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October 10, 2023

Liberty Utilities (New York Water) Corporation – Merrick Operations District
PWS ID No. NY2902840
MCL Deferral for 1,4-Dioxane
Quarterly Report – Third Quarter 2023

**Introduction**

On behalf of Liberty Utilities (New York Water) Corporation (Liberty), D&B Engineers and Architects (D&B) has prepared this document in accordance with the requirements of the New York State Department of Health (NYSDOH) for public water suppliers who have been granted a deferral from maximum contaminant level (MCL) violations for 1,4-Dioxane. Liberty's Merrick Operations District was granted an MCL deferral for 1,4-Dioxane in 2020 due to its proactive efforts toward the implementation of treatment for this compound.

The last three years have been a time of unprecedented disruption in the supply chain of chemical supplies, equipment, infrastructure components, pipe, and materials (e.g., steel), and treatment systems. Contractors and water suppliers, locally and nationwide, have been impacted by these issues in completing both small-scale and large-scale projects. Shortages of necessary items have significantly impacted Liberty, primarily in terms of price increases, decreased availability, and longer lead times. In addition, due to the rapidly changing regulatory environment through an expanded list of contaminants with lower regulatory advisory levels or MCLs, local and state regulators are experiencing a large number of capital project submissions, in addition to their regular workload. This increased workload has led to longer regulatory review times of engineering reports, detailed design plans, and specifications. In many cases, these factors, which are out of Liberty's control, have caused delays in obtaining final regulatory approval, commencing construction, procuring equipment and necessary components, and conforming to construction schedules proposed prior to the onset of pandemic impacts.

Liberty has done everything within its power to adhere to the project schedule approved in the original deferral request, as described in the previous quarterly deferral reports. The full impact of delays was not known at the time of the original compliance deferrals and due to these regulatory changes, these delays were expected to become worse before improving because of increased national demand. Recognizing these exceptional circumstances, Liberty requested and received a 12-month MCL exemption which extended the MCL compliance deadline to August 25, 2024. This exemption was granted under Part 5-1.92 of the New York State Sanitary Code. The intent of the exemption is to extend the compliance deadline an additional year to reflect the hardship that these delays have had upon the project completion schedule.

Liberty's goal, as always, is to provide an adequate supply of potable water to its consumers and it has done everything in its ability to move forward on the treatment project to further that goal and meet consumer demands. These impacts of the last three years are expected to continue for the foreseeable future and will most likely affect the ability of Liberty to conform to the project schedule outlined in the original deferral request, even with the deferral renewal. In particular, the supply chain difficulties have impacted all facets of construction. The most notable delays are related to motor starters, transfer switches, emergency generators, and controls equipment which now require more than a year to accomplish submittal approvals,

fabrication, and delivery to a project site. In some cases, the delivery date for this critical equipment is still unknown as the contractors and equipment vendors are experiencing labor shortages and cannot predict material availability.

The enclosed is a report describing Liberty's progress towards maintaining the highest quality of water for the customers in the Merrick Operations District, and meeting the deadlines set forth in the deferral approval. The schedule for the project is contained in **Attachment A**.

**Corrective Action Plan Milestones**

Advanced Oxidation Process (AOP) Treatment System for Seamans Neck Road Wells 3A and 4

As indicated in the previous report, construction commenced in the first quarter of 2023 and it is anticipated that the advanced oxidation process (AOP) treatment system construction will be complete and will be placed into service in the second quarter of 2024. The Iron Removal Facility (IRF) improvements project, currently on-going at the site, which is required for efficient AOP treatment operation, is in construction and iron media replacement has been completed and approved by the Nassau County Department of Health for placement into service. Miscellaneous other improvements at the site are on-going. Substantial completion of the project is anticipated to be in the third quarter of 2024 with start-up and testing occurring in the fourth quarter of 2024.

**Public Notification**

Public notification regarding the presence and regulation of emerging compounds, as well as the deferral, was included in the former New York American Water (NYAW) 2020 Annual Water Quality Report (AWQR)/Consumer Confidence Report released in May 2021, posted on the former NYAW website at libertyutilities.com and publicized via newspaper ads and bill insert. The most recent 2022 AWQR specific to the Merrick Operations District provides public notification of the deferral as well and is available at https://new-york-water.libertyutilities.com/uploads/Merrick_CCR.pdf.

In addition, Liberty has uploaded this quarterly report to its website at https://new-york-water.libertyutilities.com/all/residential/safety/seamans-neck-public-notification.html.

Documentation of the recent deferral exemption public notification is contained in **Attachment B**.

**Analytical Sampling**

Sample results for the wells for which a deferral was granted (Seamans Neck Wells 3A and 4 and Jefferson Street Well 11), taken during the third quarter of 2023, are contained in the table below. The 1,4-Dioxane levels for the Jefferson Street Well 11 in the first quarter 2022 were 0.023 micrograms per Liter (ug/L) and, in the second quarter 2022 through third quarter 2023, were non-detectable levels. The historical sampling at Jefferson Street Well 11 shows consistent 1,4-Dioxane results below the MCL. Full laboratory reports for each sample are contained in **Attachment C**.

**Third Quarter 2023 1,4-Dioxane Water Quality Monitoring Results**

| Merrick Ops District (PWS No. NY2902840) | | | | |
|---|---|---|---|---|
| **Location** | **Well ID No.** | **Date Sampled** | **Lab Utilized** | **1,4-Dioxane (ug/L)** |
| Jefferson Street Well 11 | N-07407 | 08/11/2023 | Pace | ND |
| Seamans Neck Wells 3A and 4 GAC | GAC for N-14347 and N-09338 | 07/28/2023 | Pace | 2.3 |
| Seamans Neck Well 4 | N-09338 | 07/28/2023 | Pace | 2.2 |
| Seamans Neck Well 3A | N-14347 | 08/11/2023 | Pace | 2.7 |

ND – Not Detected

**Conclusion**

As demonstrated above, Liberty is actively working to preserve the quality of water for its customers and comply with the requirements put forth by the NYSDOH. Liberty looks forward to continuing to work towards completion of its treatment facilities for the Merrick Operations District.

Should you have any questions, please contact the undersigned at (516) 364-9890, Ext. 3401, or visit the website at https://libertyutilities.com/.

Very truly yours,

Philip Sachs, P.E.
Vice President

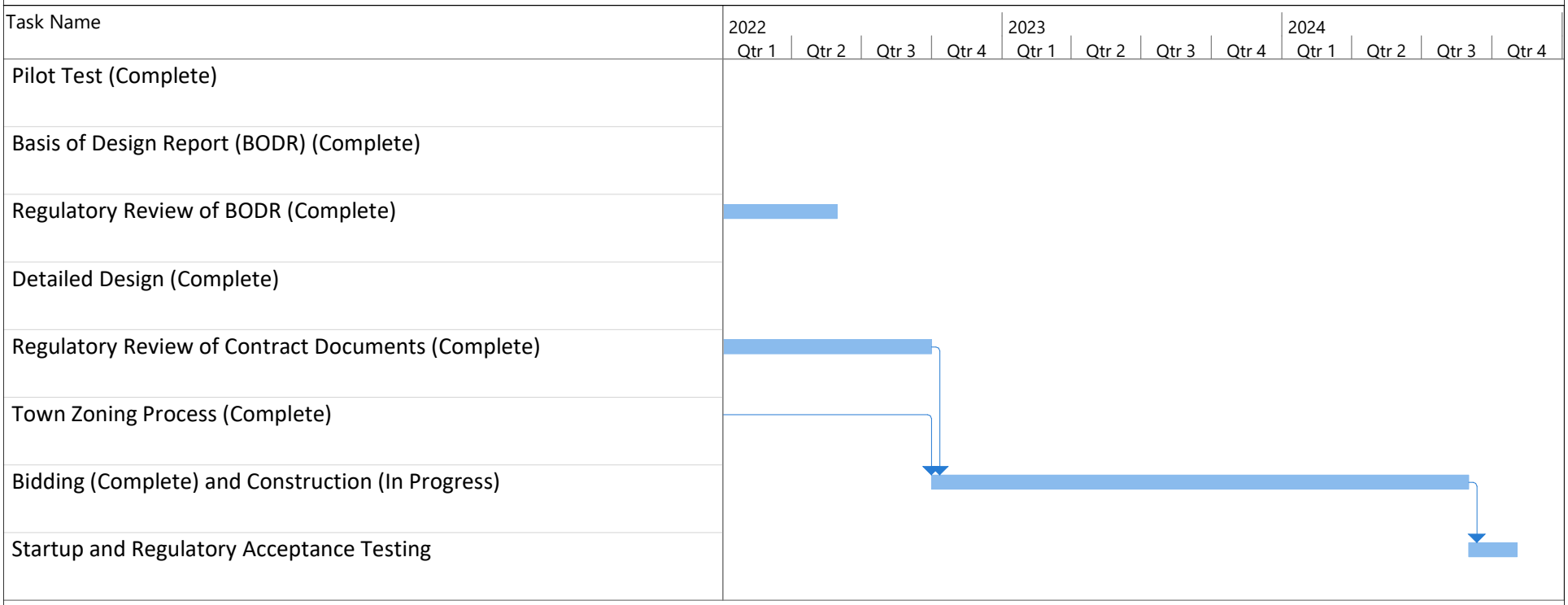
PRS/LOt/cf
Enclosures
cc: K. Wheeler (NYSDOH)
B. Rogers (NYSDOH)
W. Provoncha (NCDH)
P. Young (NCDH)
R. Putnam (NCDH)
C. Alario (Liberty)
J. Kilpatrick (Liberty)
G. Sachs (Liberty)
P. Connell (D&B)
L. Ortiz (D&B)
♦5479\CC10052301_Q3 2023(R01)

**ATTACHMENT A**

**Project Schedule Associated with MCL Deferral**

Liberty New York Water
Merrick Operations District
MCL Deferral Report - Q3 2023

Seamans Neck Road
Wells 3A and 4
AOP Project Schedule



# ATTACHMENT B

# Public Notification Documentation

# 2020 WATER QUALITY REPORT


## Service Area 2–South Shore: Merrick Operations District

Public Water Supply ID# NY2902840

**This report complies with Part 5-1.72, New York State Sanitary Code (10 NYCCR) and federal Consumer Confidence Report regulations (40 CFR Part 141, Subpart O).**

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

本报告与您的饮用水有关。
如果您不了解其内容，应请别人为您翻译解说。

이 보고서에는 귀하께서 사용하고 계시는 식수에 관한 정보가 들어있습니다.
만약에 이해를 못하시면 누군가에게 번역을 의뢰하십시오.

## A Message from the New York American Water President

To Our Valued Customer:

Thank you for the opportunity to serve you. I am pleased to share our **Annual Water Quality Report** with you – this is our report card on the quality of the drinking water delivered to our customers. The report shows that we continue to supply you with water that meets or surpasses all county, state, and federal water quality standards. We encourage our customers to review this report as it provides important details about the source and quality of your drinking water between January and December 2020.

New York American Water (NYAW) invests in our infrastructure to deliver quality drinking water to our customers. This includes the facilities and technology needed to draw water from the source and treat it, along with miles and miles of pipeline hidden below the ground to bring water to your tap. In addition, our plant operators, water quality experts, engineers and maintenance crews work around the clock to provide you with quality water.

Delivering safe, reliable water service requires significant investment to maintain and upgrade aging facilities. **In 2020, we invested approximately $62 million in system improvements.** NYAW is also making important investments in water treatment technology to comply with New York State Department of Health's (NYSDOH) new drinking water standards for emerging compounds, specifically 1,4-Dioxane, PFOA, and PFOS.

The COVID-19 public health emergency highlighted how essential water is for public health. We remain steadfast in our commitment to delivering safe and reliable water service while maintaining a safe environment for our employees and customers. NYAW extends our sincerest gratitude to our field employees as well as all frontline workers and essential employees who are on the job and keeping life flowing. Thank you!

Sincerely,

Lynda DiMenna
President, New York American Water

## Public Participation – How You Can Get Involved

Customers can participate in decisions that may affect the quality of water by:

- Reading the information provided in bill inserts and special mailings
- Contacting the company directly with questions or to discuss issues
- Attending open houses conducted by the company
- Responding to survey requests
- Attending presentations by the company made to local community and civic associations
- Contacting agencies such as the Nassau County Health Department (NCDOH) at 516-227-9692

## Be Water Smart – Think Conservation

The New York State Department of Environmental Conservation requested that all Long Island water suppliers reduce their peak pumpage by 15 percent to protect the long-term sustainability of the Long Island aquifer. Our customers must conserve water to help us achieve this goal. When our customers conserve, not only do they reduce their water bill, but NYAW is able to defer infrastructure investment projects that are needed to meet peak water demand, which can reach as high as 50 million gallons of water a day in the summer.

The following suggestions will help you make your home "water efficient" without sacrificing comfort or changing lifestyles:

- Install smart irrigation technology on your irrigation system to irrigate as efficiently as possible.
- Install a moisture sensor on your irrigation system to prevent wasteful watering during or just after a rain.
- Use native, drought-resistant shrubs, trees, plants, and grasses in your landscape.
- Run dishwashers and washing machines only with full loads.
- Turn off the tap when brushing your teeth or shaving.
- Check every faucet for leaks. Even a slow drip can waste 15 to 20 gallons a day, or about 6,000 gallons a year.
- If you suspect that you have a water leak, order our free Leak Detection Kit. The kit contains information, and dye tablets to help you determine if you have a wasteful water loss. Call our customer call center or 516-632-2244 to order.
- Replace older devices with water-saving showerheads, faucets, or low flush toilets. A normal showerhead uses 5 to 7 gallons a minute. Switching to a low-flow model that uses 1.5 gallons a minute can save a family thousands of gallons of water a year.

## What is a Water Quality Report?

To assure that water is safe to drink, the U.S. Environmental Protection Agency (USEPA), and the Health Departments of New York State and Nassau County, set regulations for water quality and indicate the levels of various substances that are acceptable in public drinking water. This report explains how our water measures up to those standards. As you can see by the results, our water quality is excellent.

The NYSDOH) and the U.S. Food & Drug Administration regulate and set limits for substances in bottled water, which must also provide protection for public health.

During 2020, our system was in compliance with applicable NYS drinking water operating, monitoring and reporting requirements. If you have questions about this report, please contact our Water Quality Manager at 516-632-2239.

## Share This Report:

**Landlords, businesses, schools, hospitals, and others are encouraged to share this important water quality information with water users at their location who are not direct customers of NYAW. Additional copies of this report are available by contacting us at 516-632-2239.**

## How to Contact Us

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers protect our water sources, which are the heart of our community. Please call our Customer Call Center toll-free if you have questions:

### NYAW:

**Customer Call Center:** 1-877-426-6999 (M-F; 7am-7pm)
**Emergencies:** 1-877-426-6909 (24 hours)
**TDD (Hearing/Speech impaired):** 1-800-300-6202
Online: www.newyorkamwater.com

**Merrick Administrative Office:**
New York American Water
60 Brooklyn Avenue, Merrick, NY 11566
516-632-2232

**Billing Payment Address:**
New York American Water
PO BOX 371332
Pittsburgh, PA 15250-7332

## Water Information Sources :

**NYSDOH**
1-518-473-8600 • www.health.state.ny.us
**NCDOH**
516-227-9692 • www.co.nassau.ny.us/health
**New York State Department of Public Service**
1-800-342-3377 • www.dps.state.ny.us
**USEPA**
www.epa.gov/safewater
**EPA Safe Drinking Water Hotline**
1-800-426-4791
**American Water Works Association**
www.awwa.org
**Water Quality Association**
www.wqa.org

## About NYAW

NYAW, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water company in New York, providing high-quality and reliable water and/or wastewater services to approximately 350,000 people.

## About American Water

With a history dating back to 1886, American Water is the largest and most geographically diverse U.S. publicly traded water and wastewater utility company. The company employs more than 6,800 dedicated professionals who provide regulated and market-based drinking water,

wastewater, and other related services to more than 14 million people in 46 states. American Water provides safe, clean, affordable, and reliable water services to our customers to make sure we keep their lives flowing. For more information, visit amwater.com and follow American Water on Twitter, Facebook and LinkedIn.

## Communities Served

Bellmore
East Massapequa*
Levittown*
Massapequa*
Merrick
North Bellmore
North Merrick
North Seaford
North Wantagh
Seaford
Wantagh
**community partially served*

## Average Residential Usage & Cost

In 2020, the average residential household used approximately 105,353 gallons of water at a cost of about $646, or $1.77 a day. With an average of 3.0 persons per household, the cost of water was about 59¢ a day per person.

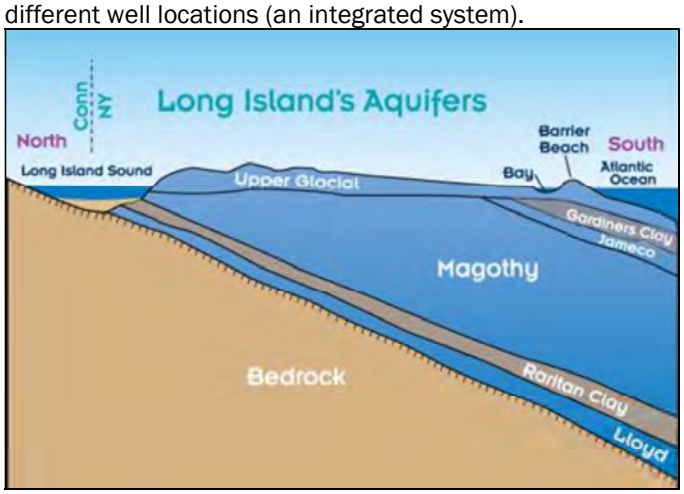
## Source, Quality & Quantity

Groundwater is the source of your drinking water supply. It is drawn from 16 wells located in the aquifer system beneath the land surface.

## The Aquifers

The aquifers are water-bearing geologic deposits of sand and clay that absorb and store about 45 percent of the rain and snow that fall on Long Island. NYAW– Merrick Operations Center has wells in the Magothy aquifer.

Not all wells are operating at the same time, which means that the water you receive is a blend of treated water from different well locations (an integrated system).




*Not to scale*

**If you have a private well which is unregulated and untested, you should not use the water for drinking or cooking. (Source: NCDOH)**

## Source Water Assessment

The NYSDOH, with assistance from the local health department and a consulting firm, has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how rapidly contaminants can move through the subsurface to the wells. The susceptibility of a water supply well to contamination is dependent upon both the presence of potential sources of contamination within the well's contributing area and the likelihood that the contaminant can travel through the environment to reach the well. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is or will become contaminated. See section "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected (if any). The source water assessments provide resource managers with additional information for protecting source waters into the future.

