a mobile water station with educational signage for use at events, and regular public events and facility tours.

At the Water Treatment Plant, operational practices such as recycling 10% of backwash water helps contribute to Evanston's reduced demand of water. These efforts demonstrate Evanston's ongoing efforts and commitment to source water education, conservation, and protection.

REDUCING WATER LOSS FOR WATER USE EFFICIENCY

Evanston Water Division is committed to reducing unnecessary water waste related to water loss and non-revenue water in its system in order to improve water efficiency. Evanston has its own leak detection equipment and does annual leak detection and repairs. It has done annual large water meter testing for the past 10 years, and has an aggressive meter replacement program in its five-year capital improvement plan (over 5,500 meters have been replaced since 2017). Its water main replacement program includes repairing or replacing 1 percent (1.5 miles) of its system annually. These activities demonstrate Evanston's commitment to being a good steward of its Lake Michigan source water.

STORMWATER MANAGEMENT

Evanston has developed a Stormwater Management Plan to protect water quality and reduce the discharge of pollutants from its storm sewer system into surface water bodies. The plan includes public education and outreach, elimination of illicit discharges into the storm sewer, control of construction site stormwater runoff, and a Good Housekeeping Program for municipal vehicles and storage locations. In addition, Evanston has a sustainable pesticide reduction resolution, a beach clean-up program, and performs annual street sweeping from March 1st through December 15th to prevent pollutants, litter, debris, and leaves from entering waterways.

Additionally, Evanston has installed grit and oil separators at strategic locations as part of the storm sewer system to reduce contaminant loading in waterways.

Evanston also works to reduce chloride runoff during deicing efforts and winter storm events. Evanston pre-wets salt, manufactures and deploys an anti-ice brine, uses deicing products sourced from beets, and customizes salt spreading rates based on pavement conditions to reduce overall chloride and bulk salt use.

PARTICIPATION IN THE WEST SHORE WATER PRODUCERS ASSOCIATION

Evanston Water Division actively participates in the West Shore Water Producers Association, an organization designed to facilitate collaboration and sharing of ideas, information, and best practices between water plant operators treating Lake Michigan water.

COORDINATION WITH WHOLESALE CUSTOMERS

Evanston meets twice a year with its wholesale customers to brief them on upcoming capital improvement projects and any water quality concerns or issues. This regular communication assists with proactive and coordinated efforts to ensure source water protection.

COMMUNITY EDUCATION AND OUTREACH

Evanston works to educate its community on the quality and value of its drinking water. Evanston has a water trailer available for rent to provide water for events, reducing the need to purchase single-use plastic water bottles. The water trailer also features educational signage about water conservation. Water Division staff attend public events throughout the year, such as the Emergency Preparedness Fair, to inform the public of the ongoing effort to continue to provide reliable, high-quality drinking water. The Water Division staff also provided public tours of the Water Treatment Plant until pandemic-related health concerns caused a temporary pause of such tours.

Evanston recently participated in the Water Ambassador program developed by the Illinois Section of the American Water Works Association. This program was created to help increase public perception of water operations and the value of water. Evanston has achieved Gold level status in the program.

Part 3. Objectives

Based-off the potential sources of contamination and analysis of susceptibility identified in the Source Water Assessment, Evanston identified and created the following SWPP objectives. These objectives are intended to represent and support Evanston's ongoing and newly created source water protection activities:

1. Continue to monitor and make strategic investments in water quality
2. Maintain long-term supply availability and stewardship
3. Enhance existing and new partnerships in support of source water protection
4. Increase source water protection outreach, communications, and education

Part 4. Action Plan

4.01 Action Plan Activities

In order to meet its SWPP objectives, Evanston will continue its many, current initiatives (as described in Part 2.08 of this SWPP), as well as implement the following new, strategic projects, programs, and activities. These new activities are organized by the Objective they help to support.

OBJECTIVE #1: CONTINUE TO MONITOR AND MAKE STRATEGIC INVESTMENTS IN WATER QUALITY

- The Water Division is currently developing documents to commission a study to establish plant pilot testing of various methods to remove per- and polyfluoroalkyl substances from the source water. Methods to be considered include powder activated carbon, granular activated carbon, ion exchange, nanofiltration, and reverse osmosis.

- Evanston will be replacing an existing water intake structure and pipeline, which were built in 1909. Design and permitting are complete, and construction is scheduled for completion in 2024.

- To ensure electrical reliability at the Water Plant, Evanston will be making electrical system improvements, which include replacement of outdated medium voltage switchgear and stand-by generator. These electrical system improvements include planning for a transition to electric vehicles for the Water Division fleet.

- Evanston is engaged in a two-year study to analyze its current Stormwater Management System. The study includes development of a detailed computer model of the city's three sewer systems to analyze its capacity, assess overland flow, identify short-comings, and develop high-level mitigative measures under current and projected conditions. Upon completion, Evanston will have a Stormwater Master Plan.

- Evanston will be installing an additional treatment structure to remove grit and debris from stormwater at the Water Plant.

- The Water Division will be implementing security improvements at its Water Plant. These improvements, which directly relate to source water protection, include installation of a thermal camera onsite, design and installation of hardened windows for the water plant first floor, and additional door entry screening and security improvements.

OBJECTIVE #2: MAINTAIN LONG-TERM SUPPLY AVAILABILITY AND STEWARDSHIP

- Evanston will continue to implement its many water conservation and efficiency initiatives, programs, and educational outreach.

- The Water Division will also continue to be aggressive in reducing water waste through proactive capital improvement projects that address water loss and non-revenue water.