Drinking water is derived from 16 wells. The source water assessment has rated most of the wells as having a very high susceptibility to industrial solvents and a high susceptibility to nitrates. The elevated susceptibility to industrial solvents is due primarily to point sources of contamination related to transportation routes and commercial/ industrial facilities and related activities in the assessment area. The high susceptibility to nitrate contamination is attributable to residential, commercial, and institutional land use and related practices in the assessment area, such as fertilizing lawns.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting our Water Quality Manager at 516-632-2239.

## How is Your Water Treated?

Our water supply is obtained from wells located throughout our service area, and average about 500 feet in depth. In our area of southeastern Nassau County, the soil has naturally high iron and mineral content. The water dissolves these naturally occurring minerals, and while they are not health hazards, they can cause discolored water issues. Bacteriological pollutants are not usually present in wells at the average depth of 500 feet and, consequently, water directly from the well is drinkable. However, water treatment is required to protect the water in the distribution system and to minimize discolored water conditions.

**Treatment consists of:**

1. Chlorination for bacteriological disinfection (using Sodium Hypochlorite)

2. Caustic Soda (Sodium Hydroxide) to raise pH and minimize corrosivity to water mains and household plumbing
3. Filtration to remove iron at three well locations
4. Calciquest (Phosphate compound) to stabilize or sequester the iron not removed by filtration, and to act as a corrosion control inhibitor.
5. Granular Activated Carbon (GAC) to remove organics at one well location (US Navy / Northrop-Grumman plume site).

   We take steps to reduce the potential for lead to leach from your pipes into the water. This is accomplished by adding a corrosion inhibitor (Calciquest is an Orthophosphate compound) to the water leaving our treatment facilities. There are steps that you can take to reduce your household's exposure to lead in drinking water. For more information, please review our Lead and Drinking Water Fact Sheet at: www.nyamwater.com/water-quality/lead-and-drinking-water

## System Improvements

### In 2020, we continued to make significant upgrades to our system and infrastructure. These improvements include:

- Replaced 14,893 feet of water main throughout the service territory.
- Replaced 10 fire hydrants.
- Replaced 114 service lines.
- Replaced 8,014 water meters.
- Completed replacement of the iron filtration media and drilled a new 3 Million-Gallon-Per-Day water supply well at the Newbridge Road Treatment Plant in North Bellmore.
- Drilled a new 3 Million-Gallon-Per-Day water supply well at the Jefferson Plant in Merrick.
- Completed design of a 6 Million-Gallon-Per-Day Advanced Oxidation Plant for removal of 1,4-Dioxane at the Seaman's Neck Treatment Plant in Wantagh.

### Improvements planned for 2021 include:

- Replace approximately 14,700 feet of water main.
- Replace 5 fire hydrants.
- Replace 120 service lines.
- Replace approximately 1,500 water meters.
- Construct new well buildings at the Jefferson St. Plant in Merrick, and the Newbridge Plant in North Bellmore.
- Breaking ground on construction of the 6 Million-Gallon-Per-Day Advanced Oxidation Plant for removal of 1,4-Dioxane at the Seaman's Neck Treatment Plant in Wantagh.
- Drilling of a replacement 3 Million-Gallon-Per-Day water supply well at the Sunrise Mall Well Site in Massapequa.

## Do I Need to Take Special Precautions?

To ensure that tap water is safe to drink, the USEPA prescribes regulations limiting the number of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Although our drinking water meets all state and federal regulations, some people may be more vulnerable to disease-causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water.

If you have questions, contact the NCDOH at 516-227-9692. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline at 1-800-426-4791.

## Substances Expected to be in Drinking Water

In general terms, the sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activities.

<u>Substances that may be present in source water include:</u>

- **Microbiological Contaminants:** Such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations or wildlife.
- **Inorganic Contaminants (IOC's):** Such as salts and metals which can be naturally occurring or may result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and Herbicides (SOC's):** Which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.
- **Organic Chemical Contaminants (VOC's):** Including synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban storm water runoff and septic systems.
- **Radioactive Contaminants:** Which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

## Cryptosporidiosis & Giardiasis

Although there have been no cases of Cryptosporidiosis in Nassau County attributable to the water supply, you should be aware of the risks to people with severely weakened immune systems. Cryptosporidiosis and Giardiasis are intestinal illnesses caused by microscopic parasites that can be transmitted several ways including through drinking water. Cryptosporidiosis can be very serious for people with weak immune systems, such as transplant patients; individuals receiving chemotherapy or dialysis, and people with Crohn's disease or HIV infection. Individuals who think they may have been exposed to Cryptosporidiosis or Giardiasis should contact their health care providers immediately.

Immuno-compromised patients who may have been advised by their health care provider that they may be at risk, especially when traveling, should observe the following:

- One minute of boiling water at a rolling boil will kill *Cryptosporidium* parvum and Giardia lamblia.
- Drinking bottled water does not guarantee that the water is free from Cryptosporidiosis or Giardiasis.

Contact your health care provider about your options. If you have questions, contact the NCDOHat 516-227-9692.

## Lead & Copper Rule Statements

The Lead and Copper Rule requires sampling for lead and copper at the tap. In 1992, the first-year testing was required; tap water was sampled in compliance with EPA regulations. Test results were excellent: at least 90 percent of the lead tests were well below 10 parts per billion, and for copper, below 0.5 parts per million, indicating that the company's corrosion control treatment processes continue to be effective. The same tests were done roughly every three years from 1997 through 2020 with similar results. We are on an approved reduced monitoring schedule, and the next round of homeowner monitoring for the Lead and Copper Rule was completed in the summer of 2023.
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. New York American Water is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at http://www.epa.gov/safewater/lead.

## How do I read the Water Quality Table?

The Water Quality Table – "**Table of Detected Contaminants**" is the most important section in this report, containing details on New York American Water's comprehensive testing program for drinking water at the tap. It compares the results from tests we performed in 2020 (and earlier) with the health standards established by federal, state, and local health authorities. Of approximately 165 substances or parameters tested, detectable levels were found for about 35; and these levels are trace amounts, well below the levels set to protect public health.

To review the quality of your drinking water, compare the result in the "**Maximum Amount Detected**" column with the **Standard** in the "**MCL**" column**.** That **Standard** is the highest level that is considered safe for drinking water. To be in compliance, the **High** result in the "**Range: Low-High**" column should be lower than the **MCL Standard**. For example, under **Metals & Inorganic Substances**, the "**MCL**" standard for **Barium** is **2,000 ppb** and the "**Maximum Amount Detected**" result is **120 ppb**, well below the maximum allowed level (or "**MCL**")**.**

Also review the "**Compliance Achieved**" and "**Violation**" columns to determine if New York American Water violated any standards. As you can see, our system had no violations. Further evidence of the quality of our water can be seen in the "**Listing of Non-Detected (ND) Contaminants**" — An extensive list of substances that we tested for and did not find in our distribution system and/or water sources.

The **Definition of Terms** below provides further explanation of the data.

## Definitions of Terms Used in This Report

- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **MGD** = Million Gallons per Day
- **90th Percentile Value:** The values reported in the "Lead and Copper Rule" section represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90 percent of the lead and copper values detected in your water system.
- **N/A:** Not applicable

- **None Detected (ND):** Laboratory analysis indicates that the constituent is not present at the method detection level.
- **Parts Per Million (ppm):** Corresponds to one part of liquid in one million parts of liquid [Equivalent to "milligrams per liter" (mg/L)].
- **Parts per Billion (ppb):** Corresponds to one part of liquid in one billion parts of liquid [Equivalent to "micrograms per liter" (µg/L)].
- **Parts per Trillion (ppt):** Corresponds to one part of liquid in one trillion parts of liquid [Equivalent to "nanograms per liter"; or one second in approximately 31,506 years].
- **Picocuries per liter (pCi/L):** A measure of the radioactivity in water.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **Total Dissolved Solids (TDS):** An overall indicator of the amount of minerals in the water.

## Water Quality Facts

To provide high quality water, individual water samples are taken each year for chemical, physical, and microbiological tests. Testing can pinpoint a potential problem so that preventive action may be taken.

Tests are done on water taken from the well ("raw water"), water within our treatment facilities, water exiting our treatment plants at the point-of-entry to the distribution system, and from sites located throughout our distribution system after treatment. These tests are conducted in the company's state certified laboratory, by the NCDOH Laboratory, and by independent, certified laboratories approved by the state, who report results simultaneously to the company and to the Health Department. NYS allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year-to-year. Some of the data, though representative of the water quality, are more than one year old.

For a copy of the Water Supplement containing detailed data on testing at the source water wells before treatment, call us at 516-632-2239 and request a copy.

## 2020 STATISTICS AT-A-GLANCE

| | |
|---|---|
| Wells Closed/Restricted | None |
| Violations of Standards | None |
| Typical Well Depth | 500 Feet |
| Aquifers | Magothy |
| Pumping Stations | 12 |
| Service Area | 20 Square Miles |
| Total Water Withdrawn | 5,055,053,000 Gal. |
| Total Water Sales | 4,837,659,000 Gal. |
| Total Water Lost from System* | 259,890,000 Gal. |
| Population Served (approx.) | 135,000 |
| Customers Served (accounts) | 45,018 |
| Miles of Mains | 433 |

* Total water lost from the system includes "Accounted For" and "Unaccounted For" water. Non-revenue water is approx. 9.4% of total water delivered to the system; of which, approximately 5.1% is accounted for and 4.3% is unaccounted for.

## Water Quality Table – Table of Detected Contaminants 2020 (SA2 - Merrick Operations)

### REGULATED SUBSTANCES

| Contaminant (units) | Date Sampled | MCL | MCLG | Maximum Amount Detected | Range: Low-High | Violation (Yes/No) | Typical Source |
|---|---|---|---|---|---|---|---|
| **Microbiological** | | | | | | | |
| Total Coliform (% positive samples in any given month)[1] | 2020 (highest month was August 2020) | TT=>5% samples positive | N/A | 1.6%[1] (2 POS out of 126 total samples in August 2020) | ND (0%) – 1.6% | No | Naturally present in the environment |
| **Disinfection By-Products** | | | | | | | |
| TTHM's (Total Trihalomethanes) (ppb) [2] | Quarterly 2020 | 80 | 0 | 4.8 | <1.0 – 4.8 | No | By-product of drinking water disinfection |
| HAA5's (Total Haloacetic acids) (ppb) [3] | | 60 | 0 | <2.0 | <2.0 - <2.0 | No | |
| **Disinfectants** | | | | | | | |
| Chlorine (ppm) [4] | 2020 | N/A | N/A | 2.20 | <0.10 - 2.20 | No | Water additive used to control microbes |
| **Radiological** [5] | | | | | | | |
| Gross Alpha Activity (pCi/L) | 10/2018 | 15 | 0 | 8.06 | ND – 8.06 | No | Erosion of natural deposits |
| Gross Beta Activity (pCi/L) | 10/2018 | 50 | 0 | 4.23 | 0.171 – 4.23 | No | |
| Combined Radium-226 and Radium-228 (pCi/L) | 09/2018 | 5 | 0 | 4.61 | 0.280 – 4.61 | No | |
| Uranium (ug/L) | 10/2018 | 30 | 0 | 0.187 | ND – 0.187 | No | |

## Lead and Copper Rule (Tap water samples were collected from 54 homes in the service area)

| Contaminant (units) | Date Sampled | Action Level | MCLG | Amount Detected (90th %tile) | Range (Low-High) | Violation (Yes/No) | Typical Source |
|---|---|---|---|---|---|---|---|
| Copper (ppm) [6] | 07-09/ 2020 | 1.3 | 1.3 | 0.270 | 0.021– 0.340 | No | Corrosion of household plumbing systems |
| Lead (ppb) [7] | | 15 | 0 | 1.4 | ND – 6.6 | No | |

## Metals & Inorganic Substances

| Contaminant (units) | Date Sampled | MCL | MCLG | Maximum Amount Detected | Range: Low-High | Violation (Yes/No) | Typical Source |
|---|---|---|---|---|---|---|---|
| Barium (ppb) | 10/2020 | 2,000 | 2,000 | 120 | ND – 120 | No | Erosion of natural deposits |
| Calcium (ppm) | 06/2020 | N/A | N/A | 5.4 | ND – 5.4 | No | Naturally occurring |
| Chlorides (ppm) | 06/2020 | 250 | N/A | 26.7 | ND – 26.7 | No | Naturally occurring or indicative of road salt contamination |
| Iron (ppb) [8] | 06/2020 | 300 | N/A | 940 | ND - 940 | No | Naturally occurring |
| Manganese (ppb)[8] | 05/2020 | 300 | N/A | 89 | ND – 89 | No | Naturally occurring |
| Nickel (ppb) | 11/2020 | N/A | N/A | 25.0 | 1.2– 25.0 | No | Naturally occurring |
| Nitrates as N (ppm) | 07/2020 | 10 | 10 | 0.320 | ND – 0.320 | No | Erosion of natural deposits; Runoff from fertilizers and septic tanks |
| Sodium (ppm) [9] | 10/2020 | N/A | N/A | 37.5 | 2.6 – 37.5 | No | Naturally occurring; Road salt; Water softeners |
| Sulfate (ppm) | 06/2020 | 250 | N/A | 59.3 | ND – 59.3 | No | Naturally occurring; Road salt; Water softeners |

## Organic Substances

| Contaminant (units) | Date Sampled | MCL | MCLG | Maximum Amount Detected | Range: Low-High | Violation (Yes/No) | Typical Source |
|---|---|---|---|---|---|---|---|
| Trichloroethene (TCE)-(ppb)* | 12/2020 | 5 | 0 | 22.5 | ND – 22.5 | No | Discharges from metal degreasing sites and other factories. Grumman-NAVY plume |
| Specific Organic Compounds | | | | | | | |
| 1,4 dioxane (ppb)* | 11/2020 | 1.0 | N/A | 1.50 | ND – 1.50 | No | Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites |

## Physical Parameters & Unregulated Substances

| Contaminant (units) | Date Sampled | Maximum Amount Detected | Range: Low-High | Typical Source |
|---|---|---|---|---|
| Alkalinity (ppm) | 2020 | 48.5 | 27.9 – 48.35 | N/A |
| Calcium Hardness (ppm) | 2020 | 3.7 | 0.9 – 3.7 | N/A |
| Color Index (units) | 2020 | 15 | ND - 15 | Presence of metals such as copper, iron and manganese. Results greater than 15 units are considered 'discolored'. |
| Corrosivity (Langelier Index) [10] | 2020 | (-2.31) | (-3.27) - (-2.31) | N/A |
| Hardness, Total (ppm) | 2020 | 10.1 | 1.7 – 10.1 | N/A |
| Magnesium (ppm) | 2020 | 1.9 | ND – 1.10 | Naturally occurring |
| pH (units) [11] | 2020 | 7.1 | 7.0 – 7.1 | N/A |
| Total Dissolved Solids (TDS) (ppm) | 2020 | 123 | 42 – 123 | N/A |

Footnotes:

[1] A total of 1,449 distribution system bacteriological samples were taken in 2020, with 3 positive Total Coliform results = 0.21% positives for the year.
[2] TTHM's mean the sum of: Bromoform, Bromodichloromethane, Dibromochloromethane, and Chloroform. The highest 'Locational Running Annual Average" was 4.8 ppb in 2020.
[3] HAA5's includes the sum of: Monochloroacetic acid, Dichloroacetic acid, Trichloroacetic acid, Bromoacetic acid, and Dibromoacetic acid. The highest 'Locational Running Annual Average" was less than 2.0 ppb ("<2.0") in 2020.
[4] The running annual average of all Chlorine Residual readings (1,459) in the distribution system was **1.50 ppm** for 2020.
[5] Radiological results are from individual raw water wells, and not distribution locations, as required by the NCDOH.
[6] The level presented represents the 90th percentile of 54 sites tested. The "action level" for copper was not exceeded at any of 54 sites tested.
[7] The level presented represents the 90th percentile of 54 sites tested. The "action level" for lead was not exceeded at any of 54 sites tested.
[8] Higher levels of iron (up to 1,000 ppb) may be allowed by the state when justified by the water supplier, as is the case with NYAW - Merrick Operations district. The Total of iron and manganese should not exceed 500 ppb, unless allowed by the state, as is the case with NYAW - Merrick Operations district.

[9] Water containing more than 20 mg/L of sodium should not be used for drinking by persons on severely restricted sodium diets. Water containing more than 270 mg/L of sodium should not be used for drinking by people on moderately restricted sodium diets.
[10] The NCDOH recommends that the Langelier Saturation Index (for corrosivity) be as close to zero as possible.
[11] NCDOH guidelines recommend a pH range of 7.0 – 8.5. The running annual average of all pH readings in the distribution system taken during routine bacteriological testing was **7.10 units** in 2020.
*See public notification attached for 1,4 dioxane information.

## Unregulated Contaminant Monitoring Rule (UCMR4):

The following parameters were tested for as per a required USEPA monitoring program (2018 – 2020) to try to quantify the presence and amount of emerging or unregulated compounds to see if any should be regulated by the EPA in the future. Unregulated contaminants are those for which USEPA has not established drinking water standards for. The purpose of unregulated contaminant monitoring is to assist USEPA in determining the occurrence of these constituents in drinking water and whether future regulation is warranted. (No Federal MCL's exist for these parameters to-date, although some might be already regulated by the NYSDOH.)

**The following contaminants that we tested for on the treated water exiting our treatment plants ("Entry Point" locations) were detected as follows:**

| Contaminant (units) | Date Sampled | Maximum Amount Detected | Range: Low-High | Typical Source |
|---|---|---|---|---|
| Manganese (ppb) | 2018 | 37 | ND - 37 | Naturally occurring |
| Germanium (ppb) | 2018 | 0.41 | ND – 0.41 | Naturally occurring |

**The following contaminants that we tested for on the raw water wells were detected as follows:**

| Contaminant (units) | Date Sampled | Maximum Amount Detected | Range: Low-High | Typical Source |
|---|---|---|---|---|
| Bromide (ppb) | 2018 | 190 | ND - 190 | Naturally occurring |
| Total Organic Carbon (ppb) | 2018 | 901.5 | ND – 901.5 | Naturally occurring |

**The following contaminants that we tested for on distribution system locations were detected as follows:**

| Contaminant (units) | Date Sampled | Maximum Amount Detected | Range: Low-High | Typical Source |
|---|---|---|---|---|
| Total Haloacetic Acids – UCMR4 (ppb) | 2018 | 0.83 | ND – 0.83 | By-product of drinking water disinfection |
| Total Haloacetic Acids – Bromide-related (ppb) | 2018 | 0.38 | ND – 0.38 | By-product of drinking water disinfection |

Total Haloacetic Acids for UCMR4 include the sum of the following contaminant combinations: Monochloroacetic acid, Monobromoacetic acid, Dichloroacetic acid, Trichloroacedic acid, Bromochloroacetic acid, Dibromoacetic acid, Bromodichloroacetic acid, Chlorodibromoacetic acid, Tribromoacetic acid.

## Unregulated Contaminant Monitoring Rule (UCMR4) – Listing of Non-Detected (ND) Contaminants (2018):

**The following contaminants that we tested for under UCMR4 Monitoring Program were "Non-detected" (ND):**

**Alcohols:**
1-butanol
2-methoxyethanol
2-propen-1-ol

**Semi-Volatile Chemicals:**
Butylated hydroxyanisole (BHA)
o-toluidine
Quinolone

**Pesticides and byproducts:**
Alpha-Hexachlorocyclohexane
Chlorpyrifos
Dimethipin
Ethoprop
Oxyfluorfen
Profenofos
Tebuconazole
Total Permethrin (cis- & trans-)
Tribufos

## Unregulated Contaminant Monitoring Rule (UCMR3):

**The following parameters were tested for as per a required USEPA monitoring program (2013 - 2015) to try to quantify the presence and amount of emerging or unregulated compounds to see if any or all of them should be regulated by the USEPA in the future (No MCL's for these parameters to-date).**

**The following contaminants that we tested for on the treated water exiting our treatment plants ("Entry Point" locations) were detected as follows:**

| Contaminant (units) | Date Sampled | Maximum Amount Detected | Range: Low-High | Typical Source |
|---|---|---|---|---|
| 1,4-Dioxane (ppb) * | 2017-2019 | 1.35 | ND – 1.35 | Manufacturing solvent |

*NYS guidance level for 1,4-dioxane was 1.0 ppb before new regulations were put into effect in August of 2020. Special 1,4-dioxane sampling was performed on raw water wells in 2017-2019 by the water company for proactive, informational, and quality control purposes only, and not due to any regulatory requirement.

**USEPA Health Advisory Definitions:**

Health advisories provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's Health Advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination.

## Special Message about new Regulations on Emerging Contaminants by NYSDOH:

On August 26, 2020, NYS adopted new drinking water standards for public water systems that set maximum contaminant levels (MCLs) of 10 parts per trillion (ppt) each for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), and 1 part per billion (ppb) for 1,4-dioxane.

## About Drinking Water Standards and MCLs

A MCL is the highest level of a contaminant allowed in drinking water delivered by public water systems. They are enforceable regulatory limits. MCLs are set far below levels that cause health effects. According to the NYSDOH, because MCLs are set at levels with a large margin of protection, an exceedance of an MCL does not mean that water is unsafe for use while the public water system takes actions to reduce the levels.

The USEPA has also established guidance for the presence of PFOA and PFOS in drinking water. The EPA has established a non-enforceable health advisory level of 70 parts per trillion (ppt) for the sum of PFOA and PFOS. An MCL for 1,4-Dioxane in drinking water has not been established by the EPA.

## What Are Emerging Compounds?

1,4-Dioxane is a synthetic industrial chemical that is present in many goods, including paint strippers, dyes, greases, antifreeze, and aircraft deicing fluids, and in some consumer products such as deodorants, shampoos and cosmetics.

PFOA/PFOS are per- and polyfluoroalkyl substances (PFAS), which are a group of man-made chemicals that can be found in food packaging; commercial household products, including stain- and water-repellent fabrics (ex: Scotchgard), nonstick products (e.g., Teflon), polishes, waxes, paints, and cleaning products; and fire-fighting foams.

Emerging compounds can enter our water resources after being landfilled, spilled, discharged as waste, or by seepage and infiltration into the water table, eventually entering water supplies.

## NYAW's Action Plan

In advance of the adoption of these new standards by the State, New York American Water tested its entire water supply to determine the presence of these emerging compounds.

NYAW determined that, of the 55 sites that supply water across NYAW's service areas in Long Island and upstate New York, one site in your district has detections of emerging compounds above the NYS MCLs. Detections of 1,4-Dioxane at the Seamans Neck Well Station in North Wantagh/Levittown at 1.4 ppb. NYAW is pursuing Advanced Oxidation Process (AOP) treatment for 1,4-Dioxane at the Seamans Neck Well Station. NYAW has completed our AOP pilot testing and is working closely with the NCDOH on final treatment design. While AOP treatment will take time to fully install, NYAW's proactive approach has significantly reduced the time needed to install the right treatment system for our customers served by the Seamans Neck Well Station. Please see Public Notification below.

NYAW is pursuing the appropriate treatment where needed. While new treatment will take time to fully install, NYAW's proactive approach has significantly reduced the time needed to install the right treatment system for our customers.

When a public water system (PWS) is issued a deferral, the water system agrees to a schedule for corrective action and compliance with the new PFOS, PFOA, or 1,4-dioxane MCL's. In exchange, the NYSDOH agrees to defer enforcement actions, such as assessing fines, if the PWS is meeting established deadlines. Deferral recipients are required to update the Department and the NCDOH each calendar quarter on the status of the established deadlines. The Department can resume enforcement if the agreed upon deadlines are not met. Information about our deferral and established timelines can be found at the following site: https://www.amwater.com/nyaw/water-quality/Emerging-Compounds/seamans-neck

# IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

## Deferral Issued for 1,4-Dioxane to New York American Water (NYAW) – Merrick

**Why are you receiving this notice/information?**
You are receiving this notice because testing of our public water system found the chemical 1,4-Dioxane in your drinking water above New York State's maximum contaminant level (MCL) of 1 ppb for 1,4-dioxane. The MCLs are set well below levels known to cause health effects in animal studies. Therefore, consuming water with 1,4-dioxane at the level detected does not pose a significant health risk. Your water continues to be acceptable for all uses.

NYAW - Merrick has submitted, and the New York State Department of Health (Department) has issued, a deferral to NYAW - Merrick. When a public water system is issued a deferral, the water system agrees to a schedule for corrective action and compliance with the new MCLs. In exchange, the Department agrees to defer enforcement actions, such as assessing fines, if the water system is meeting the established deadlines. We are required to update the Department and the Nassau County Department of Health each calendar quarter on the status of our projects. If we do not meet the agreed upon deadlines, the Department can resume enforcement.

**What are the health effects of 1,4-dioxane?**
Laboratory studies show that 1,4-dioxane caused liver cancer in animals exposed at high levels throughout their lifetime. Other types of cancer have also been reported, although less consistently than liver cancer. There is no evidence of 1,4-dioxane cancer effects in humans. The United States Environmental Protection Agency considers 1,4- dioxane a likely human carcinogen based upon studies of animals exposed to high levels of this chemical over their entire lifetimes. At the level of 1,4-dioxane detected in your water, exposure from drinking water and food preparation is well below 1,4-dioxane exposures associated with health effects.

**What is New York State doing about 1,4-Dioxane in public drinking water?**
The New York State Department of Health (NYS DOH) has adopted a drinking water regulation that requires all public water systems to test for 1,4-dioxane. If found above the MCLs, the water supplier must take steps to lower the level to meet the standard. Exceedances of the MCL signal that steps should be taken by the water system to reduce contaminant levels.

**What is being done to remove these contaminants?**
NYAW - Merrick is in the process of installing treatment to remove 1,4-dioxane at our Seamans Neck Road Facility and will operate impacted wells in a last on first off sequence to minimize exposure to 1,4-Dioxane. Additional information will be shared as further testing and progress occurs. This process is similar for any chemical detected in public drinking water that requires mitigation. The compliance timetable will ensure that your drinking water will meet the MCL as rapidly as possible. The deferral is effective until August 25, 2022.

**Where can I get more information?**
For more information, please contact our Customer Service Center at 1-877-426-6999 or Natasha Niola, Water Quality Manager at 516-632-2239. You can also contact the Nassau County Health Department at (516) 227-9692. If you have additional questions about these contaminants and your health, talk to your health care provider who is most familiar with your health history and can provide advice and assistance about understanding how drinking water may affect your personal health.

**Public Water System ID#: NY2902840**
**Date: January 21, 2021**

# Listing of Non-Detected (ND) Contaminants – 2020 (SA2 - Merrick Operations):

None of the following compounds that we analyzed for were detected in your drinking water at the respective method detection levels:

## Microbiological:

E.coli

## Inorganics & Physical:

Ammonia as N
Cyanide, free
Fluoride
Nitrite as N
Perchlorate
Surfactants (as MBAS)
Turbidity

## Metals:

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Mercury
Selenium
Silver
Thallium
Zinc

## Miscellaneous:

Asbestos fibers

## Volatile Organic Compounds (VOC's):

Benzene
Bromobenzene
Bromochloromethane
Bromomethane
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloromethane
Chlorodifluoromethane
2-Chlorotoluene
4-Chlorotoluene
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4- Dichlorobenzene (Meta)
Dichlorodifluormethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethane
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
1,1-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Ethylbenzene
Hexachlorobutadinene
Isopropylbenzene
4-Isopropyltoluene
Methyl Tert Butyl Ether (MTBE)
Methylene Chloride (Dichloromethane)
n-Propylbenzene
Styrene
1,1,2-trichloro 1,2,2-trifluoroethane
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene (PCE)
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichlorofluoromethane
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
M-Xylene
O-Xylene
P-Xylene
Vinyl Chloride

## Synthetic (Specific) Organic Compounds (SOC's)*

**Regulated Group #1:**

Alachlor
Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Atrazine
Carbofuran
Chlordane, Total
1,2-Dibromo-3-Chloropropane (DBCP)
2,4-D
Endrin
1,2-Dibromomethane (EDB)
Heptachlor
Heptachlor Epoxide
Lindane
Methoxychlor
PCB's
Pentachlorophenol
Toxaphene
2,4,5-TP (Silvex)

**Regulated Group #2:**

Aldrin
Benzo(a)pyrene
Butachlor
Carbaryl
Dalapon
Di (2-Ethylhexyl) adipate
Di (2-Ethylhexyl) phthalalte
Dicamba
Dieldrin
Dinoseb
Diquat
Endothall
Glyphosate
Hexachlorobenzene
Hexachlorocyclopentadiene
3-Hydroxycarbofuran
Methomyl
Metolachlor
Metribuzin
Oxamyl (Vydate)
Picloram
Propachlor
Simazine
2,3,7,8-TCDD (Dioxin)

** Synthetic (Specific) Organic Compounds (SOC's) are mainly Pesticides and Herbicides, and are required to be tested on raw water wells, and not on distribution locations, as per NCDOH requirements.*

## Unregulated Contaminant Monitoring Rule (UCMR3):

**The following parameters were tested for as per a required USEPA monitoring program (2013 - 2015) to try to quantify the presence and amount of emerging or unregulated compounds to see if any should be regulated by the EPA in the future.**

**The following contaminants that we tested for on the treated water exiting our treatment plants ("point of entry" locations) were "Non-detected" (ND):**

### UCMR3 Volatile Organic Compounds (VOC's) Group (all ND):

1,1-Dichloroethane
1,2,3-Trichloropropane
1,3-Butadiene
Bromochloromethane (halon1011)
Bromomethane
Chlorodifluoromethane
Chloromethane

### UCMR# Perfluorinated Compounds Group (all ND):

Perfluorooctanesulfonin acid (PFOS)
Perfluorooctonoic acid (PFOA)
Perfluorononanoic acid (PFNA)
Perfluorohexanesulfonic acid (PFHxS)
Perfluoroheptanoic acid (PFHpA)
Perfluorobutanesulfonic acid (PFBS)

### UCMR3 Hormones Group (all ND):

Estradiol (17beta-)
Equilin
4-Androstene-3,17-dione
Estrone
Ethynylestradiol (ethinyl estradiol)
Hydroxyestradiol
Testosterone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A PENNY
PER GALLON
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# WATER QUALITY YOU CAN TRUST

## RESULTS TO PROVE IT

We have an exceptional track record when it comes to water quality and drinking water regulatory compliance. That's why we invite you to read our latest Water Quality Report, specifically for your local community.

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AMERICAN WATER

WE KEEP LIFE FLOWING®


## PROVIDING SAFE, QUALITY WATER SERVICE

- Our drinking water meets or surpasses all primary state and federal standards, including regulations related to lead.
- Statewide, we perform thousands of tests each year on the water before it leaves our treatment plants, plus a significant number of tests in the distribution system.
- Our team of water quality experts sample and interpret data regularly, following state quality control standards. Our team utilizes certified labs across the state to process and analyze these samples. We sample above and beyond the required regulations provided by the USEPA and the local health departments.

**See how we're doing in your community.**

Every year, we provide a detailed analysis of the water we deliver to our communities in our Water Quality Reports. To learn more about our commitment to water quality or to view the Water Quality Report for your area, visit us online at **newyorkamwater.com**. Under Water Quality, select Water Quality Reports.

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**WE KEEP LIFE FLOWING.**

WA220i


2023 Consumer Confidence Report on Water Quality for 2022

# Annual Water Quality Report

## Merrick Operations District

Public Water Supply ID# NY2902840

Liberty

## Message from the President

Dear Liberty Customers,

At Liberty, providing customers with safe, quality drinking water is at the forefront of everything we do – day in and day out. We do this by continuously investing in our infrastructure and by constantly looking for opportunities improve our operations and seek enhancements to our daily processes.

Liberty makes significant investments each year to ensure the water we deliver to customers meets all Safe Drinking Water Act (SDWA) standards established by the United States Environmental Protection Agency (EPA) and New York State Department of Health (NYSDOH). We invest responsibly to maintain the local water infrastructure, because strong infrastructure is a key factor in delivering quality water. Additionally, we have a top-notch water quality program that ensures the water delivered to your home or business is thoroughly tested by independent laboratories and the data is provided to the state to verify compliance with all applicable SDWA and NYSDOH water regulations.

In the pages that follow, you will find our 2022 Water Quality Report (Consumer Confidence Report), which outlines detailed information regarding the quality of water we provided in calendar year 2022. This report can be found on our website at www.libertyenergyandwater.com. It includes information like the source of your water, the areas we serve, information about naturally occurring substances in the water and how we get eliminate them, our complex intake and distribution system, and more.

If you have any questions about the information within this report, please don't hesitate to contact us anytime at 1-877-426-6999 TDD:711. We encourage you to visit our website at www.libertyenergyandwater.com to stay up-to-date and receive tips about water conservation and more.

On behalf of the entire Liberty family, thank you for being a valued customer and neighbor. We are proud to be your water provider and look forward to serving you for years to come.

Sincerely,
Chris Alario
President, Liberty New York Water

To request a printed copy of this report, please call us at 1-877-426-6999 TDD:711. This report can also be found at www.libertyenergyandwater.com.

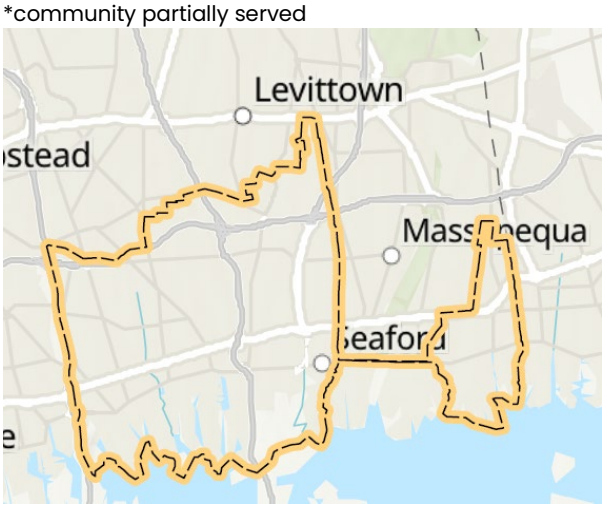
## Where Does My Water Come From?

The Merrick water system serves approximately 135,000 people through 45,018 connections. Our water source is groundwater wells located in the aquifer system beneath the land surface. The water is treated as prior to distribution in five ways. Sodium hypochlorite is added to the water bacteriological disinfection. Caustic Soda (Sodium Hydroxide) is used to raise pH and minimize corrosivity to water mains and household plumbing. Calciquest (Phosphate compound) is used to maintain optimum treatment and inhibit the corrosion of plumbing materials; and to stabilize naturally occurring iron and manganese that can cause discolored water conditions. Filtration to remove iron at three well locations. Granular Activated Carbon (GAC) to remove organics at one well location (US Navy / Northrop-Grumman plume site).

### *Communities Served*

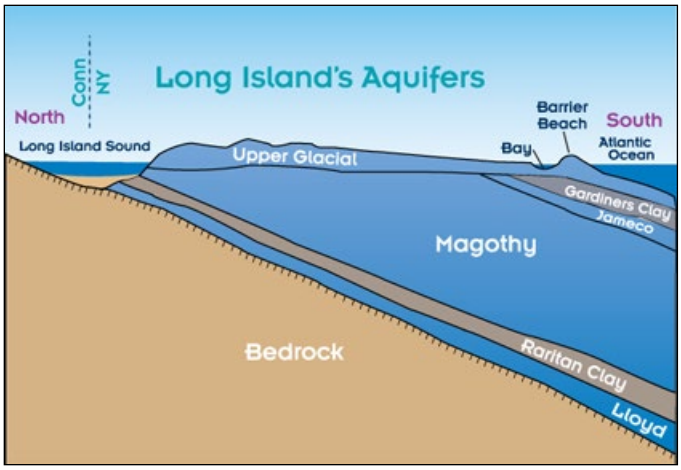
| | |
|---|---|
| Bellmore | North Bellmore |
| East Massapequa* | Massapequa* |
| Merrick | North Merrick |
| North Seaford | Seaford |
| North Wantagh | Wantagh |
| Levittown* | |

*community partially served




### *The Aquifers*

The aquifers are water-bearing geologic deposits of sand and clay that absorb and store about 45 percent of the rain and snow that fall on Long Island. Merrick Operations Center has wells in the Magothy aquifer.




*Not to scale*

**If you have a private well which is unregulated and untested, you should not use the water for drinking or cooking. (Source: NCDOH)**

## Be Water Smart – Think Conservation

The New York State Department of Environmental Conservation (NYSDEC) requested that all Long Island water suppliers reduce their peak pumpage by 15 percent to ensure the long-term sustainability of the Long Island aquifer. Our customers must conserve water to help us achieve this goal. When our customers conserve, not only do they reduce their water bill, but Liberty is able to defer infrastructure investment projects that are needed to meet peak water demand, which can reach as high as 50 million gallons of water a day in the summer.