OBJECTIVE #3: ENHANCE EXISTING AND NEW PARTNERSHIPS IN SUPPORT OF SOURCE WATER PROTECTION

- Through coordination with other municipal departments, Evanston's Sustainability and Resilience Coordinator, and its Environment Board, the Water Division will work to ensure source water protection measures are part of the ongoing climate action activities in Evanston.

- Evanston will be updating both its Community Comprehensive Plan and Strategic Plan in the near future. In order to make sure source water protection practices, such as increased installation of green stormwater infrastructure and appropriate zoning and land use along the lakeshore are included, the Water Division will partner with Evanston's Zoning Division and other municipal departments.

- The Water Division will reach out to and develop a more established relationship with the shipping industry in order to increase coordination and communication efforts. This includes the regional U.S. Coast Guard stations and the U.S. Great Lakes Shipping Association.

- Likewise, the Water Division will also reach out to and develop a more established relationship with the recreational boating industry in order to have a more robust communication channel and be able to coordinate with one another when necessary. This includes the Chicago Harbor Safety Committee and specific regional marinas.

- In order to be proactive in monitoring emerging contaminants e.g., microplastics, pharmaceuticals, home care products, etc., Evanston will be reaching out to professional associations and academic institutions in the region to partner on research and testing. This includes the Center for Water Research at Northwestern University, the School of Freshwater Science at the University of Wisconsin, Milwaukee, the Great Lakes and St. Lawrence Cities Initiative, and the American Water Works Association (AWWA).

OBJECTIVE #4: INCREASE SOURCE WATER PROTECTION OUTREACH, COMMUNICATIONS, AND EDUCATION

- To increase educational awareness about Lake Michigan as its drinking water source, Evanston will include occasional messaging about source water protection on its water bills.

- Likewise, Evanston will update its customer facing WaterSmart Tool with language about source water protection and the importance of being good stewards of Lake Michigan.

- In partnership with its Environment Board and other Evanston personnel, the Water Division will explore grant funding opportunities to install public educational signage about source water protection along the lakeshore within Evanston. Locations for these four-season signs includes popular recreational areas such as beaches, parks, and shoreline pathways, which provide a great opportunity to help further educate the public about the importance of Lake Michigan as a drinking water source, and how to help keep our water clean.

4.02 Schedule for Implementing Projects, Programs, and Activities

The scheduled timeline for implementation of the new activities is presented in Table 3, which also outlines potential partners and funding sources for each activity.

Table 3. New Source Water Protection Plan Activities Schedule

New Activity	Partners	Funding Source(s)	Timeframe
Per- and Polyfluoroalkyl substances study		Municipal/ Utility	2023
Intake replacement		Municipal/ Utility	2023-2024
Improvements to electrical system reliability		Municipal/ Utility	2022-2025
Stormwater Master Plan		Municipal/ Utility	2023
Grit separators		Municipal/ Utility	2026
Security improvements		Municipal/ Utility	2023-2026
Continued water conservation and efficiency initiatives	Various municipal depts.	Municipal/ Utility	Ongoing
Continue to address water loss/non-revenue water		Municipal/ Utility	Ongoing
Incorporate SWP in municipal climate action initiatives	Various municipal depts. & staff, Environment Board	Municipal/ Utility	Ongoing
Include SWP in future Community Comprehensive Plan and Strategic Plan updates	Zoning Division, various municipal depts.	Municipal/ Utility	2023-2024
Increase coordination and communication efforts with the shipping industry	Coast Guard, Great Lakes Shipping Assoc.	N/A	2023
Increase coordination and communication efforts with the recreational boating industry	Chicago Harbor Safety Committee, Marinas	N/A	2023

Partner on proactive monitoring of emerging contaminants	NW Univ., UW-Milwaukee, AWWA	Municipal/ Utility, Partners	Ongoing
Include SWP messaging on water bills		N/A	2023
Include SWP education in WaterSmart Tool		N/A	2023
Explore installation of SWP educational signage along lakeshore	Environment Board	Grants e.g., IDNR Coastal Mgmt.	2025

Appendix B in this SWPP contains a table outlining all of Evanston's existing and new source water protection activities.

Additionally, the Evanston Water Division also considered other activity ideas during the process of developing this SWPP. While these activities are not currently planned or included in this Plan, Evanston may wish to consider them at some time in the future. Therefore, these potential, future activities are included as Appendix C.

4.03 Identification of Necessary Resources to Implement the Plan

The following outlines sources of funding the Water Division intends to pursue for the new source water protection activities that require funding resources. These funding sources are also outlined in Table 3 from Part 4.02.

- Costs for the following SWP activities will be included within the Water Division's municipal capital improvement budget:
  - Per- and Polyfluoroalkyl substances study
  - Intake replacement
  - Improvements to electrical system reliability
  - Stormwater Master Plan update
  - Grit separators
  - Security improvements
  - Continue to address water loss/non-revenue water
- Costs for implementing the following SWP activities will be included in Evanston's general budget:
  - Continued water conservation and efficiency initiatives
  - Incorporate SWP in municipal climate action initiatives
  - Include SWP in Community Comprehensive Plan and Strategic Plan updates
- The Water Division will seek funding through Evanston and/or through resources provided by confirmed partnering institutions such as University's and Professional Associations to proactively monitor and research emerging contaminants.
- With selected stakeholders and interested partners, the Water Division, will help seek out grant funding opportunities from various agencies including the IDNR Coastal Management grant program and foundations in order to develop and install public educational signage about SWP along the lakefront.