The following suggestions will help you make your home "water efficient" without sacrificing comfort or changing lifestyles:

- Install smart irrigation technology on your irrigation system to irrigate as efficiently as possible.
- Install a moisture sensor on your irrigation system to prevent wasteful watering during or just after a rain.
- Use native, drought-resistant shrubs, trees, plants, and grasses in your landscape.
- Run dishwashers and washing machines only with full loads.
- Turn off the tap when brushing your teeth or shaving.
- Check every faucet for leaks. Even a slow drip can waste 15 to 20 gallons a day, or about 6,000 gallons a year.
- If you suspect that you have a water leak, order our free Leak Detection Kit. The kit contains information, hints, and dye tablets to help you determine if you have a wasteful water loss.
- Replace older devices with water-saving showerheads, faucets, or low flush toilets. A normal showerhead uses 5 to 7 gallons a minute. Switching to a low-flow model that uses 1.5 gallons a minute can save a family thousands of gallons of water a year.

## Source Water Assessment

The NYSDOH, with assistance from the local health department and the CDM consulting firm, has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how rapidly contaminants can move through the subsurface to the wells. The susceptibility of a water supply well to contamination is dependent upon both the presence of potential sources of contamination within the well's contributing area and the likelihood that the contaminant can travel through the environment to reach the well. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is or will become contaminated. See section "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected (if any). The source water assessments provide resource managers with additional information for protecting source waters into the future.

Drinking water is derived from 16 wells. The source water assessment has rated most of the wells as having a very high susceptibility to nitrates. The elevated susceptibility to industrial solvents is due primarily to point sources of contamination related to transportation routes and commercial/ industrial facilities and related activities in the assessment area. The high susceptibility to nitrate contamination is attributable to residential, commercial, and institutional land use and related practices in the assessment area, such as fertilizing lawns.

## What are Drinking Water Standards?

Drinking water standards are the regulations set by the USEPA to control the level of contamination in the nation's drinking water. The USEPA and the NYSDOH are the agencies responsible for establishing drinking water quality standards in New York. This approach includes assessing and protecting drinking water sources; protecting wells and surface water; making sure water is treated by qualified operators; ensuring the integrity of the distribution system; and making information about water quality available to the public. The water delivered to your home meets the standards required by the USEPA and the NYSDOH.

This report describes those contaminants that have been detected in the analyses of almost 200 different potential contaminants, nearly 100 of which are regulated by the USEPA and the NYSDOH. Liberty is proud to tell you that there have been no contaminants detected that exceed any federal or state drinking water standards. Hundreds of samples are analyzed every year by a NYS certified laboratory. Sample results are available on the Table in this report. This report is intended to provide information for all water users. If received by an absentee landlord, a business, or a school, please share the information with tenants, employees, or students. We are happy to make additional copies of this report available; please call Liberty's Water Quality Manager at 516-273-5670. You may also access this report on the Liberty web page at www.libertyenergyandwater.com.

## Substances That Could be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up

substances resulting from the presence of animals or from human activity.

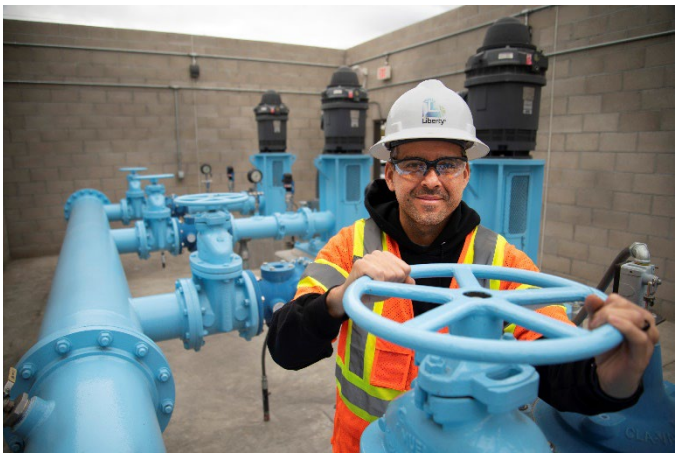
Contaminants that may be present in source water include:

- **Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic Contaminants**, such as salts and metals, which can be naturally- occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive Contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the NYSDOH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration (USFDA) also establishes limits for contaminants in bottled water that provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA Safe Drinking Water Hotline at 1-800-426-4791. For information on bottled water visit the USFDA website at www.fda.gov.

## Do I Need to Take Special Precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The USEPA and Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.



### *Cryptosporidiosis & Giardiasis*

Although there have been no cases of Cryptosporidiosis in Nassau County attributable to the water supply, we thought you should be aware of the risks to people with severely weakened immune systems. Cryptosporidiosis and Giardiasis are intestinal illnesses caused by microscopic parasites that can be transmitted several ways including through drinking water. Cryptosporidiosis can be very serious for people with weak immune systems, such as transplant patients; individuals receiving chemotherapy or dialysis, and people with Crohn's disease or HIV infection. Individuals who think they may have been exposed to

Cryptosporidiosis or Giardiasis should contact their health care providers immediately.

Immuno-compromised patients who may have been advised by their health care provider that they may be at risk, especially when traveling, should observe the following:

- One minute of boiling water at a rolling boil will kill *Cryptosporidium parvum* and *Giardia lamblia*.
- Drinking bottled water does not guarantee that the water is free from Cryptosporidiosis or Giardiasis.

Contact your health care provider about your options. If you have questions, contact the NCDOH at 516-227-9692.

### *Lead & Copper Rule Statements*

The Lead and Copper Rule requires sampling for lead and copper at the tap. In 1992, the first-year testing was required; tap water was sampled in compliance with EPA regulations. Test results were excellent: at least 90 percent of the lead tests were well below 10 parts per billion, and for copper, below 0.3 parts per million, indicating that the company's corrosion control treatment processes continue to be effective. The same tests were done roughly every three years from 1997 through 2020 with similar results. The next round of homeowner monitoring for the Lead and Copper Rule will be completed in the summer of 2023

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Liberty Utilities is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at http://www.epa.gov/safewater/lead.

## System Improvements

**In 2022, we continued to make significant upgrades to our system and infra-structure. These improvements include:**

- Replaced 6,200 feet of water main throughout the service territory.
- Replaced 1 fire hydrants.
- Replaced 74 service lines.
- Replaced 1,731 water meters.
- Completed a new 3 Million-Gallon-Per-Day water supply well at the Newbridge Road Treatment Plant in North Bellmore.
- Completed a pipe loop water treatment study in South Hempstead researching ways to reduce rusty water.
- Completed clean out of Newbridge Road Treatment Plant water recharge basin.
- Construct wellhouse at a new water supply well at Jefferson Plant in Merrick.
- Completed blow off automation at Jefferson Supply Well 11 to reduce rusty water.
- Completed liner installation and rehabilitation of the 2 Million-Gallon-per-Day Newbridge Well 3 in North Bellmore.
- Complete cleaning and rehabilitation of the 3 Million-Gallon-per-Day Jerusalem Well 5 in Wantagh.

**Improvements planned for 2023 include:**

- Replace approximately 775 feet of water main.
- Replace 2 fire hydrants.
- Replace 8 service lines.
- Replace approximately 1,470 water meters.
- A new iron removal facility at Charles Plant in Merrick
- Start construction on 6 Million-Gallon-Per-Day Advanced Oxidation Plant for removal of 1,4-Dioxane at the Seaman's Neck Treatment Plant in Levittown.
- Replace iron filter media at Seaman's Neck Road Plant. Install new pH optimization system.
- Demolish old wellhouse at Jefferson Plant in Merrick.

### *2022 STATISTICS AT-A-GLANCE*

| | |
|---|---|
| Wells Closed/Restricted | 1 |
| Violations of Standards | None |
| Typical Well Depth | 500 Feet |
| Aquifers | Magothy |
| Pumping Stations | 12 |
| Service Area | 20 Square Miles |

| | |
|---|---|
| Total Water Withdrawn | 5,155,729,000Gal. |
| Total Water Sales | 4,846,385,260 Gal. |
| Population Served (approx.) | 135,000 |
| Customers Served (accounts) | 45,018 |
| Miles of Mains | 433 |

### *Average Residential Usage & Cost*

In 2022, the average residential household used approximately 106,965 gallons of water at a cost of about $656, or $1.80 a day. With an average of 3.0 persons per household, the cost of water was about 60¢ a day per person.

## Important Health Information

***Lead***

Lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Liberty New York Water is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact Liberty New York Water at 1-877-426-6999 TDD:711.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at http://www.epa.gov/safewater/lead.

***1,4 dioxane***

Laboratory studies show that 1,4 dioxane caused liver cancer in animals exposed at high levels throughout their lifetime. Whether 1,4 dioxane causes cancer in humans is unknown. The United States Environmental Protection Agency considers 1,4 dioxane as likely to be carcinogenic to humans based upon studies of animals exposed to high levels of this chemical over their entire lifetimes.

## Is Our Water System Meeting Other Rules That Govern Our Operations?

During 2022, Merrick water system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

## How Might I Become Actively Involved?

Customers can participate in decisions that may affect the quality of water by:

- Reading the information provided in bill inserts and special mailings
- Contacting the company directly with questions or to discuss issues
- Responding to survey requests
- Attending presentations by the company made to local community and civic associations; our last meeting was October 2022. 2023 meetings TBD.
- Contacting agencies such as the Nassau County Health Department (NCDOH) at 516-227-9692

## Testing Results

During the year, Liberty collects water samples to determine the presence of any radioactive, biological, inorganic, or organic contaminants. All the substances listed in the table below tested under the Maximum Contaminant Level (MCL). Liberty believes it is important you know what was detected, and how much of the substance was present. The state allows the monitoring of certain substances less than once a year because the concentrations of these substances do not change frequently. If a substance was tested and there was no detection, it is not listed in this table. You can find Definitions, Terms and Abbreviations related to this Table in the next section for easy reference.

**Merrick 2022 Annual Water Quality Report**

**PRIMARY STANDARDS - Health Based**

**DISTRIBUTION SYSTEM**

| Disinfectant Residuals | Violation? (Yes/No) | Date of Sample | MRDL | MCLG | Range of Detection | Average | Typical Source of Constituent |
|---|---|---|---|---|---|---|---|
| Chlorine (ppm) [1] | No | 2022 | 4 | N/A | 0.05 – 2.20 | 1.44 | Drinking water disinfectant added for treatment. |

| Disinfection By-Products [2] | Violation? (Yes/No) | Date of Sample | Primary MCL | MCLG | Detection | Typical Source of Constituent |
|---|---|---|---|---|---|---|
| TTHMs (ppb) | No | Quarterly 2022 | 80 | N/A | ND – 4.3<br>RAA 2.73 | Byproduct of drinking water disinfection. |

| Lead & Copper [3] | Violation? (Yes/No) | Date of Sample | AL | MCLG | Sample Data | Range of Detection | 90th % Level | Typical Source of Constituent |
|---|---|---|---|---|---|---|---|---|
| Copper (ppm) | No | 07-09/ 2020 | 1.3 | 1.3 | 0 of the 32 samples collected exceeded the action level. | 0.02 – 0.34 | 0.27 | Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits |
| Lead (ppb) | No | | 15 | 0 | | ND – 6.6 | 1.4 | |

**RAW WELLS**

| Radiological Constituents [4] | Violation? (Yes/No) | Date of Sample | Primary MCL | MCLG | Range of Detections | Typical Source of Constituent |
|---|---|---|---|---|---|---|
| Combined Radium-226 & 228 (pCi/L) | No | 07/2021 | 5 | 0 | ND – 2.2 | Erosion and decay of natural deposits. |
| Gross Beta (pCi/L) | No | 07/2021 | 50 [a] | 0 | ND – 4.65 | |
| Uranium (ppb) | No | 07/2021 | 30 [b] | 0 | 0.02 – 0.18 | |
| Gross Alpha activity (pCi/L) | No | 07/2021 | 15 | 0 | ND – 2.2 | Erosion and decay of natural deposits. |

| Inorganic Constituents | Violation? (Yes/No) | Date of Sample | Primary MCL | MCLG | Range of Detections | Typical Source of Constituent |
|---|---|---|---|---|---|---|
| Barium (ppm) | No | 08/2022 | 2 | 2 | ND – 0.01 | Erosion of natural deposits; runoff from orchards, glass and electronics production wastes. |
| Nitrate (ppm) | No | 08/2022 | 10 | 10 | ND – 0.11 | Erosion of natural deposits, fertilizers, sanitary waste systems. |
| Copper (ppm) | No | 06/2022 | 1.3 | 1.3 | ND – 0.04 | Erosion of natural deposits. |
| Lead (ppb) | No | Monthly 08/2022 | 15 | 0 | Avg- 1.6<br>ND – 2.2 | Erosion of natural deposits. |
| Thallium (ppb) | No | Monthly 08/2022 | 2 | 0.5 | Avg- 0.39<br>ND – 0.48 | Leaching from ore processing sites; Discharge from electronics, glass, and drug factories. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Chloride (ppm) | No | 08/2022 | 250 | N/A | Avg- 9.8<br>3.0 – 22.2 | Natural occurring or indicative of road salt contamination. |
| Sulfate (ppm) | No | 08/2022 | 250 | N/A | ND – 34.1 | Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories. |
| Cyanide (ppb) [5] | No | 08/2022 | 200 | 200 | ND – 78.5 | Discharge from steel/metal factories; Discharge from plastic and fertilizer factories. |
| Turbidity (NTU) | No | 05/2022 | 5 | N/A | ND – 3.2 | Soil runoff. |
| Zinc (ppm) | No | 10/2022 | 5 | N/A | ND – 0.06 | Naturally occurring. |
| Fluoride (ppm) [6] | No | 07/2022 | 2.2 | N/A | ND – 0.21 | Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories. |

| Organic Constituents | Violation? (Yes/No) | Date of Sample | Primary MCL | MCLG | Range of Detection | Typical Source of Constituent |
|---|---|---|---|---|---|---|
| 1,4 dioxane (ppb) [7] | No | Quarterly 2022 | 1 | N/A | ND – 2.3 | Released into the environment from commercial and industrial sources and is associated with inactive and hazardous waste sites. |
| Trichloroethene (TCE) (ppb) [8] | No | 06/2022 | 5 | 0 | ND – 27.9 | Discharges from metal degreasing sites and other factories. |

**SECONDARY STANDARDS - Aesthetics**

**RAW WELLS**

| Constituent | Violation? (Yes/No) | Date of Sample | Secondary MCL | MCLG | Average/ Range | Typical Source of Constituent |
|---|---|---|---|---|---|---|
| Sodium (ppm) [9] | No | 08/2022 | N/A | N/A | ND – 44.8 | Naturally occurring; Road salt; Water softeners. |
| Iron (ppm) [10] | No | 07/2022 | 0.3 | N/A | ND – 0.95 | Naturally occurring. |
| Manganese (ppm) [11] | No | 06/2022 | 0.3 | N/A | ND – 0.05 | Naturally occurring. |
| Color (units) | No | 08/2022 | 15 | N/A | ND - 8 | Natural color may be caused by decaying leaves, plants, and soil organic matter. |
| Odor (units) [12] | No | 06/2022 | 3 | N/A | ND - 8 | Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources. |

**UNREGULATED CHEMICAL MONITORING**

**RAW WELLS**

| Constituent | Violation? (Yes/No) | Date of Sample | Notification Level | Range of Detection | Typical Source of Constituent |
|---|---|---|---|---|---|
| Nickel (ppm) | N/A | 08/2022 | N/A | ND – 0.01 | Naturally occurring. |
| Alkalinity (ppm) | N/A | 08/2022 | N/A | ND – 56.3 | N/A |
| Calcium Hardness (ppm) | N/A | 06/2022 | N/A | ND – 15.1 | N/A |
| Calcium (ppm) | N/A | 06/2022 | N/A | ND – 6.0 | N/A |
| Corrosivity (LSI) [13] | N/A | 08/2022 | N/A | (-7.48) – (-1.99) | N/A |
| Total Hardness (ppm) | N/A | 06/2022 | N/A | ND – 23.3 | N/A |
| Magnesium (ppm) | N/A | 06 & 08/2022 | N/A | ND – 2.0 | N/A |
| pH (units) [14] | N/A | 03/2022 | N/A | 6.16 – 8.73 | N/A |
| TDS (ppm) | N/A | 08/2022 | N/A | ND - 169 | N/A |
| Germanium (ppb) | N/A | 06/2018 | N/A | 0.41 | N/A |

Notes:

1- Chlorine residual results in the table above represent averages of samples taken at the treatment plant Point-of-Entry location to the distribution system.

2- The Highest Level Detected from the table above for TTHM's and HAA's represent the highest level from the three distribution locations sampled. TTHMs (trihalomethanes) include chloroform, bromodichloromethane, dibromochloromethane, and bromoform. HAA5 (haloacetic acids) include mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid). HAA5's were not detected.
3- The level presented represents the 90th percentile of 54 sites tested. The "action level" for copper was not exceeded at any of 54 sites tested. The level presented represents the 90th percentile of 54 sites tested. The "action level" for lead was not exceeded at any of 54 sites tested.
4- Radiological results are from raw water wells, and not distribution locations, as required by the NCDOH. (a) The State considers 50 pCi/L to be the level of concern for beta particles. (b) 30 µg/l of uranium is approximately 20.1 pCi/L
5- Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid. The wells where cyanide were detected, were resampled, and found to be not detected.
6- Fluoride was detected in two wells. The wells were resampled, and fluoride was not detected.
7- On August 26, 2020, New York State adopted new drinking water standards for public water systems that set maximum contaminant levels (MCLs) of 10 parts per trillion (10 ppt) each for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), and 1 part per billion (1 ppb) for 1,4-dioxane. One plant in the Merrick Operations district has 1,4 dioxane levels above the MCL. NYSDOH granted Merrick Operations District a deferral. Please see public notification on last page of this report.
8- TCE-Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer. Please note that the raw wells with detections of TCE are treated with Granular Activated Carbon (GAC). The water being distributed to the customers does not contain TCE.
9- Sodium (mg/l): Water containing more than 20 mg/l of sodium should not be used for drinking by people on a severely restricted sodium diet. Water more than 270 mg/l of sodium should not be used for drinking by people on a moderately restricted diet.
10- Higher levels of iron (up to 1,000 ppb) may be allowed by the state when justified by the water supplier, as is the case with Merrick Operations district. The Total of iron and manganese should not exceed 500 ppb, unless allowed by the state, as is the case with Merrick Operations district. The maximum level detected above is on a well that has iron removal filtration prior to distribution. Iron is essential for maintaining good health. However, too much iron can cause adverse health effects. Drinking water with very large amounts of iron can cause nausea, vomiting, diarrhea, constipation and stomach pain. These effects usually diminish once the elevated iron exposure is stopped. A small number of people have a condition called hemochromatosis, in which the body absorbs and stores too much iron. People with hemochromatosis may be at greater risk for health effects resulting from too much iron in the body (sometimes called "iron overload") and should be aware of their overall iron intake.
11- Manganese is an essential nutrient that is necessary to maintain good health. However, exposure to too much manganese can cause adverse health effects. There is some evidence from human studies that long-term exposure to manganese in drinking water is associated with nervous system effects in adults (e.g., weakness, stiff muscles and trembling of the hands) and children (learning and behavior). The results of these studies only suggest an effect because the possible influences of other factors were not adequately assessed. There is supporting evidence that manganese causes nervous system effects in humans from occupational studies of workers exposed to high levels of manganese in air, but the relevance of these studies to long term drinking water exposure is less clear because the exposures were quite elevated and by inhalation, not by ingestion.
12- The odor result of 8 units was in one well. That well was removed from service and resampled. There was 1 unit of odor in the resample.
13- The NCDOH recommends that the Langelier Saturation Index (for corrosivity) be as close to zero as possible.
14- NCDOH guidelines recommend a pH range of 7.5 – 8.5. The running annual average of all pH readings in the distribution system was 7.36 units in 2022.