In addition to funding resources, the Water Division has identified and begun (or continued) to develop relationships with key stakeholders in order to support the activities of this source water protection plan. These partnerships strengthen and enable a more holistic approach to source water protection and provide additional resources necessary for implementation. Partners include:

- Other departments within Evanston including:
  - City Manager's Office
  - Community Development
  - Parks and Recreation
- City of Evanston stakeholder groups including:
  - Utilities Commission
  - Environment Board
- Regional stakeholder groups including:
  - West Shore Water Producers Association
  - Evanston's Wholesale Community Water Customers

4.04 Identification of Potential Problems and Obstacles for Implementation

An obstacle to achieving any plan is funding availability. The Water Division, in concert with other partners, has been and will continue to work diligently to secure municipal budget allocations and grant funding necessary to implement the activities in this SWPP.

As identified in the source water assessment, another obstacle to achieving successful implementation is the lack of direct control the Water Division and Evanston have over Lake Michigan as a whole. This includes activities of other communities and stakeholders within the Lake Michigan watershed, fluctuating lake levels and temperatures—some of which is related to climate change, as well as industrial shipping and recreational boating activities around Evanston's intakes. That is why the Water Division is committed to developing communication channels and collaborations with key partners such as shipping and recreational boating industries and academic institutions researching emerging contaminants.

Part 5. Appendices

5.01 Appendix A: Certified Laboratory Reports dated July 18, 2022

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Eaton South Bend
110 S Hill Street
South Bend, IN 46617
Tel: (574)233-4777

Laboratory Job ID: 810-30438-1
Client Project/Site: DW All Compliance

For:
City of Evanston
555 Lincoln Street
Evanston, Illinois 60201

Attn: Eleanore Meade

Authorized for release by:
7/29/2022 2:22:40 PM

Traci Chlebowski, Project Manager
(574)233-4777
Traci.Chlebowski@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: City of Evanston
Job ID: 810-30438-1
Project/Site: DW All Compliance

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-30438-1

Job ID: 810-30438-1

Laboratory: Eurofins Eaton South Bend

Narrative

Job Narrative
810-30438-1

Receipt

The samples were received on 7/14/2022 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.6°C

PFAS

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-30438-1

Client Sample ID: Raw
PWSID Number: IL0310810

Lab Sample ID: 810-30438-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.2		1.9		ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	2.3		1.9		ng/L	1		537.1	Total/NA

Client Sample ID: TP1
PWSID Number: IL0310810

Lab Sample ID: 810-30438-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.3		1.9		ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		1.9		ng/L	1		537.1	Total/NA

Client Sample ID: Raw FTB
PWSID Number: IL0310810

Lab Sample ID: 810-30438-3

No Detections.

Client Sample ID: TP01 FTB
PWSID Number: IL0310810

Lab Sample ID: 810-30438-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: Raw

Lab Sample ID: 810-30438-1

Date Collected: 07/13/22 10:30

Matrix: Drinking Water

Date Received: 07/14/22 09:00

PWSID Number: IL0310810

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**2.2**		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluorooctanoic acid (PFOA)	**2.3**		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 04:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*70 - 130*	*07/26/22 06:34*	*07/28/22 04:56*	*1*
13C2 PFDA	*103*		*70 - 130*	*07/26/22 06:34*	*07/28/22 04:56*	*1*
13C3 HFPO-DA	*98*		*70 - 130*	*07/26/22 06:34*	*07/28/22 04:56*	*1*
d5-NEtFOSAA	*91*		*70 - 130*	*07/26/22 06:34*	*07/28/22 04:56*	*1*

Client Sample ID: TP1

Lab Sample ID: 810-30438-2

Date Collected: 07/13/22 10:35

Matrix: Drinking Water

Date Received: 07/14/22 09:00

PWSID Number: IL0310810

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**2.3**		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluorooctanoic acid (PFOA)	**2.1**		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1

Client Sample ID: TP1

Lab Sample ID: 810-30438-2

Date Collected: 07/13/22 10:35

Matrix: Drinking Water

Date Received: 07/14/22 09:00

PWSID Number: IL0310810

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 05:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*100*		*70 - 130*	*07/26/22 06:34*	*07/28/22 05:07*	*1*
13C2 PFDA	*98*		*70 - 130*	*07/26/22 06:34*	*07/28/22 05:07*	*1*
13C3 HFPO-DA	*99*		*70 - 130*	*07/26/22 06:34*	*07/28/22 05:07*	*1*
d5-NEtFOSAA	*84*		*70 - 130*	*07/26/22 06:34*	*07/28/22 05:07*	*1*

Client Sample ID: Raw FTB

Lab Sample ID: 810-30438-3

Date Collected: 07/13/22 10:29

Matrix: Drinking Water

Date Received: 07/14/22 09:00

PWSID Number: IL0310810

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*95*		*70 - 130*	*07/26/22 06:34*	*07/28/22 09:32*	*1*
13C2 PFDA	*97*		*70 - 130*	*07/26/22 06:34*	*07/28/22 09:32*	*1*

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-30438-1

Client Sample ID: Raw FTB

Lab Sample ID: 810-30438-3

Date Collected: 07/13/22 10:29
Matrix: Drinking Water
Date Received: 07/14/22 09:00
PWSID Number: IL0310810

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	*90*		*70 - 130*	*07/26/22 06:34*	*07/28/22 09:32*	*1*
d5-NEtFOSAA	*87*		*70 - 130*	*07/26/22 06:34*	*07/28/22 09:32*	*1*

Client Sample ID: TP01 FTB

Lab Sample ID: 810-30438-4

Date Collected: 07/13/22 10:34
Matrix: Drinking Water
Date Received: 07/14/22 09:00
PWSID Number: IL0310810

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		07/26/22 06:34	07/28/22 09:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	*93*		*70 - 130*	*07/26/22 06:34*	*07/28/22 09:43*	*1*
13C2 PFDA	*93*		*70 - 130*	*07/26/22 06:34*	*07/28/22 09:43*	*1*
13C3 HFPO-DA	*95*		*70 - 130*	*07/26/22 06:34*	*07/28/22 09:43*	*1*
d5-NEtFOSAA	*85*		*70 - 130*	*07/26/22 06:34*	*07/28/22 09:43*	*1*

Surrogate Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-30438-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		PFHxA	PFDA	HFPODA	d5NEFOS
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
810-30438-1	Raw	103	103	98	91
810-30438-2	TP1	100	98	99	84
810-30438-3	Raw FTB	95	97	90	87
810-30438-4	TP01 FTB	93	93	95	85
LCS 810-25871/3-A	Lab Control Sample	102	93	99	77
LLCS 810-25871/2-A	Lab Control Sample	89	84	85	76
MBL 810-25871/1-A	Method Blank	99	94	100	87

Surrogate Legend

PFHxA = 13C2 PFHxA
PFDA = 13C2 PFDA
HFPODA = 13C3 HFPO-DA
d5NEFOS = d5-NEtFOSAA

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MBL 810-25871/1-A
Matrix: Drinking Water
Analysis Batch: 26044

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 25871

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<0.40		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluoroundecanoic acid (PFUnA)	<0.50		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluorohexanoic acid (PFHxA)	<0.40		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluorododecanoic acid (PFDoA)	<0.40		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluorooctanoic acid (PFOA)	<0.40		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluorodecanoic acid (PFDA)	<0.50		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluorohexanesulfonic acid (PFHxS)	<0.50		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluorobutanesulfonic acid (PFBS)	<0.40		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluoroheptanoic acid (PFHpA)	<0.40		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluorononanoic acid (PFNA)	<0.50		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluorotetradecanoic acid (PFTeDA)	<0.60		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Perfluorotridecanoic acid (PFTrDA)	<0.50		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.50		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.60		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.50		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.50		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.50		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.61		2.0		ng/L		07/26/22 06:34	07/28/22 04:03	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*99*		*70 - 130*	*07/26/22 06:34*	*07/28/22 04:03*	*1*
13C2 PFDA	*94*		*70 - 130*	*07/26/22 06:34*	*07/28/22 04:03*	*1*
13C3 HFPO-DA	*100*		*70 - 130*	*07/26/22 06:34*	*07/28/22 04:03*	*1*
d5-NEtFOSAA	*87*		*70 - 130*	*07/26/22 06:34*	*07/28/22 04:03*	*1*

Lab Sample ID: LCS 810-25871/3-A
Matrix: Drinking Water
Analysis Batch: 26044

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25871

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorooctanesulfonic acid (PFOS)			94.1	85.0		ng/L		90	70 - 130		
Perfluoroundecanoic acid (PFUnA)			94.1	82.3		ng/L		88	70 - 130		
Perfluorohexanoic acid (PFHxA)			94.1	94.4		ng/L		100	70 - 130		
Perfluorododecanoic acid (PFDoA)			94.1	81.0		ng/L		86	70 - 130		
Perfluorooctanoic acid (PFOA)			94.1	89.2		ng/L		95	70 - 130		
Perfluorodecanoic acid (PFDA)			94.1	87.5		ng/L		93	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			94.1	89.1		ng/L		95	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			94.1	91.1		ng/L		97	70 - 130		
Perfluoroheptanoic acid (PFHpA)			94.1	94.6		ng/L		101	70 - 130		
Perfluorononanoic acid (PFNA)			94.1	92.5		ng/L		98	70 - 130		

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: LCS 810-25871/3-A
Matrix: Drinking Water
Analysis Batch: 26044

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTeDA)	94.1	78.7		ng/L		84	70 - 130
Perfluorotridecanoic acid (PFTrDA)	94.1	81.4		ng/L		87	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	94.1	75.0		ng/L		80	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	94.1	75.0		ng/L		80	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	94.1	90.8		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	94.1	84.9		ng/L		90	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	94.1	76.9		ng/L		82	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	94.1	91.2		ng/L		97	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*102*		*70 - 130*
13C2 PFDA	*93*		*70 - 130*
13C3 HFPO-DA	*99*		*70 - 130*
d5-NEtFOSAA	*77*		*70 - 130*

Lab Sample ID: LLCS 810-25871/2-A
Matrix: Drinking Water
Analysis Batch: 26044

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25871

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	1.92	1.80	J	ng/L		94	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.92	1.51	J	ng/L		79	50 - 150
Perfluorohexanoic acid (PFHxA)	1.92	1.71	J	ng/L		89	50 - 150
Perfluorododecanoic acid (PFDoA)	1.92	1.48	J	ng/L		77	50 - 150
Perfluorooctanoic acid (PFOA)	1.92	1.72	J	ng/L		89	50 - 150
Perfluorodecanoic acid (PFDA)	1.92	1.66	J	ng/L		87	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.92	1.65	J	ng/L		86	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.92	1.46	J	ng/L		76	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.92	1.79	J	ng/L		93	50 - 150
Perfluorononanoic acid (PFNA)	1.92	1.74	J	ng/L		91	50 - 150
Perfluorotetradecanoic acid (PFTeDA)	1.92	1.48	J	ng/L		77	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.92	1.52	J	ng/L		79	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.92	1.38	J	ng/L		72	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.92	1.37	J	ng/L		72	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.92	1.63	J	ng/L		85	50 - 150

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: LLCS 810-25871/2-A
Matrix: Drinking Water
Analysis Batch: 26044

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 25871

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			1.92	1.60	J	ng/L		83	50 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			1.92	1.36	J	ng/L		71	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			1.92	1.67	J	ng/L		87	50 - 150		