## Definitions, Terms and Abbreviations

**90th percentile**: For Lead and Copper testing. 10% of test results are above this level and 90% are below this level.
**AL**: Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
**MCLG**: Maximum Contaminant Level Goal, or the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
**MCL**: Maximum Contaminant Level, or the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
**MRDL**: Maximum Residual Disinfectant Level, or the highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.
**MRDLG**: Maximum Residual Disinfectant Level Goal, or the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
**NA**: not applicable.

**ND**: not detectable at testing limits.
**NTU**: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water.
**pCi/L**: picocuries per liter, a measure of radioactivity.
**ppb**: parts per billion or micrograms per liter.
**ppm**: parts per million or milligrams per liter.
**RAA**: Running Annual Average, or the average of sample analytical results for samples taken during the previous four calendar quarters.
**Total Dissolved Solids (TDS):** An overall indicator of the amount of minerals in the water.

## What Does This Information Mean?

As you can see by the table, our system had no sample limit violations in 2022. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below New York State requirements.

## Why Save Water? How To Avoid Wasting It.

Although our system has an adequate amount of water to meet present and future demands, there are several reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less. More efficient water use protects our valuable natural resource and conservation is easy. Useful tips for conserving include:

- Turn off the tap when brushing your teeth.
- Consider water and energy-efficient appliances. Upgrade to EPA certified Energy Star and WaterSense appliances to save both on water and energy without sacrificing performance. The USEPA reports that EPA-certified Energy Star washing machines may use 35% less water per load.
- Check every faucet, toilet and showerhead in your home for leaks - 10 percent of homes have leaks that waste 90 gallons or more per day; don't be part of the 10%.

Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and save more than 30,000 gallons a year. More conservation tips and leak detection tools can be found at www.libertyenergyandwater.com.

## Closing

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources. For questions concerning this report call Liberty Customer Service at 1-877-426-6999 TDD:711; or on the web at www.libertyenergyandwater.com.

**Liberty - New York Water**
60 Brooklyn Avenue
Merrick, NY 11566

| | |
|---|---|
| ***Spanish***<br>Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien. | ***French***<br>Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien. |
| ***Korean***<br>이 보고는 귀하께서 드시는 식수에 대한 중요한 정보가 포함되어 있습니다. 번역을 해석되지 아니면 이 보고를 읽고 이해하는 분과 얼굴하시기를 바랍니다. | ***Chinese***<br>這份報告含有非常重要有関您喝的水的資料，請找懂得這份報告的人翻譯或解釋給您聽。 |

## Listing of Non-Detected (ND) Contaminants – 2022 (Merrick Operations)

None of the following compounds that we analyzed for were detected in your drinking water at the respective method detection levels:

**Microbiological:**
E.coli
Total Coliforms

**Inorganics & Physical:**
Ammonia as N
Nitrite as N
Perchlorate
Surfactants (as MBAS)

**Metals:**
Antimony
Arsenic
Beryllium
Cadmium
Chromium
Mercury
Selenium
Silver

**Miscellaneous:**
Asbestos fibers

**Volatile Organic Compounds (VOC's):**
Benzene
Bromobenzene
Bromochloromethane
Bromomethane
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloromethane
Chlorodifluoromethane
2-Chlorotoluene
4-Chlorotoluene
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4- Dichlorobenzene (Meta)
Dichlorodifluormethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
1,1-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Ethylbenzene
Hexachlorobutadinene
Isopropylbenzene
4-Isopropyltoluene
Methyl Tert Butyl Ether (MTBE)
Methylene Chloride (Dichloromethane)
n-Propylbenzene
Styrene
1,1,2-trichloro 1,2,2-trifluoroethane
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene (PCE)
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichlorofluoromethane
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
M-Xylene
O-Xylene
P-Xylene
Vinyl Chloride

**Synthetic (Specific) Organic Compounds (SOC's)**
**Regulated Group #1:**
Alachlor
Aldicarb
Aldicarb Sulfone
Aldicarb Sulfoxide
Atrazine
Carbofuran
Chlordane, Total
1,2-Dibromo-3-Chloropropane (DBCP)
2,4-D
Endrin
1,2-Dibromomethane (EDB)
Heptachlor
Heptachlor Epoxide
Lindane
Methoxychlor
PCB's
Pentachlorophenol
Toxaphene
2,4,5-TP (Silvex)

**Regulated Group #2:**
Aldrin
Benzo(a)pyrene
Butachlor
Carbaryl
Dalapon
Di (2-Ethylhexyl) adipate
Di (2-Ethylhexyl) phthalalte
Dicamba
Dieldrin
Dinoseb
Diquat
Endothall
Glyphosate
Hexachlorobenzene
Hexachlorocyclopentadiene
3-Hydroxycarbofuran
Methomyl
Metolachlor
Metribuzin
Oxamyl (Vydate)
Picloram
Propachlor
Simazine
2,3,7,8-TCDD (Dioxin)

**Newly regulated compounds**
Perfluorooctanoic acid (PFOA)
Perfluorooctanesulfonic acid (PFOS)

**Unregulated compounds:**
Perfluorobutanesulfonic acid (PFBS)
Perfluorononononic Acid (PFNA)
Perfluorodeconoic Acid (PFDA)
Perfluorohexanoic Acid (PFHxA)
Perfluoroheptanoic Acid (PFHpA)
Perfluorododecanoic Acid (PFDoA)
Perfluorohexanesulfonic acid (PFHxS)
Perfluorotridecanoic Acid (PFTrDA)
Perfluorotetradecanoic Acid (PFTA)
Perfluoroundecanoic Acid (PFUnA)
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
4:2 Fluorotelomer sulfonic acid (4:2 FTS)
6:2 Fluorotelomer sulfonic acid (6:2 FTS)
8:2 Fluorotelomer sulfonic acid (8:2 FTS)
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)
4,8-dioxa-3H-perfluorononanoic acid (ADONA)
HFPO-DA (Gen-X)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
Perfluorobutanoic acid (PFBA)
Perfluoro(2-ethoxyethane)sulphonic acid (PFEESA)
Perfluoroheptane sulfonic acid (PFHpS)
Perfluoro-4-methoxybutanoic acid (PFMBA)
Perfluoro-3-methoxypropanoic acid (PFMPA)
Perfluoropentanoic acid (PFPeA)
Perfluoropentane sulfonic acid (PFPeS)

**IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER**
**Deferral Renewal Issued for 1,4-Dioxane to Liberty New York Water**
**Merrick Operations District**

**Why are you receiving this notice/information?**
You are receiving this notice because testing of our public water system found the chemical 1,4-Dioxane in your drinking water above New York State's maximum contaminant level (MCL) of 1 ppb for 1,4-dioxane. The MCLs are set well below levels known to cause health effects in animal studies. Therefore, consuming water with 1,4-dioxane at the level detected does not pose a significant health risk. Your water continues to be acceptable for all uses.

The Liberty New York Water Merrick Operations District has submitted, and the New York State Department of Health (Department) has issued, a deferral to Liberty. When a public water system is issued a deferral, the water system agrees to a schedule for corrective action and compliance with the new MCLs. In exchange, the Department
agrees to defer enforcement actions, such as assessing fines, if the water system is meeting the established deadlines. We are required to update the Department and the Nassau County Department of Health each calendar quarter on the status of our projects. If we do not meet the agreed upon deadlines, the Department can resume enforcement.

**What are the health effects of 1,4-dioxane?**
Laboratory studies show that 1,4-dioxane caused liver cancer in animals exposed at high levels throughout their lifetime. Other types of cancer have also been reported, although less consistently than liver cancer. There is no evidence of 1,4-dioxane cancer effects in humans. The United States Environmental Protection Agency considers 1,4- dioxane a likely human carcinogen based upon studies of animals exposed to high levels of this chemical over their entire lifetimes.

At the level of 1,4-dioxane detected in your water, exposure from drinking water and food preparation is well below 1,4-dioxane exposures associated with health effects.

**What is New York State doing about 1,4-Dioxane in public drinking water?**
The New York State Department of Health (NYS DOH) has adopted a drinking water regulation that requires all public water systems to test for 1,4-dioxane. If found above the MCLs, the water supplier must take steps to lower the level to meet the standard. Exceedances of the MCL signal that step should be taken by the water system to reduce contaminant levels.

**What is being done to remove these contaminants?**
Liberty New York Water is in the process of finalizing the contract for the construction of an advanced oxidation process (AOP) facility at its Seamans Neck Road Wells 3A and 4 facility. Iron Removal Facility (IRF) improvements are also being implemented at this well station, which are required in order for AOP treatment to be implemented. Regulatory review of two (2) booster pumping facilities needed to satisfy pressure requirements in the Seamans Neck Road vicinity is underway.

Liberty New York Water will operate the impacted wells in the Merrick Operations District in a last on first off sequence to the greatest extent practicable to minimize exposure to 1,4-Dioxane. Additional information will be shared as further testing and progress occurs. This process is similar for any chemical detected in public drinking water that requires mitigation. The compliance timetable will ensure that your drinking water will meet the MCL as rapidly as possible. The deferral is effective until August 25, 2023.

**Where can I get more information?**
For more information, please contact Liberty New York Water at (877) 426-6999 or 60 Brooklyn Avenue, Merrick, NY 11566. You can also contact the Nassau County Health Department at (516) 227-9697. If you have additional questions about these contaminants and your health, talk to your health care provider who is most familiar with your health history and can provide advice and assistance about understanding how drinking water may affect your personal health.

**Public Water System ID# NY2902840**
**Date September 22, 2022**

# IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
## Exemption from 1,4-dioxane MCL

**Why are you receiving this notice/information?**

You are receiving this notice because testing of our public water system found the chemical 1,4-dioxane in the drinking water above New York State's maximum contaminant level (MCL) of 1 ppb for 1,4-dioxane. The MCLs are set well below levels known to cause health effects in animal studies. Therefore, consuming water with 1,4-dioxane at the level detected does not pose a significant health risk. Your water continues to be acceptable for all uses.

The Liberty New York Water, Merrick Operations District has requested, and the New York State Department of Health (Department) has conditionally granted, an exemption from the MCL for 1,4-dioxane. Exemptions are issued with mandatory compliance strategies which include control measures required by the Department. In exchange, the Department agrees to defer enforcement actions, such as assessing fines, if the water district is meeting the established deadlines. We are required to update the Department and the Nassau County Department of Health each calendar quarter on the status of our projects. If we do not meet the mandated compliance strategies, the Department can resume enforcement.

**What are the health effects of 1,4-dioxane?**

Laboratory studies show that 1,4-dioxane caused liver cancer in animals exposed at high levels throughout their lifetime. Other types of cancer have also been reported, although less consistently than liver cancer. There is no evidence of 1,4-dioxane cancer effects in humans. The United States Environmental Protection Agency considers 1,4-dioxane a likely human carcinogen based upon studies of animals exposed to high levels of this chemical over their entire lifetimes.

At the level of 1,4-dioxane detected in your water, exposure from drinking water and food preparation is well below 1,4-dioxane exposures associated with health effects.

**What is New York State doing about 1,4-dioxane in public drinking water?**

The New York State Department of Health has adopted a drinking water regulation that requires all public water systems to test for 1,4-dioxane. If found above the MCL of 1 ppb, the water supplier must take steps to lower the level to meet the standard. Exceedances of the MCL signal that steps should be taken by the water system to reduce contaminant levels.

**What is being done to meet the MCL?**

Liberty New York Water, Merrick Operations District is working with the Nassau County Department of Health on a compliance schedule that includes steps to reduce levels of 1,4-dioxane.

The effected wells within Liberty New York Water's Merrick District, which have 1,4-Dioxane levels above the MCL, are Wells 3A and 4 at the Seaman's Neck Road Plant. To remove 1,4-Dioxane from the water produced from these wells, Liberty New York Water is currently constructing an advanced oxidation process ("AOP") treatment facility at the Seamans Neck Road Plant. To supplement water supply to the Seamans Neck vicinity during construction of the AOP treatment system, Liberty will construct two (2) booster pumping stations within its system that will sustain water pressures to Seamans Neck vicinity customers. Liberty continues to promote conservation and reduced irrigation usage to its customers to both protect the health of our aquifers and reduce reliance on effected wells during peak irrigation demands.

Liberty New York Water will operate the impacted wells in the Merrick Operations District in a last on first off sequence to minimize their use. Additional information will be shared as further testing and progress occurs. This process is similar for any chemical detected in public drinking water that requires mitigation due to exceedance of an MCL. The compliance timetable will ensure that your drinking water will meet the MCL as rapidly as possible.

**Where can I get more information?**

For more information, please contact Liberty New York Water at (877) 426-6999 or by mail at 60 Brooklyn Avenue, Merrick, NY 11566. You can also contact the Nassau County Health Department at (516) 227-9697. Copies of the quarterly updates submitted to the Department and to Nassau County Department of Health will be available on Liberty Utility's New York Water website at Emerging Compounds - New York Water - Residential (libertyutilities.com).

If you have additional questions about these contaminants and your health, talk to your health care provider who is most familiar with your health history and can provide advice and assistance about understanding how drinking water may affect your personal health.

**Public Water System ID#** NY2902840
**Date** August 31, 2023

Attachment C

Water Quality Data

# Laboratory Results

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests

575 Broad Hollow Road, Melville, NY 11747
TEL: (516) 370-6000 FAX: (516) 886-5526
www.pacelabs.com

**Sample Information:**
Type: Drinking Water
Origin: Raw Well
Routine

**Liberty-NY - Merrick OPS**
**60 Brooklyn Avenue**
**Merrick, NY 11566**
**Attn To :** Natasha Niola
Federal ID : 2902840
Collected : 07/28/2023 10:00 AM Point N-09338
Received : 07/28/2023 01:47 PM Location Seamanneck 4 Well
Collected By CLIENT

**Lab No. : 70264905001**
**Client Sample ID.: N-09338**

Analytical Method: EPA 300.0

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| Chloride | 19.3 | | 1 | mg/L | 250 | 08/10/2023 2:57 AM | 001 BP4U1/1 |

Analytical Method: EPA 522 Prep Method: EPA 522 Prep Date: 08/03/2023 10:02

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| 1,4-Dioxane (p-Dioxane) | **2.2*** | | 1 | ug/L | 1 | 08/03/2023 3:13 PM | 001 AG2R1/2 |
| Surr: 1,4-Dioxane-d8 (S) | 124% | | 1 | %REC | | 08/03/2023 3:13 PM | 001 AG2R1/2 |

Qualifiers:
DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.Estimated value - below calibration range
U - Indicates the compound was analyzed for, but not detected

Result(s) reported meet(s) NYS Regulatory Limit(s).
Result(s) flagged with * Exceed NYS Regulatory Limit(s). Limit Noted.

Date Reported: 08/21/2023

Jennifer Aracri

Test results meet the requirements of NELAC unless otherwise noted.

# Laboratory Results

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests

**Sample Information:**

Type: Drinking Water
Origin: Raw Well
Routine

575 Broad Hollow Road, Melville, NY 11747
TEL: (516) 370-6000 FAX: (516) 886-5526
www.pacelabs.com

**Liberty-NY - Merrick OPS**
**60 Brooklyn Avenue**
**Merrick, NY 11566**
**Attn To :** Natasha Niola
Federal ID : 2902840
Collected : 07/28/2023 10:15 AM
Received : 07/28/2023 01:47 PM
Collected By CLIENT

**Lab No. : 70264905002**
**Client Sample ID.: GAC-3S/4S**
Point GAC-3S/4S
Location Seamanneck Wells 3/4

Analytical Method: EPA 300.0

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| Chloride | 19.7 | | 1 | mg/L | 250 | 08/10/2023 3:11 AM | 002 BP4U1/1 |

Analytical Method: EPA 522 Prep Method: EPA 522 Prep Date: 08/03/2023 10:02

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| 1,4-Dioxane (p-Dioxane) | **2.3*** | | 1 | ug/L | 1 | 08/03/2023 3:44 PM | 002 AG2R1/2 |
| Surr: 1,4-Dioxane-d8 (S) | 125% | | 1 | %REC | | 08/03/2023 3:44 PM | 002 AG2R1/2 |

Qualifiers:
DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.Estimated value - below calibration range
U - Indicates the compound was analyzed for, but not detected

Result(s) reported meet(s) NYS Regulatory Limit(s).
Result(s) flagged with * Exceed NYS Regulatory Limit(s). Limit Noted.

Date Reported: 08/21/2023

Jennifer Aracri

Test results meet the requirements of NELAC unless otherwise noted.

575 Broad Hollow Road, Melville, NY 11747
TEL: (516) 370-6000 FAX: (516) 886-5526
www.pacelabs.com

**WorkOrder :**
70264905

# Laboratory Certifications

**Pace Analytical Services Long Island**
575 Broad Hollow Rd, Melville, NY 11747
Connecticut Certification #: PH-0435
Delaware Certification # NY 10478
Maryland Certification #: 208
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987
New Jersey Certification #: NY158
New York Certification #: 10478 Primary Accrediting Body
Pennsylvania Certification #: 68-00350
Rhode Island Certification #: LAO00340
Virginia Certification # 460302

575 Broad Hollow Road, Melville, NY 11747
TEL: (516) 370-6000 FAX: (516) 886-5526
www.pacelabs.com

**WorkOrder :**
70264905

# Additional Qualifiers

L2 - Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
N3 - Accreditation is not offered by the relevant laboratory accrediting body for this parameter.