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFHxA	*89*		*70 - 130*
13C2 PFDA	*84*		*70 - 130*
13C3 HFPO-DA	*85*		*70 - 130*
d5-NEtFOSAA	*76*		*70 - 130*

QC Association Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-30438-1

LCMS

Prep Batch: 25871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-30438-1	Raw	Total/NA	Drinking Water	537.1 DW	
810-30438-2	TP1	Total/NA	Drinking Water	537.1 DW	
810-30438-3	Raw FTB	Total/NA	Drinking Water	537.1 DW	
810-30438-4	TP01 FTB	Total/NA	Drinking Water	537.1 DW	
MBL 810-25871/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 810-25871/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
LLCS 810-25871/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 26044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-30438-1	Raw	Total/NA	Drinking Water	537.1	25871
810-30438-2	TP1	Total/NA	Drinking Water	537.1	25871
810-30438-3	Raw FTB	Total/NA	Drinking Water	537.1	25871
810-30438-4	TP01 FTB	Total/NA	Drinking Water	537.1	25871
MBL 810-25871/1-A	Method Blank	Total/NA	Drinking Water	537.1	25871
LCS 810-25871/3-A	Lab Control Sample	Total/NA	Drinking Water	537.1	25871
LLCS 810-25871/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1	25871

Lab Chronicle

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-30438-1

Client Sample ID: Raw

Lab Sample ID: 810-30438-1

Date Collected: 07/13/22 10:30

Matrix: Drinking Water

Date Received: 07/14/22 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			25871	07/26/22 06:34	SS	EA SB
Total/NA	Analysis	537.1		1	26044	07/28/22 04:56	MH	EA SB

Client Sample ID: TP1

Lab Sample ID: 810-30438-2

Date Collected: 07/13/22 10:35

Matrix: Drinking Water

Date Received: 07/14/22 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			25871	07/26/22 06:34	SS	EA SB
Total/NA	Analysis	537.1		1	26044	07/28/22 05:07	MH	EA SB

Client Sample ID: Raw FTB

Lab Sample ID: 810-30438-3

Date Collected: 07/13/22 10:29

Matrix: Drinking Water

Date Received: 07/14/22 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			25871	07/26/22 06:34	SS	EA SB
Total/NA	Analysis	537.1		1	26044	07/28/22 09:32	MH	EA SB

Client Sample ID: TP01 FTB

Lab Sample ID: 810-30438-4

Date Collected: 07/13/22 10:34

Matrix: Drinking Water

Date Received: 07/14/22 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			25871	07/26/22 06:34	SS	EA SB
Total/NA	Analysis	537.1		1	26044	07/28/22 09:43	MH	EA SB

Laboratory References:

EA SB = Eurofins Eaton South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Accreditation/Certification Summary

Client: City of Evanston
Job ID: 810-30438-1
Project/Site: DW All Compliance

Laboratory: Eurofins Eaton South Bend

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	200001	09-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537.1	537.1 DW	Drinking Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
537.1	537.1 DW	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
537.1	537.1 DW	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)
537.1	537.1 DW	Drinking Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537.1	537.1 DW	Drinking Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537.1	537.1 DW	Drinking Water	Perfluorobutanesulfonic acid (PFBS)
537.1	537.1 DW	Drinking Water	Perfluorodecanoic acid (PFDA)
537.1	537.1 DW	Drinking Water	Perfluorododecanoic acid (PFDoA)
537.1	537.1 DW	Drinking Water	Perfluoroheptanoic acid (PFHpA)
537.1	537.1 DW	Drinking Water	Perfluorohexanesulfonic acid (PFHxS)
537.1	537.1 DW	Drinking Water	Perfluorohexanoic acid (PFHxA)
537.1	537.1 DW	Drinking Water	Perfluorononanoic acid (PFNA)
537.1	537.1 DW	Drinking Water	Perfluorooctanesulfonic acid (PFOS)
537.1	537.1 DW	Drinking Water	Perfluorooctanoic acid (PFOA)
537.1	537.1 DW	Drinking Water	Perfluorotetradecanoic acid (PFTeDA)
537.1	537.1 DW	Drinking Water	Perfluorotridecanoic acid (PFTrDA)
537.1	537.1 DW	Drinking Water	Perfluoroundecanoic acid (PFUnA)

Method Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-30438-1

Method	Method Description	Protocol	Laboratory
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA SB
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA SB

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA SB = Eurofins Eaton South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Sample Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-30438-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
810-30438-1	Raw	Drinking Water	07/13/22 10:30	07/14/22 09:00	IL0310810
810-30438-2	TP1	Drinking Water	07/13/22 10:35	07/14/22 09:00	IL0310810
810-30438-3	Raw FTB	Drinking Water	07/13/22 10:29	07/14/22 09:00	IL0310810
810-30438-4	TP01 FTB	Drinking Water	07/13/22 10:34	07/14/22 09:00	IL0310810

South Bend, IN
110 S Hill Street
South Bend, IN 46617
Phone: 574-233-4777 Fax: 574-233-8207

Chain of Custody Record

eurofins Environment Testing America

4489

Client Information	Sampler: Eleanore Meade	Lab PM: Chlebowski, Traci	Carrier Tracking No(s): 772738 664904756	COC No: 810-7089-2112.1
Client Contact: Eleanore Meade	Phone: 847-448-8221	E-Mail: Traci.Chlebowski@et.eurofinsus.com	State of Origin: IL	Page: Page 1 of 1
Company: City of Evanston	PWSID: IL0310810	Analysis Requested		Job #:
Address: 555 Lincoln Street	Due Date Requested: STD			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify), Other:
City: Evanston	TAT Requested (days): STD			
State, Zip: IL, 60201	Compliance Project: Δ Yes Δ No			
Phone: 847-448-8221(Tel)	PO #: 2022-00000171			
Email: emeade@cityofevanston.org	WO #:			
Project Name: DW All Compliance	Project #: 81000295			
Site: Illinois	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	[illegible] (MS) (Yes or No)	537.1_DW_PREC - PFC18	Total Number of containers	Special Instructions/Note:
			Preservation Code:				Y		
Raw	7/13/22	1030	G	Drinking Water			Y	1	
TP1	7/13/22	1035	G	Drinking Water			Y	1	
Raw FTB	7/13/22	1029	G	Drinking Water			Y	1	
TP01 FTB	7/13/22	1034	G	Drinking Water			Y	1	

810-30438 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Eleanor L. Meade	7/13/22 1230	COE		07.14.22 0900	
2						
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: Initial Temp: 1.0 Corrected Temp: 0.6 IR Gun # 17

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: City of Evanston

Job Number: 810-30438-1

Login Number: 30438
List Number: 1
Creator: Trott, Riley

List Source: Eurofins Eaton South Bend

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

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ANALYTICAL REPORT

Eurofins Eaton South Bend
110 S Hill Street
South Bend, IN 46617
Tel: (574)233-4777

Laboratory Job ID: 810-29690-1
Client Project/Site: DW All Compliance
Sampling Event: DW Monthly F-TOC

For:
City of Evanston
555 Lincoln Street
Evanston, Illinois 60201

Attn: Eleanore Meade

Authorized for release by:
7/18/2022 2:38:14 PM

Traci Chlebowski, Project Manager
(574)233-4777
Traci.Chlebowski@et.eurofinsus.com

Table of Contents

Client: City of Evanston
Job ID: 810-29690-1
Project/Site: DW All Compliance

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 810-29690-1

Laboratory: Eurofins Eaton South Bend

Narrative

Job Narrative
810-29690-1

Receipt
The samples were received on 7/7/2022 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.0°C

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Field Service / Mobile Lab
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-29690-1

Client Sample ID: TP01
PWSID Number: IL0310810

Lab Sample ID: 810-29690-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.93		0.500		mg/L	1		SM 5310C	Total/NA

Client Sample ID: TOC Raw
PWSID Number: IL0310810

Lab Sample ID: 810-29690-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	2.07		0.500		mg/L	1		SM 5310C	Total/NA
Alkalinity	98				mg/L	1		Field Sampling	Total/NA

Client Sample ID: TP01
PWSID Number: IL0310810

Lab Sample ID: 810-29690-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.80		0.050		mg/L	1		SM 4500 F C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-29690-1

Client Sample ID: TP01

Lab Sample ID: 810-29690-1
Date Collected: 07/06/22 09:35
Matrix: Drinking Water
Date Received: 07/07/22 09:45
PWSID Number: IL0310810

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.93		0.500		mg/L			07/13/22 23:10	1

Client Sample ID: TOC Raw

Lab Sample ID: 810-29690-2
Date Collected: 07/06/22 09:30
Matrix: Drinking Water
Date Received: 07/07/22 09:45
PWSID Number: IL0310810

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	2.07		0.500		mg/L			07/13/22 23:30	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	98				mg/L			07/06/22 10:30	1

Client Sample ID: TP01

Lab Sample ID: 810-29690-3
Date Collected: 07/03/22 08:00
Matrix: Drinking Water
Date Received: 07/07/22 09:45
PWSID Number: IL0310810

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.80		0.050		mg/L			07/12/22 10:54	1

Method: SM 4500 F C - Fluoride

Lab Sample ID: MBL 810-24469/6
Matrix: Drinking Water
Analysis Batch: 24469

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.028		0.050		mg/L			07/12/22 09:30	1

Lab Sample ID: LCS 810-24469/4
Matrix: Drinking Water
Analysis Batch: 24469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride			2.00	2.07		mg/L		104	90 - 110		

Lab Sample ID: LLCS 810-24469/5
Matrix: Drinking Water
Analysis Batch: 24469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride			0.0500	0.0700		mg/L		140	50 - 150		

Method: SM 5310C - TOC

Lab Sample ID: MBL 810-24819/10
Matrix: Drinking Water
Analysis Batch: 24819

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<0.290		0.500		mg/L			07/13/22 19:28	1

Lab Sample ID: LCS 810-24819/9
Matrix: Drinking Water
Analysis Batch: 24819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon			4.00	4.116		mg/L		103	90 - 110		

Lab Sample ID: LLCS 810-24819/7
Matrix: Drinking Water
Analysis Batch: 24819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon			0.500	0.5292		mg/L		106	50 - 150		

Lab Sample ID: 810-29690-2 MS
Matrix: Drinking Water
Analysis Batch: 24819

Client Sample ID: TOC Raw
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon	2.07		4.00	6.404		mg/L		108	78 - 123		

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-29690-1

Method: SM 5310C - TOC (Continued)

Lab Sample ID: 810-29690-2 MSD
Matrix: Drinking Water
Analysis Batch: 24819

Client Sample ID: TOC Raw
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	2.07		4.00	6.238		mg/L		104	78 - 123	3	20

QC Association Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-29690-1

General Chemistry

Analysis Batch: 24469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-29690-3	TP01	Total/NA	Drinking Water	SM 4500 F C	
MBL 810-24469/6	Method Blank	Total/NA	Drinking Water	SM 4500 F C	
LCS 810-24469/4	Lab Control Sample	Total/NA	Drinking Water	SM 4500 F C	
LLCS 810-24469/5	Lab Control Sample	Total/NA	Drinking Water	SM 4500 F C	