Pace Analytical®
www.pacelabs.com

575 Broad Hollow Rd., Melville, NY 11747
(631) 694-3040 Fax: (631) 420-8436

# Sample Request Form
## PUBLIC WATER SUPPLIER

WO# : 70264905

70264905

Date: 7/28/23

Collected By: MG-MOS

Accepted By: ~~TK~~ 7/28/23 ~~T8:47~~ B:47 MD 7/28/23

Cooler Temp: 5.5 °C (B)

❑ WELL RUN TO SYSTEM

❑ YES ❑ NO VOC'S PRESERVED WITH HCl

**Client Info:**

Name or Code: Liberty Merrick

Address: CO Brooklyn Ave Merrick NY 11566

Phone #:

Attn: Natasha Nicola

Proj. # or (Name):

Bill To:

Copies To:

| Sample Types | Purpose | Origin | Treatment Types |
|---|---|---|---|
| PW - Potable Water | RO - Routine | D - Distribution | AST - Air Stripper |
| GW - Groundwater | RE - Resample | RW - Raw Well | GAC - Granular Activated Charcoal |
| SW - Surface Water | S - Special | TW - Treated Well | N - Nitrate Removal Plant |
| WW - Waste Water | | T - Tank | FE - Iron Removal Plant |
| AQ - Aqueous | | MW - Monitoring Well | O - Other |
| S - Soil | | I - Influent | |
| | | E - Effluent | |

**Sample Info:**

| Date/Time Collected: | Sample Type | Location | Origin | Treatment Type | Purpose | Field Readings $Cl_2$ | Field Readings pH/Temp | Analysis | Lab No. |
|---|---|---|---|---|---|---|---|---|---|
| 7/28 10:00 | GW | Seaman Neck 4 N-09338 | RW | / | RO | / | 5.24 13.4 | 1,4 Dioxane (+) ~~Perfluoro~~ MG | |
| | | | | | | | | (+) Chlorides | |
| | | | | | | | | (+) PFC method 533 | |
| 10:15 | PW | Seaman Neck GAC GAC-35KS | E | GAC | RO | / | 6.54 12.9 | 1,4 Dioxane (+) ~~Perfluoro~~ MG | |
| | | | | | | | | (+) PFC method 533 | |
| | | | | | | | | (+) Chlorides | |
| 1:00 | GW | Mass 8 N-10863 | RW | / | RO | / | 5.03 14.9 | 1,4 Dioxane | |
| | | | | | | | | (+) POC/VOC | |
| | | | | | | | | (+) Chlorides | |
| | | | | | | | | (+) PFC method 533 | |

Remarks:

**WO# : 70264905**

**PM: JSA** **Due Date: 08/11/23**

**CLIENT: NYAW**

Client: NYAW Profile #: 5153

Work ID: ~~HUDICUPFASS~~ 1,4D/CU/PFAS/POC 7/28 COC Page 1 of 1

☒ Use Point Num

☐ Add SCLOGFD to first sample for field charge

| COC Line Item | Matrix | VG9U | VG9C | VG9H | VG9S | DG9T | DG9Y | DG9P | DG9A | DG6T | DG9S | AG4U | AG3U | AG2U | AG1U | AG3A | AG3S | AG4E | AG3T | AG2R | AG1T | AG1H | AG1A | CG1U | BP4U | BP3U | BP2U | BP1U | BP3S | BP2S | BP4N | BP3N | BP2N | BP3C | BP3T | BP3S | BP3R | BP1Z | BP1N | BP1B | SP5T | R | WG2U | WGFU | WGKU | WGDU | ZPLC | GN | WP | IOC | SOC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | 2 | | | | | 1 | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | 2 | | | | | 1 | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| 3 | | | 2 | | | | | | | | | | | | | | | | | 2 | | | | | 1 | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Container Codes

| Glass | | | | Plastic | | Misc. | |
|---|---|---|---|---|---|---|---|
| VG9U | 40mL unpres clear vial | AG4U | 125mL unpres amber glass | BP4U | 125mL unpreserved plastic | SP5T | 120mL Coliform Na Thio |
| VG9C | 40mL Ascorbic-HCl clear vial | AG3U | 250mL unpres amber glass | BP3U | 250mL unpreserved plastic | R | Terracore Kit |
| VG9H | 40mL HCl clear vial | AG2U | 500mL unpres amber glass | BP2U | 500mL unpreserved plastic | WG2U | 2oz Unpreserved Jar |
| VG9S | 40mL Sulfuirc clear vial | AG1U | 1liter unpres amber glass | BP1U | 1L unpreserved plastic | WGFU | 4oz Unpreserved Jar |
| DG9T | 40mL Na Thiosulfate vial | AG3A | Ammonium Cl 250mL bottle | BP4N | 125mL HNO3 plastic | WGKU | 8oz Unpreserved Jar |
| DG9Y | 40mL Citrate-Na Thiosulfate | AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | WGDU | 16oz Unpreserved Jar |
| DG9P | 40mL amber vial - TSP | AG4E | 125mL EDA amber glass | BP2N | 500mL HNO3 plastic | ZPLC | Ziplock Bag |
| DG9A | Ascorbic/Maleic Acid 40mL | AG3T | 250mL Na Thio amber glass | BP3S | 250mL H2SO4 plastic | TEDL | Tedlar Bag |
| DG6T | Na Thio 60mL Vial | AG2R | Na Sulfite 500mL (blue Cap) | BP2S | 500mL H2SO4 plastic | BG1H | 1L HCL Clear Glass |
| DG9S | Ammonium Cl/CuSO4 40mL | AG1T | Na Thiosulfate 1L bottle | BP3C | NaOH 250mL bottle | GN | General |
| CG1U | 1L Unpres Jar (Con Ed) | AG1H | 1L HCl amber glass | BP3T | 250mL Trizma | WP | Wipe |
| | | AG1A | (NH4Cl) | BP3S | 250mL Ammonium Acetate | | |
| WG9O | 8oz clear soil jar | | | BP3R | 250mL NH4SO4-NH4OH | | |
| WG4O | 4oz clear soil jar | | | BP1Z | 1L NaOH, Zn Acetate | | |
| | | | | BP1N | 1L HNO3 plastic | | |
| | | | | BP1B | Na Thiosulfate Amber Bottle | | |

| IOC | |
|---|---|
| BP1U | 1L unpreserved plastic |
| BP3N* | 250mL HNO3 plastic |
| BP3C | 250mL Sodium Hydroxide |
| AG2U | 500mL unpres amber glass |
| | |
| | |

* Can also be a BP4N

| Matrix | |
|---|---|
| WT | Water |
| SL | Solid |
| NAL | Non-aqueous Liquid |
| OL | OIL |
| WP | Wipe |
| DW | Drinking Water |

| SOC | |
|---|---|
| VG9T | 40mL Na Thio amber vial |
| DG9A | 40mL Ascorbic acid/ maleic Acid vials |
| DG9Y | Citrate/Na Thiosulfate 40mL |
| DG6T | Na Thiosulfate 60mL vial |
| DG6M | MonoClActetic/Na Thio 60mL |
| AG3U | 250mL unpres amber glass |
| AG3T | Na Thiosulfate 250mL bottle |
| BP1B | Na Thiosulfate Amber bottle |
| AG1T | Na Thiosulfate 1L Amber |
| AG1A | 525.3 Chemical Blend |

Sender Initials AS

Additional Comments

**WO#: 70264905**
**PM: JSA** **Due Date: 08/11/23**
**CLIENT: NYAW**

Client Name: Liberty Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No Temperature Blank Present: ☐ Yes ☑ No
Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Ziploc ☐ None ☐ Other Type of Ice: ☑ Wet Blue None

Thermometer Used: 7H188 Correction Factor: -0.3 ☑ Samples on ice, cooling process has begun
Cooler Temperature(°C): 5.5 Cooler Temperature Corrected(°C): 5.3 Date/Time 5035A kits placed in freezer ✓
Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ Yes ☐ No

Did samples orignate from a foreign source including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MELV-0076) and include with SCUR/COC paperwork.

Date and Initials of person examining contents: 7/28/23 EU

| | | | | COMMENTS: |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | | 5. |
| Short Hold Time Analysis (<72hr): | ☐Yes | ☑No | | 6. |
| Rush Turn Around Time Requested | ☐Yes | ☑No | | 7. |
| Sufficient Volume: (Triple volume provided for MS/MSD) | ☑Yes | ☐No | | 8. |
| Correct Containers Used: | ☑Yes | ☐No | | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | | |
| Containers Intact: | ☑Yes | ☐No | | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. Note: if sediment is visible in the dissolved container. |
| Sample Labels match COC: -Includes date/time/ID/Analysis | ☑Yes | ☐No | | 12. |
| Matrix: | SL | WT | OIL OTHER | |

Date and Initials of person checking preservation: 7/28/23 EU

| | | | | |
|---|---|---|---|---|
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 13. ☐ $HNO_3$ ☐ $H_2SO_4$ ☐ NaOH ☐ HCl |
| pH paper Lot # | | | | Sample # |
| All containers needing preservation are found to be in compliance with method recommendation? ($HNO_3$, $H_2SO_4$, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide) | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis | | | | Initial when completed: / Lot # of added preservative: / Date/Time preservative added: |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| KI starch test strips Lot # | | | | |
| Residual chlorine strips Lot # | | | ✓ | Positive for Res. Chlorine? Y N |
| SM 4500 CN samples checked for sul | ☐Yes | ☐No | ☑N/A | 15. |
| Lead Acetate Strips Lot # | | | | Positive for Sulfide? Y N |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☑No | ☐N/A | 16. |
| Trip Blank Present: | ☐Yes | ☑No | ☐N/A | 17. |
| Trip Blank Custody Seals Present | ☐Yes | ☑No | ☐N/A | |

**Client Notification/ Resolution:** Field Data Required? Y / N
Person Contacted: Date/Time:
Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

August 18, 2023

Jennifer Aracri
Pace Analytical Services - Long Island, NY
575 Broad Hollow Road
Melville, NY 11747

Project Location: 1,4 DIOX/CL/PFAS/POC 7/78
Client Job Number:
Project Number: 70264905
Laboratory Work Order Number: 23H0761

Enclosed are results of analyses for samples as received by the laboratory on August 3, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kaitlyn A. Feliciano
Project Manager

# Table of Contents

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Pace Analytical Services - Long Island, NY
575 Broad Hollow Road
Melville, NY 11747
ATTN: Jennifer Aracri

REPORT DATE: 8/18/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 70264905

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 23H0761

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 1,4 DIOX/CL/PFAS/POC 7/78

| FIELD SAMPLE # | LAB ID: | MATRIX | SAMPLE DESCRIPTION | TEST | SUB LAB |
|---|---|---|---|---|---|
| N-09338 | 23H0761-01 | Drinking Water | | EPA 533 | |
| GAC-3S/4S | 23H0761-02 | Drinking Water | | EPA 533 | |
| N-10863 | 23H0761-03 | Drinking Water | | EPA 533 | |

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**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

**EPA 533**

**Qualifications:**

**PF-17**

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

**Analyte & Samples(s) Qualified:**

**M2-8:2FTS**
B348192-BLK1

**S-29**

Extracted Internal Standard is outside of control limits.

**Analyte & Samples(s) Qualified:**

**M2-8:2FTS**
B348192-BS1, B348192-BSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1,4 DIOX/CL/PFAS/POC 7/78 Sample Description: Work Order: 23H0761

Date Received: 8/3/2023

**Field Sample #: N-09338** Sampled: 7/28/2023 10:00

**Sample ID: 23H0761-01**

Sample Matrix: Drinking Water

**Semivolatile Organic Compounds by - LC/MS-MS**

| Analyte | Results | RL | MCL/SMCL MA ORSG | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluoropentanoic acid (PFPeA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluorohexanoic acid (PFHxA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| 11Cl-PF3OUdS (F53B Major) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| 9Cl-PF3ONS (F53B Minor) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluorodecanoic acid (PFDA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluorododecanoic acid (PFDoA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluoroheptanesulfonic acid (PFHpS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluoro-4-oxapentanoic acid (PFMPA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluoro-5-oxahexanoic acid (PFMBA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluoropentanesulfonic acid (PFPeS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluorooctanoic acid (PFOA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |
| Perfluorononanoic acid (PFNA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:49 | QNW |

| Surrogates | % Recovery | Recovery Limits | Flag/Qual | |
|---|---|---|---|---|
| M2-4:2FTS | 93.0 | 50-200 | | 8/15/23 18:49 |
| M2-8:2FTS | 173 | 50-200 | | 8/15/23 18:49 |
| MPFBA | 96.2 | 50-200 | | 8/15/23 18:49 |
| M3HFPO-DA | 73.2 | 50-200 | | 8/15/23 18:49 |
| M6PFDA | 94.2 | 50-200 | | 8/15/23 18:49 |
| M3PFBS | 106 | 50-200 | | 8/15/23 18:49 |
| M7PFUnA | 95.4 | 50-200 | | 8/15/23 18:49 |
| M2-6:2FTS | 117 | 50-200 | | 8/15/23 18:49 |
| M5PFPeA | 96.1 | 50-200 | | 8/15/23 18:49 |
| M5PFHxA | 89.6 | 50-200 | | 8/15/23 18:49 |
| M3PFHxS | 108 | 50-200 | | 8/15/23 18:49 |
| M4PFHpA | 88.4 | 50-200 | | 8/15/23 18:49 |
| M8PFOA | 85.6 | 50-200 | | 8/15/23 18:49 |
| M8PFOS | 95.8 | 50-200 | | 8/15/23 18:49 |
| M9PFNA | 86.4 | 50-200 | | 8/15/23 18:49 |
| MPFDoA | 101 | 50-200 | | 8/15/23 18:49 |

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Project Location: 1,4 DIOX/CL/PFAS/POC 7/78 Sample Description: Work Order: 23H0761

Date Received: 8/3/2023

**Field Sample #: GAC-3S/4S** Sampled: 7/28/2023 10:15

**Sample ID: 23H0761-02**

Sample Matrix: Drinking Water

**Semivolatile Organic Compounds by - LC/MS-MS**

| Analyte | Results | RL | MCL/SMCL MA ORSG | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluoropentanoic acid (PFPeA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluorohexanoic acid (PFHxA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| 11Cl-PF3OUdS (F53B Major) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| 9Cl-PF3ONS (F53B Minor) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluorodecanoic acid (PFDA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluorododecanoic acid (PFDoA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluoroheptanesulfonic acid (PFHpS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluoro-4-oxapentanoic acid (PFMPA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluoro-5-oxahexanoic acid (PFMBA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluoropentanesulfonic acid (PFPeS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluorooctanoic acid (PFOA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |
| Perfluorononanoic acid (PFNA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 18:56 | QNW |

| Surrogates | % Recovery | Recovery Limits | Flag/Qual | |
|---|---|---|---|---|
| M2-4:2FTS | 98.3 | 50-200 | | 8/15/23 18:56 |
| M2-8:2FTS | 190 | 50-200 | | 8/15/23 18:56 |
| MPFBA | 103 | 50-200 | | 8/15/23 18:56 |
| M3HFPO-DA | 66.8 | 50-200 | | 8/15/23 18:56 |
| M6PFDA | 69.2 | 50-200 | | 8/15/23 18:56 |
| M3PFBS | 111 | 50-200 | | 8/15/23 18:56 |
| M7PFUnA | 77.3 | 50-200 | | 8/15/23 18:56 |
| M2-6:2FTS | 121 | 50-200 | | 8/15/23 18:56 |
| M5PFPeA | 98.8 | 50-200 | | 8/15/23 18:56 |
| M5PFHxA | 87.4 | 50-200 | | 8/15/23 18:56 |
| M3PFHxS | 113 | 50-200 | | 8/15/23 18:56 |
| M4PFHpA | 85.3 | 50-200 | | 8/15/23 18:56 |
| M8PFOA | 81.5 | 50-200 | | 8/15/23 18:56 |
| M8PFOS | 107 | 50-200 | | 8/15/23 18:56 |
| M9PFNA | 72.9 | 50-200 | | 8/15/23 18:56 |
| MPFDoA | 75.3 | 50-200 | | 8/15/23 18:56 |

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Project Location: 1,4 DIOX/CL/PFAS/POC 7/78 Sample Description: Work Order: 23H0761

Date Received: 8/3/2023

**Field Sample #: N-10863** Sampled: 7/28/2023 13:00

**Sample ID: 23H0761-03**

Sample Matrix: Drinking Water

**Semivolatile Organic Compounds by - LC/MS-MS**

| Analyte | Results | RL | MCL/SMCL MA ORSG | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluoropentanoic acid (PFPeA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluorohexanoic acid (PFHxA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| 11Cl-PF3OUdS (F53B Major) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| 9Cl-PF3ONS (F53B Minor) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluorodecanoic acid (PFDA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluorododecanoic acid (PFDoA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluoroheptanesulfonic acid (PFHpS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluoro-4-oxapentanoic acid (PFMPA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluoro-5-oxahexanoic acid (PFMBA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluoropentanesulfonic acid (PFPeS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluorooctanoic acid (PFOA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |
| Perfluorononanoic acid (PFNA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/11/23 | 8/15/23 19:03 | QNW |

| Surrogates | % Recovery | Recovery Limits | Flag/Qual | |
|---|---|---|---|---|
| M2-4:2FTS | 102 | 50-200 | | 8/15/23 19:03 |
| M2-8:2FTS | 172 | 50-200 | | 8/15/23 19:03 |
| MPFBA | 108 | 50-200 | | 8/15/23 19:03 |
| M3HFPO-DA | 85.1 | 50-200 | | 8/15/23 19:03 |
| M6PFDA | 88.5 | 50-200 | | 8/15/23 19:03 |
| M3PFBS | 114 | 50-200 | | 8/15/23 19:03 |
| M7PFUnA | 93.4 | 50-200 | | 8/15/23 19:03 |
| M2-6:2FTS | 129 | 50-200 | | 8/15/23 19:03 |
| M5PFPeA | 106 | 50-200 | | 8/15/23 19:03 |
| M5PFHxA | 98.9 | 50-200 | | 8/15/23 19:03 |
| M3PFHxS | 116 | 50-200 | | 8/15/23 19:03 |
| M4PFHpA | 97.8 | 50-200 | | 8/15/23 19:03 |
| M8PFOA | 102 | 50-200 | | 8/15/23 19:03 |
| M8PFOS | 111 | 50-200 | | 8/15/23 19:03 |
| M9PFNA | 96.4 | 50-200 | | 8/15/23 19:03 |
| MPFDoA | 101 | 50-200 | | 8/15/23 19:03 |

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## Sample Extraction Data

**Prep Method:EPA 533** **Analytical Method:EPA 533**

| Lab Number [Field ID] | Batch | Initial [mL] | Final [mL] | Date |
|---|---|---|---|---|
| 23H0761-01 [N-09338] | B348192 | 283 | 1.00 | 08/11/23 |
| 23H0761-02 [GAC-3S/4S] | B348192 | 292 | 1.00 | 08/11/23 |
| 23H0761-03 [N-10863] | B348192 | 293 | 1.00 | 08/11/23 |