Analysis Batch: 24819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-29690-1	TP01	Total/NA	Drinking Water	SM 5310C	
810-29690-2	TOC Raw	Total/NA	Drinking Water	SM 5310C	
MBL 810-24819/10	Method Blank	Total/NA	Drinking Water	SM 5310C	
LCS 810-24819/9	Lab Control Sample	Total/NA	Drinking Water	SM 5310C	
LLCS 810-24819/7	Lab Control Sample	Total/NA	Drinking Water	SM 5310C	
810-29690-2 MS	TOC Raw	Total/NA	Drinking Water	SM 5310C	
810-29690-2 MSD	TOC Raw	Total/NA	Drinking Water	SM 5310C	

Field Service / Mobile Lab

Analysis Batch: 24732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-29690-2	TOC Raw	Total/NA	Drinking Water	Field Sampling	

Lab Chronicle

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-29690-1

Client Sample ID: TP01

Lab Sample ID: 810-29690-1

Date Collected: 07/06/22 09:35

Matrix: Drinking Water

Date Received: 07/07/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5310C		1	24819	07/13/22 23:10	AC	EA SB

Client Sample ID: TOC Raw

Lab Sample ID: 810-29690-2

Date Collected: 07/06/22 09:30

Matrix: Drinking Water

Date Received: 07/07/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5310C		1	24819	07/13/22 23:30	AC	EA SB
Total/NA	Analysis	Field Sampling		1	24732	07/06/22 10:30	NT	EA SB

Client Sample ID: TP01

Lab Sample ID: 810-29690-3

Date Collected: 07/03/22 08:00

Matrix: Drinking Water

Date Received: 07/07/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	24469	07/12/22 10:54	KH	EA SB

Laboratory References:

EA SB = Eurofins Eaton South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Accreditation/Certification Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-29690-1

Laboratory: Eurofins Eaton South Bend

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	200001	09-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Field Sampling		Drinking Water	Alkalinity

Method Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-29690-1

Method	Method Description	Protocol	Laboratory
SM 4500 F C	Fluoride	SM	EA SB
SM 5310C	TOC	SM	EA SB
Field Sampling	Field Sampling	EPA	EA SB

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EA SB = Eurofins Eaton South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Sample Summary

Client: City of Evanston
Project/Site: DW All Compliance

Job ID: 810-29690-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
810-29690-1	TP01	Drinking Water	07/06/22 09:35	07/07/22 09:45	IL0310810
810-29690-2	TOC Raw	Drinking Water	07/06/22 09:30	07/07/22 09:45	IL0310810
810-29690-3	TP01	Drinking Water	07/03/22 08:00	07/07/22 09:45	IL0310810

South Bend, IN
110 S Hill Street
South Bend, IN 46617
Phone: 574-233-4777 Fax: 574-233-8207

Chain of Custody Record

eurofins Environment Testing America

4511

Client Information	Sampler: E. Meade	Lab PM: Chlebowski, Traci	Carrier Tracking No(s): 1Z738664844896	COC No: 810-4964-369.1
Client Contact: Eleanore Meade	Phone: ~~312~~ 847-448-8221	E-Mail: Traci.Chlebowski@et.eurofinsus.com	State of Origin: IL	Page: Page 1 of 1
Company: City of Evanston	PWSID: IL0310810			Job #:
Address: 555 Lincoln Street	Due Date Requested: STD			
City: Evanston	TAT Requested (days): STD			
State, Zip: IL, 60201	Compliance Project: Δ Yes Δ No			
Phone: 847-448-8221(Tel)	PO #: 2021-00000061			
Email: emeade@cityofevanston.org	WO #:			
Project Name: DW Monthly F-TOC	Project #: 81000295			
Site: Illinois	SSOW#:			

Analysis Requested

810-29690 Chain of Custody

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	5310C - (MOD) Total Organic Carbon (TOC)	4500_F_C - Fluoride	5310C - Total Organic Carbon	Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N	S		
TP01	7/6/22	0935	G	Drinking Water					X	1	
TOC RAW	7/6/22	0930	G	Surface Water					X	1	
TP01	7/3/22	0800	G	DW				X		1	

pH Acceptable

Cross Offs on COC by Client

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Eleanore Meade	7/6/22 1015	City of Evanston		7-7-22 0945	EEA
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:
		Initial Temp: 0.8 wet; Corrected Temp: 0; IR Gun # 33

Ver: 06/08/2021

Fluoride Sample Form Instructions

Illinois Department of Public Health Fluoride Analysis Report				Illinois Department of Public Health Fluoride Analysis Report
To Be Completed by Operator				**To Be Completed by Laboratory**
County (1) COOK	Facility No. (2) TP01			Fluoride Analysis by LABORATORY _____ mg/L
Fluoride Analysis by (3) 0.72 mg/L	EP No. (4) TP01	Collection Date (5) 7/3	Sample Month (6) July	Laboratory Sample No.
Facility Name (7) TP 01-TREATMENT PLANT				Signature of Analyst or Official and (Date)
Contact Person (8) Eleanore Meade				
Address (9) 555 Lincoln St				Notification of Fluoride > 4 mg/L
City Evanston State IL Zip 60201				
Telephone Number (10) 847-448-8221				IL 482-0694 Rev.

Only the left side of the fluoride sample analysis for must be completed by the water operator. The right side of the form will be completed by the laboratory. The fluoride sample analysis form must be submitted with the fluoride water.

The following information MUST be completed on the form:

1. Identify the county where the water treatment facility is located.
2. Identify the water supply's seven digit* facility number.
3. Record the on-site fluoride test result.
4. Each entry point (EP) has been assigned an identifier*. See the label below for EPs at your facility requiring monthly monitoring.
5. Indicate the date the sample was collected.
6. Indicate the month when the sample was collected.
7. Identify the water facility name.
8. Identify a contact person from the water supply.
9. Identify the mailing address, city, state, and zip code of the person who should receive a copy of the test results.
10. Identify the telephone number of the contact person.

*** The facility number and EP identifier(s) are assigned by the Illinois EPA and are listed below. These fields MUST be completed with the correct identifying numbers or the Illinois Department of Public Health CANNOT credit your supply for complete monitoring. This could jeopardize your fluoride award. If you are unsure of either number, contact the Illinois EPA Drinking Water Compliance Assurance Section at 217/785-0561.**

Monthly samples must be collected from the following locations:

Entry Point (EP)	Description
TP01	PLANT E OF SHERIDAN

Rockford - 4302 North Main Street, Rockford, IL 61103 - (815) 987-7404 Des Plaines - 9511 W. Harrison St., Des Plaines, IL 60016 - (847) 294-4073 Elgin - 595 South State, Elgin, IL 60123 - (847) 608-3131 Peoria - 5414 N. University St., Peoria, IL 61614 - (309) 693-5462 Champaign - 2125 South First Street, Champaign, IL 61820 - (217) 278-5800 Springfield - 4500 S. Sixth Street Rd., Springfield, IL 62706 - (217) 786-6892 Collinsville - 2009 Mall Street, Collinsville, IL 62234 - (618) 346-5120 Marion - 2309 W. Main St., Suite 116, Marion, IL 62959 - (618) 993-7200

United States Environmental Protection Agency

Water System Name: Evanston Water System Number: IL0310810

Analysis Report Form

-Water System Section-

Water System Name: Evanston

Water System Number: IL0310810

-Sampling Point Section-

WSF State Asgn ID: TOCRAW Descrpt.: SSIN01513, IN01514, IN21105

Sampling Point: TOCRAW Descrpt.: SSIN01513, IN01514

Collection Date (MMDDYYYY): 7/6/22

Collection Time: 0930

Sample Collector Name_Telephone No.: Eleanore Meade 847 448-8221

Sample Purpose (Circle One): **Routine (RT)** Repeat (RP) Special (SP)

Sample Type (Circle One): **Raw (RW)**

- Required Sampling at Sample Point TOCRAW -

Analyte Group Code: TOCA

Analyte	Analyte Code	Method Code*	Lab Reporting Level w/ Units of Measurement*	Concentration
ALKALINITY, TOTAL	1927		9B	ppm
CARBON, TOTAL ORGANIC (TOC)	2920			

Illinois
Environmental Protection Agency

Water System Name: Evanston Water System Number: IL0310810

-Sampling Point Section-

WSF State Asgn ID: TP01 Descrpt.: 555 Lincoln St.

Sampling Point: Descrpt.:

Collection Date (MMDDYYYY): 7/6/22

Collection Time: 0935

Sample Collector Name Telephone No.: Eleanore Meade 847-448-8221

Sample Purpose (Circle One) **Routine (RT)** Repeat (RP) Special (SP)

Sample Type (Circle One) **Finished (FN)**

- Required Sampling at Sample Point TP01 -

Analyte Group Code: **TOC**

Analyte	Analyte Code	Method Code*	Lab Reporting Level	w/ Units of Measurement* Concentration
CARBON, TOTAL ORGANIC (TOC)	2920			

Login Sample Receipt Checklist

Client: City of Evanston

Job Number: 810-29690-1

Login Number: 29690
List Number: 1
Creator: Spurgeon, Sheri

List Source: Eurofins Eaton South Bend

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

5.02 Appendix B: Current and Future Activities by SWPP Objective

Objective	SWPP Activity
Objective #1: Continue to monitor and make strategic investments in water quality	
	Strategic Intake Location, Design, and Inspection
	Tunnel and Reservoir Plan (TARP)
	Water Quality Monitoring and Alerts
	Additional Carbon Feed Treatment
	Municipal Separate Storm Sewer System Permit
*	Per- and Polyfluoroalkyl Substances Study
*	Intake Replacement
*	Improvements to Electrical System Reliability
*	Stormwater Master Plan
*	Grit Separators
*	Security Improvements
Objective #2: Maintain long-term supply availability and stewardship	
	Pro-Active Water Conservation
	Reducing Water Loss for Water Use Efficiency
*	Continue Water Conservation and Efficiency Initiatives
*	Continue to Address Water Loss/non-revenue water
Objective #3: Enhance existing and new partnerships in support of source water protection	
	Stormwater Management

	Participation in the West Shore Water Producers Association
	Coordination with Wholesale Customers
*	Incorporate SWP in Municipal Climate Action Initiatives
*	Include SWP in Community Comprehensive Plan and Strategic Plan updates
*	Increase Coordination and Communication Efforts with the Shipping Industry
*	Increase Coordination and Communication Efforts with the Recreational Boating Industry
*	Partner on Proactive Monitoring of Emerging Contaminants
Objective #4: Increase source water protection outreach, communications, and education	
	Community Education and Outreach
*	Include SWP Messaging on Water Bills
*	Include SWP Education in WaterSmart Tool
*	Explore Installation of SWP Educational Signage Along Lakeshore

* Denotes new activity

5.03 Appendix C: Possible, Future Source Water Protection Activities

Potential Activity	Potential Partners	Potential Funding Source
Create SWP educational brochure for distribution at municipal offices, libraries, etc.	Various municipal depts.	Municipal/Utility
Audit existing land uses along lakefront to ensure zoning algins with compatible use related to SWP	Zoning Division	Municipal/Utility
Install security camera for intake locations, and establish protocol for operators on shift to do visual checks on intakes	Municipal dive team	Municipal/Utility