**QUALITY CONTROL**

**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B348192 - EPA 533** | | | | | | | | | | | |
| **Blank (B348192-BLK1)** | | | | Prepared: 08/11/23 Analyzed: 08/15/23 | | | | | | | |
| Perfluorobutanoic acid (PFBA) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluoropentanoic acid (PFPeA) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluorohexanoic acid (PFHxA) | ND | 1.8 | ng/L | | | | | | | | |
| 11Cl-PF3OUdS (F53B Major) | ND | 1.8 | ng/L | | | | | | | | |
| 9Cl-PF3ONS (F53B Minor) | ND | 1.8 | ng/L | | | | | | | | |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | 1.8 | ng/L | | | | | | | | |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | ND | 1.8 | ng/L | | | | | | | | |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluorodecanoic acid (PFDA) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluorododecanoic acid (PFDoA) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluoroheptanesulfonic acid (PFHpS) | ND | 1.8 | ng/L | | | | | | | | |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluoro-4-oxapentanoic acid (PFMPA) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluoro-5-oxahexanoic acid (PFMBA) | ND | 1.8 | ng/L | | | | | | | | |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluoropentanesulfonic acid (PFPeS) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.8 | ng/L | | | | | | | | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluorooctanoic acid (PFOA) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.8 | ng/L | | | | | | | | |
| Perfluorononanoic acid (PFNA) | ND | 1.8 | ng/L | | | | | | | | |
| Surrogate: M2-4:2FTS | *41.0* | | ng/L | 34.5 | | 119 | | 50-200 | | | |
| **Surrogate: M2-8:2FTS** | *93.4* | | ng/L | 35.3 | | **265** | * | 50-200 | | | PF-17 |
| Surrogate: MPFBA | *47.3* | | ng/L | 36.7 | | 129 | | 50-200 | | | |
| Surrogate: M3HFPO-DA | *37.0* | | ng/L | 36.7 | | 101 | | 50-200 | | | |
| Surrogate: M6PFDA | *50.4* | | ng/L | 36.7 | | 137 | | 50-200 | | | |
| Surrogate: M3PFBS | *42.6* | | ng/L | 34.2 | | 124 | | 50-200 | | | |
| Surrogate: M7PFUnA | *51.9* | | ng/L | 36.7 | | 141 | | 50-200 | | | |
| Surrogate: M2-6:2FTS | *50.5* | | ng/L | 34.9 | | 145 | | 50-200 | | | |
| Surrogate: M5PFPeA | *47.2* | | ng/L | 36.7 | | 128 | | 50-200 | | | |
| Surrogate: M5PFHxA | *46.5* | | ng/L | 36.7 | | 127 | | 50-200 | | | |
| Surrogate: M3PFHxS | *43.4* | | ng/L | 34.8 | | 125 | | 50-200 | | | |
| Surrogate: M4PFHpA | *46.8* | | ng/L | 36.7 | | 128 | | 50-200 | | | |
| Surrogate: M8PFOA | *50.1* | | ng/L | 36.7 | | 136 | | 50-200 | | | |
| Surrogate: M8PFOS | *44.9* | | ng/L | 35.2 | | 127 | | 50-200 | | | |
| Surrogate: M9PFNA | *48.4* | | ng/L | 36.7 | | 132 | | 50-200 | | | |
| Surrogate: MPFDoA | *46.9* | | ng/L | 36.7 | | 128 | | 50-200 | | | |
| **LCS (B348192-BS1)** | | | | Prepared: 08/11/23 Analyzed: 08/15/23 | | | | | | | |
| Perfluorobutanoic acid (PFBA) | 1.70 | 1.8 | ng/L | 1.81 | | 94.2 | | 50-150 | | | |
| Perfluorobutanesulfonic acid (PFBS) | 1.38 | 1.8 | ng/L | 1.60 | | 86.6 | | 50-150 | | | |
| Perfluoropentanoic acid (PFPeA) | 1.61 | 1.8 | ng/L | 1.81 | | 89.1 | | 50-150 | | | |
| Perfluorohexanoic acid (PFHxA) | 1.59 | 1.8 | ng/L | 1.81 | | 87.8 | | 50-150 | | | |
| 11Cl-PF3OUdS (F53B Major) | 1.33 | 1.8 | ng/L | 1.70 | | 78.1 | | 50-150 | | | |
| 9Cl-PF3ONS (F53B Minor) | 1.36 | 1.8 | ng/L | 1.68 | | 80.9 | | 50-150 | | | |

**QUALITY CONTROL**

**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B348192 - EPA 533** | | | | | | | | | | | |
| **LCS (B348192-BS1)** | | | | Prepared: 08/11/23 Analyzed: 08/15/23 | | | | | | | |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 1.41 | 1.8 | ng/L | 1.70 | | 82.9 | | 50-150 | | | |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | 1.88 | 1.8 | ng/L | 1.81 | | 104 | | 50-150 | | | |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | 1.35 | 1.8 | ng/L | 1.73 | | 77.7 | | 50-150 | | | |
| Perfluorodecanoic acid (PFDA) | 1.57 | 1.8 | ng/L | 1.81 | | 86.9 | | 50-150 | | | |
| Perfluorododecanoic acid (PFDoA) | 1.54 | 1.8 | ng/L | 1.81 | | 85.3 | | 50-150 | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.52 | 1.8 | ng/L | 1.61 | | 94.3 | | 50-150 | | | |
| Perfluoroheptanesulfonic acid (PFHpS) | 1.56 | 1.8 | ng/L | 1.72 | | 90.4 | | 50-150 | | | |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | 1.53 | 1.8 | ng/L | 1.69 | | 90.6 | | 50-150 | | | |
| Perfluorohexanesulfonic acid (PFHxS) | 1.43 | 1.8 | ng/L | 1.65 | | 86.7 | | 50-150 | | | |
| Perfluoro-4-oxapentanoic acid (PFMPA) | 1.57 | 1.8 | ng/L | 1.81 | | 86.9 | | 50-150 | | | |
| Perfluoro-5-oxahexanoic acid (PFMBA) | 1.46 | 1.8 | ng/L | 1.81 | | 80.7 | | 50-150 | | | |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | 1.24 | 1.8 | ng/L | 1.72 | | 72.0 | | 50-150 | | | |
| Perfluoropentanesulfonic acid (PFPeS) | 1.48 | 1.8 | ng/L | 1.70 | | 87.1 | | 50-150 | | | |
| Perfluoroundecanoic acid (PFUnA) | 1.58 | 1.8 | ng/L | 1.81 | | 87.4 | | 50-150 | | | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 1.82 | 1.8 | ng/L | 1.81 | | 101 | | 50-150 | | | |
| Perfluoroheptanoic acid (PFHpA) | 1.58 | 1.8 | ng/L | 1.81 | | 87.4 | | 50-150 | | | |
| Perfluorooctanoic acid (PFOA) | 1.45 | 1.8 | ng/L | 1.81 | | 80.4 | | 50-150 | | | |
| Perfluorooctanesulfonic acid (PFOS) | 1.54 | 1.8 | ng/L | 1.67 | | 92.4 | | 50-150 | | | |
| Perfluorononanoic acid (PFNA) | 1.60 | 1.8 | ng/L | 1.81 | | 88.7 | | 50-150 | | | |
| Surrogate: M2-4:2FTS | *39.1* | | ng/L | 33.9 | | 115 | | 50-200 | | | |
| **Surrogate: M2-8:2FTS** | *86.0* | | ng/L | 34.7 | | **248** | * | 50-200 | | | S-29 |
| Surrogate: MPFBA | *42.8* | | ng/L | 36.1 | | 119 | | 50-200 | | | |
| Surrogate: M3HFPO-DA | *37.3* | | ng/L | 36.1 | | 103 | | 50-200 | | | |
| Surrogate: M6PFDA | *46.9* | | ng/L | 36.1 | | 130 | | 50-200 | | | |
| Surrogate: M3PFBS | *39.3* | | ng/L | 33.7 | | 117 | | 50-200 | | | |
| Surrogate: M7PFUnA | *46.4* | | ng/L | 36.1 | | 128 | | 50-200 | | | |
| Surrogate: M2-6:2FTS | *45.4* | | ng/L | 34.3 | | 132 | | 50-200 | | | |
| Surrogate: M5PFPeA | *43.7* | | ng/L | 36.1 | | 121 | | 50-200 | | | |
| Surrogate: M5PFHxA | *43.2* | | ng/L | 36.1 | | 120 | | 50-200 | | | |
| Surrogate: M3PFHxS | *40.4* | | ng/L | 34.2 | | 118 | | 50-200 | | | |
| Surrogate: M4PFHpA | *44.5* | | ng/L | 36.1 | | 123 | | 50-200 | | | |
| Surrogate: M8PFOA | *46.3* | | ng/L | 36.1 | | 128 | | 50-200 | | | |
| Surrogate: M8PFOS | *41.8* | | ng/L | 34.6 | | 121 | | 50-200 | | | |
| Surrogate: M9PFNA | *43.7* | | ng/L | 36.1 | | 121 | | 50-200 | | | |
| Surrogate: MPFDoA | *40.2* | | ng/L | 36.1 | | 111 | | 50-200 | | | |
| **LCS Dup (B348192-BSD1)** | | | | Prepared: 08/11/23 Analyzed: 08/15/23 | | | | | | | |
| Perfluorobutanoic acid (PFBA) | 1.34 | 1.8 | ng/L | 1.76 | | 76.2 | | 50-150 | 23.4 | 50 | |
| Perfluorobutanesulfonic acid (PFBS) | 1.07 | 1.8 | ng/L | 1.56 | | 68.7 | | 50-150 | 25.4 | 50 | |
| Perfluoropentanoic acid (PFPeA) | 1.31 | 1.8 | ng/L | 1.76 | | 74.5 | | 50-150 | 20.3 | 50 | |
| Perfluorohexanoic acid (PFHxA) | 1.25 | 1.8 | ng/L | 1.76 | | 71.1 | | 50-150 | 23.3 | 50 | |
| 11Cl-PF3OUdS (F53B Major) | 1.11 | 1.8 | ng/L | 1.66 | | 66.7 | | 50-150 | 18.1 | 50 | |
| 9Cl-PF3ONS (F53B Minor) | 1.08 | 1.8 | ng/L | 1.64 | | 65.8 | | 50-150 | 22.9 | 50 | |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 1.12 | 1.8 | ng/L | 1.66 | | 67.7 | | 50-150 | 22.6 | 50 | |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | 1.49 | 1.8 | ng/L | 1.76 | | 84.2 | | 50-150 | 23.3 | 50 | |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | 1.15 | 1.8 | ng/L | 1.69 | | 67.7 | | 50-150 | 16.1 | 50 | |
| Perfluorodecanoic acid (PFDA) | 1.27 | 1.8 | ng/L | 1.76 | | 72.1 | | 50-150 | 21.0 | 50 | |
| Perfluorododecanoic acid (PFDoA) | 1.18 | 1.8 | ng/L | 1.76 | | 66.8 | | 50-150 | 26.7 | 50 | |

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B348192 - EPA 533** | | | | | | | | | | | |
| **LCS Dup (B348192-BSD1)** | | | | Prepared: 08/11/23 Analyzed: 08/15/23 | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.21 | 1.8 | ng/L | 1.57 | | 77.0 | | 50-150 | 22.5 | 50 | |
| Perfluoroheptanesulfonic acid (PFHpS) | 1.09 | 1.8 | ng/L | 1.68 | | 64.6 | | 50-150 | 35.6 | 50 | |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | 1.14 | 1.8 | ng/L | 1.65 | | 69.3 | | 50-150 | 28.9 | 50 | |
| Perfluorohexanesulfonic acid (PFHxS) | 1.05 | 1.8 | ng/L | 1.61 | | 65.1 | | 50-150 | 30.8 | 50 | |
| Perfluoro-4-oxapentanoic acid (PFMPA) | 1.24 | 1.8 | ng/L | 1.76 | | 70.5 | | 50-150 | 23.2 | 50 | |
| Perfluoro-5-oxahexanoic acid (PFMBA) | 1.17 | 1.8 | ng/L | 1.76 | | 66.1 | | 50-150 | 22.3 | 50 | |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | 1.36 | 1.8 | ng/L | 1.68 | | 81.3 | | 50-150 | 9.71 | 50 | |
| Perfluoropentanesulfonic acid (PFPeS) | 1.10 | 1.8 | ng/L | 1.66 | | 66.6 | | 50-150 | 28.9 | 50 | |
| Perfluoroundecanoic acid (PFUnA) | 1.19 | 1.8 | ng/L | 1.76 | | 67.6 | | 50-150 | 27.8 | 50 | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 1.43 | 1.8 | ng/L | 1.76 | | 81.3 | | 70-130 | 23.8 | 30 | |
| Perfluoroheptanoic acid (PFHpA) | 1.27 | 1.8 | ng/L | 1.76 | | 71.7 | | 50-150 | 22.0 | 50 | |
| Perfluorooctanoic acid (PFOA) | 1.28 | 1.8 | ng/L | 1.76 | | 72.5 | | 50-150 | 12.6 | 50 | |
| Perfluorooctanesulfonic acid (PFOS) | 1.08 | 1.8 | ng/L | 1.63 | | 66.1 | | 50-150 | 35.4 | 50 | |
| Perfluorononanoic acid (PFNA) | 1.22 | 1.8 | ng/L | 1.76 | | 68.9 | | 50-150 | 27.4 | 50 | |
| Surrogate: M2-4:2FTS | *40.1* | | ng/L | 33.1 | | 121 | | 50-200 | | | |
| **Surrogate: M2-8:2FTS** | *84.8* | | ng/L | 33.9 | | **250** | * | 50-200 | | | S-29 |
| Surrogate: MPFBA | *42.3* | | ng/L | 35.3 | | 120 | | 50-200 | | | |
| Surrogate: M3HFPO-DA | *37.5* | | ng/L | 35.3 | | 106 | | 50-200 | | | |
| Surrogate: M6PFDA | *48.8* | | ng/L | 35.3 | | 138 | | 50-200 | | | |
| Surrogate: M3PFBS | *40.6* | | ng/L | 32.9 | | 123 | | 50-200 | | | |
| Surrogate: M7PFUnA | *47.5* | | ng/L | 35.3 | | 135 | | 50-200 | | | |
| Surrogate: M2-6:2FTS | *48.1* | | ng/L | 33.5 | | 143 | | 50-200 | | | |
| Surrogate: M5PFPeA | *42.8* | | ng/L | 35.3 | | 121 | | 50-200 | | | |
| Surrogate: M5PFHxA | *43.1* | | ng/L | 35.3 | | 122 | | 50-200 | | | |
| Surrogate: M3PFHxS | *44.1* | | ng/L | 33.4 | | 132 | | 50-200 | | | |
| Surrogate: M4PFHpA | *44.6* | | ng/L | 35.3 | | 126 | | 50-200 | | | |
| Surrogate: M8PFOA | *44.9* | | ng/L | 35.3 | | 127 | | 50-200 | | | |
| Surrogate: M8PFOS | *44.0* | | ng/L | 33.8 | | 130 | | 50-200 | | | |
| Surrogate: M9PFNA | *46.1* | | ng/L | 35.3 | | 131 | | 50-200 | | | |
| Surrogate: MPFDoA | *44.8* | | ng/L | 35.3 | | 127 | | 50-200 | | | |

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**FLAG/QUALIFIER SUMMARY**

| | |
|---|---|
| * | QC result is outside of established limits. |
| † | Wide recovery limits established for difficult compound. |
| ‡ | Wide RPD limits established for difficult compound. |
| # | Data exceeded client recommended or regulatory level |
| ND | Not Detected |
| RL | Reporting Limit is at the level of quantitation (LOQ) |
| DL | Detection Limit is the lower limit of detection determined by the MDL study |
| MCL | Maximum Contaminant Level |
| | Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded. |
| | No results have been blank subtracted unless specified in the case narrative section. |
| PF-17 | Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side. |
| S-29 | Extracted Internal Standard is outside of control limits. |

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## CERTIFICATIONS

**Certified Analyses included in this Report**

| Analyte | Certifications |
|---|---|
| ***EPA 533 in Drinking Water*** | |
| Perfluorobutanoic acid (PFBA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorobutanesulfonic acid (PFBS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoropentanoic acid (PFPeA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorohexanoic acid (PFHxA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 11Cl-PF3OUdS (F53B Major) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 9Cl-PF3ONS (F53B Minor) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorodecanoic acid (PFDA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorododecanoic acid (PFDoA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoroheptanesulfonic acid (PFHpS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorohexanesulfonic acid (PFHxS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoro-4-oxapentanoic acid (PFMPA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoro-5-oxahexanoic acid (PFMBA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoropentanesulfonic acid (PFPeS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoroundecanoic acid (PFUnA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoroheptanoic acid (PFHpA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorooctanoic acid (PFOA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorooctanesulfonic acid (PFOS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorononanoic acid (PFNA) | NH,NY,VT-DW,ME,NJ,PA,CT |

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

| Code | Description | Number | Expires |
|---|---|---|---|
| CT | Connecticut Department of Public Health | PH-0821 | 12/31/2024 |
| NY | New York State Department of Health | 10899 NELAP | 04/1/2024 |
| NH | New Hampshire Environmental Lab | 2516 NELAP | 02/5/2024 |
| NJ | New Jersey DEP | MA007 NELAP | 06/30/2024 |
| VT-DW | Vermont Department of Health Drinking Water | VT-255716 | 06/12/2024 |
| ME | State of Maine | MA00100 | 06/9/2025 |
| PA | Commonwealth of Pennsylvania DEP | 68-05812 | 06/30/2024 |

L3H0761

# Internal Transfer Chain of Custody

Pace

☐ Samples Pre-Logged into eCOC.

State Of Origin: NY

Cert. Needed: [X] Yes ☐ No

**Workorder:** 70264905 **Workorder Name:** 1,4 DIOX/CL/PFAS/POC 7/28

Owner Received Date: 7/28/2023 Results Requested By: 8/11/2023

| Report To | Subcontract To |
|---|---|
| Jennifer Aracri<br>Pace Analytical Melville<br>575 Broad Hollow Road<br>Melville, NY 11747<br>Phone (631)694-3040 | Pace New England<br>39 Spruce St.<br>East Longmeadow, MA 01028<br>Phone (413)525-2332 |

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Other | Requested Analysis: PFAS by 533 | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|
| 1 | N-09338 | PS | 7/28/2023 10:00 | 70264905001 | Drinking | 1 | X | |
| 2 | GAC-3S/4S | PS | 7/28/2023 10:15 | 70264905002 | Drinking | 1 | X | |
| 3 | N-10863 | PS | 7/28/2023 13:00 | 70264905003 | Drinking | 1 | X | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Amy Barker Pace Lt | 8/2/23 1500 | MS MA(AAL) | 8/2 1730 |
| 2 | MS MA(AAL) Anthony Green | | Anthony Green AUG 02 2023 2100 | |
| 3 | | 8/3/23 0400 | | 8/3/23 0400 |

Comments: 25 Compound List

Cooler Temperature on Receipt ____ °C | Custody Seal Y or N | Received on Ice Y or N | Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

8/3/23 0400

J Davis DAVIS 8-3-23 7:15

J Davis DAVIS 8-3-23

CAMB 2.6 8/3/23 930

AS

| Pace ANALYTICAL SERVICES | DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist |
|---|---|
| | Effective Date: 07/13/2023 |

# Log In Back-Sheet

Client Pace Melville

Project 70264905

MCP/RCP Required

Deliverable Package Requirement

Location 1,4 Diox/CVPFAS/POC 7128

PWSID# (When Applicable)

Arrival Method:

Courier [X] Fed Ex [ ] Walk In [ ] Other [ ]

Received By / Date / Time FR 8-3-23 9:30

Back-Sheet By / Date / Time CH 8-4-23 12:53

Temperature Method Gun # 5

Temp X < 6° C Actual Temperature 2.6

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

**Notes regarding Samples/COC outside of SOP:**

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

| | True | False |
|---|---|---|
| Received on Ice | X | |
| Received in Cooler | X | |
| Custody Seal: DATE TIME | | X |
| COC Relinquished | X | |
| COC/Samples Labels Agree | X | |
| All Samples in Good Condition | X | |
| Samples Received within Holding Time | X | |
| Is there enough Volume | X | |
| Proper Media/Container Used | X | |
| Splitting Samples Required | | X |
| MS/MSD | | X |
| Trip Blanks | | X |
| Lab to Filters | | X |
| COC Legible | X | |

COC Included: (Check all included)

Client [X] Analysis [X] Sampler Name [ ]

Project [X] IDs [X] Collection Date/Time [X]

All Samples Proper pH: (N/A) [ ] [ ]

**Additional Container Notes**

***Note: West Virginia requires all samples to have their temperature taken. Note any outliers.***

Qualtrax ID: 120836

| Pace ANALYTICAL SERVICES | DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist |
|---|---|
| | Effective Date: 07/13/2023 |

| Sample | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | |
| 16oz Amb/Clear | Soils Jars (Circle Amb/Clear) | | | | | | | | | | | | | | | | | | | | | |
| 8oz Amb/Clear | | | | | | | | | | | | | | | | | | | | | | |
| 4oz Amb/Clear | | | | | | | | | | | | | | | | | | | | | | |
| 2oz Amb/Clear | | | | | | | | | | | | | | | | | | | | | | |
| Unpreserved | Ambers | 1 Liter | | | | | | | | | | | | | | | | | | | | |
| HCL | | | | | | | | | | | | | | | | | | | | | | |
| Sulfuric | | | | | | | | | | | | | | | | | | | | | | |
| Sulfuric | | 250mL | | | | | | | | | | | | | | | | | | | | |
| Phosphoric | | | | | | | | | | | | | | | | | | | | | | |
| HCl | | | | | | | | | | | | | | | | | | | | | | |
| Unpreserved | | 100mL | | | | | | | | | | | | | | | | | | | | |
| Unpreserved | Plastics | 1 Liter | | | | | | | | | | | | | | | | | | | | |
| Sulfuric | | | | | | | | | | | | | | | | | | | | | | |
| Unpreserved | | 500mL | | | | | | | | | | | | | | | | | | | | |
| Sulfuric | | | | | | | | | | | | | | | | | | | | | | |
| Unpreserved | | 250mL | | | | | | | | | | | | | | | | | | | | |
| Trizma | | | | | | | | | | | | | | | | | | | | | | |
| Sulfuric | | | | | | | | | | | | | | | | | | | | | | |
| Nitric | | | | | | | | | | | | | | | | | | | | | | |
| NaOH | | | | | | | | | | | | | | | | | | | | | | |
| Ammonium Acetate | | | | | | | | | | | | | | | | | | | | | | |
| NaOH/Zinc | | | | | | | | | | | | | | | | | | | | | | |
| Unpreserved | VOA Vials | | | | | | | | | | | | | | | | | | | | | |
| HCl | | | | | | | | | | | | | | | | | | | | | | |
| MeOH | | | | | | | | | | | | | | | | | | | | | | |
| D.I. Water | | | | | | | | | | | | | | | | | | | | | | |
| BiSulfate | | | | | | | | | | | | | | | | | | | | | | |
| Col/Bact | | | | | | | | | | | | | | | | | | | | | | |
| Ammonium Acetate 250ml Plastic | Other / Fill in | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |

Qualtrax ID: 120836

# Laboratory Results

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests

575 Broad Hollow Road, Melville, NY 11747
TEL: (516) 370-6000 FAX: (516) 886-5526
www.pacelabs.com

**Sample Information:**
Type: Drinking Water
Origin: Raw Well
Routine

**Liberty-NY - Merrick OPS**
**60 Brooklyn Avenue**
**Merrick, NY 11566**
**Attn To :** Natasha Niola
Federal ID : 2902840
Collected : 08/11/2023 07:30 AM Point N-14347
Received : 08/11/2023 12:00 PM Location Seaman Neck #3A
Collected By CLIENT

**Lab No. : 70266700001**
**Client Sample ID.: N-14347**

**Sample Comments:**
Samples were received on the same day of collection on ice and are above 6 degrees Celcius. Samples were placed on ice by the lab and the cooling process has begun.

Analytical Method: EPA 300.0

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| Chloride | 17.4 | | 1 | mg/L | 250 | 08/22/2023 11:50 | 001 BP4U1/1 |

Analytical Method: EPA 522 Prep Method: EPA 522 Prep Date: 08/16/2023 9:37 AM

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| 1,4-Dioxane (p-Dioxane) | **2.7*** | | 1 | ug/L | 1 | 08/17/2023 1:32 PM | 001 AG2R1/2 |
| Surr: 1,4-Dioxane-d8 (S) | 111% | | 1 | %REC | | 08/17/2023 1:32 PM | 001 AG2R1/2 |

Analytical Method: EPA 524.2

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,1,1-Trichloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,1,2,2-Tetrachloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,1,2-Trichloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,1,2-Trichlorotrifluoroethane | <0.50 | N3 | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,1-Dichloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,1-Dichloroethene | 0.73 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,1-Dichloropropene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,2,3-Trichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,2,3-Trichloropropane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,2,4-Trichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,2,4-Trimethylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,2-Dichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,2-Dichloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,2-Dichloropropane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,3,5-Trimethylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,3-Dichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,3-Dichloropropane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 1,4-Dichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 2,2-Dichloropropane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 2-Chlorotoluene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| 4-Chlorotoluene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Benzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Bromobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Bromochloromethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Bromodichloromethane | <0.50 | | 1 | ug/L | | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Bromoform | <0.50 | | 1 | ug/L | | 08/20/2023 4:41 PM | 001 VG9C1/2 |

Qualifiers:
DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.Estimated value - below calibration range
U - Indicates the compound was analyzed for, but not detected
See qualifiers page for additional qualifier definitions.

Result(s) reported meet(s) NYS Regulatory Limit(s).
Result(s) flagged with * Exceed NYS Regulatory Limit(s). Limit Noted.

Jennifer Aracri

Test results meet the requirements of NELAC unless otherwise noted.

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www.pacelabs.com

# Laboratory Results

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests

**Sample Information:**
Type: Drinking Water
Origin: Raw Well
Routine

**Liberty-NY - Merrick OPS**
**60 Brooklyn Avenue**
**Merrick, NY 11566**
**Attn To :** Natasha Niola

**Lab No. : 70266700001**
**Client Sample ID.: N-14347**

Federal ID : 2902840
Collected : 08/11/2023 07:30 AM Point N-14347
Received : 08/11/2023 12:00 PM Location Seaman Neck #3A
Collected By CLIENT

**Sample Comments:**
Samples were received on the same day of collection on ice and are above 6 degrees Celcius. Samples were placed on ice by the lab and the cooling process has begun.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Bromomethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Carbon tetrachloride | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Chlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Chlorodifluoromethane | <0.50 | N3 | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Chloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Chloroform | <0.50 | | 1 | ug/L | | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Chloromethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Dibromochloromethane | <0.50 | | 1 | ug/L | | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Dibromomethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Dichlorodifluoromethane | <0.50 | L2,v3 | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Ethylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Hexachloro-1,3-butadiene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Isopropylbenzene (Cumene) | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Methyl-tert-butyl ether | <0.50 | | 1 | ug/L | 10 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Methylene Chloride | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Styrene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Tetrachloroethene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Toluene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Total Trihalomethanes (Calc.) | <0.50 | | 1 | ug/L | 80 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Trichloroethene | **17.9*** | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Trichlorofluoromethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Vinyl chloride | <0.50 | | 1 | ug/L | 2 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| cis-1,2-Dichloroethene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| cis-1,3-Dichloropropene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| m&p-Xylene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| n-Butylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| n-Propylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| o-Xylene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| p-Isopropyltoluene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| sec-Butylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| tert-Butylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| trans-1,2-Dichloroethene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| trans-1,3-Dichloropropene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Surr: 1,2-Dichlorobenzene-d4 (S) | 102% | | 1 | %REC | | 08/20/2023 4:41 PM | 001 VG9C1/2 |
| Surr: 4-Bromofluorobenzene (S) | 98% | | 1 | %REC | | 08/20/2023 4:41 PM | 001 VG9C1/2 |

Qualifiers:
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J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.Estimated value - below calibration range
U - Indicates the compound was analyzed for, but not detected
See qualifiers page for additional qualifier definitions.

Result(s) reported meet(s) NYS Regulatory Limit(s).
Result(s) flagged with * Exceed NYS Regulatory Limit(s). Limit Noted.

Jennifer Aracri

Test results meet the requirements of NELAC unless otherwise noted.

# Laboratory Results

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests

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**Sample Information:**
Type: Drinking Water
Origin: Raw Well
Routine

**Liberty-NY - Merrick OPS**
**60 Brooklyn Avenue**
**Merrick, NY 11566**
**Attn To :** Natasha Niola
Federal ID : 2902840
Collected : 08/11/2023 08:50 AM Point N-07407
Received : 08/11/2023 12:00 PM Location Jefferson 11 Well
Collected By CLIENT

**Lab No. : 70266700002**
**Client Sample ID.: N-07407**

Analytical Method:EPA 300.0

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| Chloride | 3.8 | | 1 | mg/L | 250 | 08/23/2023 12:03 | 002 BP4U1/1 |

Analytical Method:EPA 522 Prep Method: EPA 522 Prep Date: 08/16/2023 9:37 AM

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| 1,4-Dioxane (p-Dioxane) | <0.020 | | 1 | ug/L | 1 | 08/17/2023 1:48 PM | 002 AG2R1/2 |
| Surr: 1,4-Dioxane-d8 (S) | 109% | | 1 | %REC | | 08/17/2023 1:48 PM | 002 AG2R1/2 |

Analytical Method:EPA 524.2

| Parameter(s) | Results | Qualifier | D.F. | Units | Limit | Analyzed: | Container: |
|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,1,1-Trichloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,1,2,2-Tetrachloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,1,2-Trichloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,1,2-Trichlorotrifluoroethane | <0.50 | N3 | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,1-Dichloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,1-Dichloroethene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,1-Dichloropropene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,2,3-Trichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,2,3-Trichloropropane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,2,4-Trichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,2,4-Trimethylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,2-Dichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,2-Dichloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,2-Dichloropropane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,3,5-Trimethylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,3-Dichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,3-Dichloropropane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 1,4-Dichlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 2,2-Dichloropropane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 2-Chlorotoluene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| 4-Chlorotoluene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Benzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Bromobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Bromochloromethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Bromodichloromethane | <0.50 | | 1 | ug/L | | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Bromoform | <0.50 | | 1 | ug/L | | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Bromomethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Carbon tetrachloride | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Chlorobenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |

Qualifiers:
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Result(s) flagged with * Exceed NYS Regulatory Limit(s). Limit Noted.

Jennifer Aracri

Test results meet the requirements of NELAC unless otherwise noted.

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# Laboratory Results

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests

**Sample Information:**
Type: Drinking Water
Origin: Raw Well
Routine

**Liberty-NY - Merrick OPS**
**60 Brooklyn Avenue**
**Merrick, NY 11566**
**Attn To :** Natasha Niola
Federal ID : 2902840
Collected : 08/11/2023 08:50 AM Point N-07407
Received : 08/11/2023 12:00 PM Location Jefferson 11 Well
Collected By CLIENT

**Lab No. : 70266700002**
**Client Sample ID.: N-07407**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Chlorodifluoromethane | <0.50 | N3 | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Chloroethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Chloroform | <0.50 | | 1 | ug/L | | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Chloromethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Dibromochloromethane | <0.50 | | 1 | ug/L | | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Dibromomethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Dichlorodifluoromethane | <0.50 | L2,v3 | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Ethylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Hexachloro-1,3-butadiene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Isopropylbenzene (Cumene) | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Methyl-tert-butyl ether | <0.50 | | 1 | ug/L | 10 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Methylene Chloride | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Styrene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Tetrachloroethene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Toluene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Total Trihalomethanes (Calc.) | <0.50 | | 1 | ug/L | 80 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Trichloroethene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Trichlorofluoromethane | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Vinyl chloride | <0.50 | | 1 | ug/L | 2 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| cis-1,2-Dichloroethene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| cis-1,3-Dichloropropene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| m&p-Xylene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| n-Butylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| n-Propylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| o-Xylene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| p-Isopropyltoluene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| sec-Butylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| tert-Butylbenzene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| trans-1,2-Dichloroethene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| trans-1,3-Dichloropropene | <0.50 | | 1 | ug/L | 5 | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Surr: 1,2-Dichlorobenzene-d4 (S) | 101% | | 1 | %REC | | 08/20/2023 5:04 PM | 002 VG9C1/2 |
| Surr: 4-Bromofluorobenzene (S) | 92% | | 1 | %REC | | 08/20/2023 5:04 PM | 002 VG9C1/2 |

Qualifiers:
DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.Estimated value - below calibration range
U - Indicates the compound was analyzed for, but not detected
See qualifiers page for additional qualifier definitions.

Result(s) reported meet(s) NYS Regulatory Limit(s).
Result(s) flagged with * Exceed NYS Regulatory Limit(s). Limit Noted.

Jennifer Aracri

Test results meet the requirements of NELAC unless otherwise noted.

575 Broad Hollow Road, Melville, NY 11747
TEL: (516) 370-6000 FAX: (516) 886-5526
www.pacelabs.com

**WorkOrder :**
70266700

# Laboratory Certifications

**Pace Analytical Services Long Island**
575 Broad Hollow Rd, Melville, NY 11747
Connecticut Certification #: PH-0435
Delaware Certification # NY 10478
Maryland Certification #: 208
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987
New Jersey Certification #: NY158
New York Certification #: 10478 Primary Accrediting Body
Pennsylvania Certification #: 68-00350
Rhode Island Certification #: LAO00340
Virginia Certification # 460302

575 Broad Hollow Road, Melville, NY 11747
TEL: (516) 370-6000 FAX: (516) 886-5526
www.pacelabs.com

**WorkOrder :**
70266700

# Additional Qualifiers

L2 - Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
N3 - Accreditation is not offered by the relevant laboratory accrediting body for this parameter.
v3 - The continuing calibration verification was below the method acceptance limit. Any detection for the analyte in the associated samples may have a low bias.

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 14, 2023

Jennifer Aracri
Pace Analytical Services - Long Island, NY
575 Broad Hollow Road
Melville, NY 11747

Project Location: 1,4 DIOX/CL/PFAS/POC 8/1
Client Job Number:
Project Number: 70266700
Laboratory Work Order Number: 23H2241

Enclosed are results of analyses for samples as received by the laboratory on August 15, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kaitlyn A. Feliciano
Project Manager

# Table of Contents

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Pace Analytical Services - Long Island, NY
575 Broad Hollow Road
Melville, NY 11747
ATTN: Jennifer Aracri

REPORT DATE: 9/14/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 70266700

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 23H2241

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 1,4 DIOX/CL/PFAS/POC 8/1

| FIELD SAMPLE # | LAB ID: | MATRIX | SAMPLE DESCRIPTION | TEST | SUB LAB |
|---|---|---|---|---|---|
| N-14347 | 23H2241-01 | Drinking Water | | EPA 533 | |
| N-07407 | 23H2241-02 | Drinking Water | | EPA 533 | |

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**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

**EPA 533**

**Qualifications:**

**PF-17**

Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side.

**Analyte & Samples(s) Qualified:**

**M2-6:2FTS**

23H2241-01[N-14347], 23H2241-02[N-07407], B349213-BLK1

**S-29**

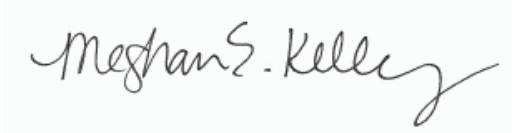
Extracted Internal Standard is outside of control limits.

**Analyte & Samples(s) Qualified:**

**M2-6:2FTS**

B349213-BS1, B349213-BSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1,4 DIOX/CL/PFAS/POC 8/1 Sample Description: Work Order: 23H2241

Date Received: 8/15/2023

**Field Sample #: N-14347** Sampled: 8/11/2023 07:30

**Sample ID: 23H2241-01**

Sample Matrix: Drinking Water

**Semivolatile Organic Compounds by - LC/MS-MS**

| Analyte | Results | RL | MCL/SMCL MA ORSG | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluoropentanoic acid (PFPeA) | 1.8 | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluorohexanoic acid (PFHxA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| 11Cl-PF3OUdS (F53B Major) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| 9Cl-PF3ONS (F53B Minor) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluorodecanoic acid (PFDA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluorododecanoic acid (PFDoA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluoroheptanesulfonic acid (PFHpS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluoro-4-oxapentanoic acid (PFMPA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluoro-5-oxahexanoic acid (PFMBA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluoropentanesulfonic acid (PFPeS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluorooctanoic acid (PFOA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |
| Perfluorononanoic acid (PFNA) | ND | 1.8 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:50 | QNW |

| Surrogates | % Recovery | | Recovery Limits | Flag/Qual | |
|---|---|---|---|---|---|
| M2-4:2FTS | 69.8 | | 50-200 | | 8/30/23 18:50 |
| M2-8:2FTS | 81.4 | | 50-200 | | 8/30/23 18:50 |
| MPFBA | 74.7 | | 50-200 | | 8/30/23 18:50 |
| M3HFPO-DA | 57.7 | | 50-200 | | 8/30/23 18:50 |
| M6PFDA | 74.0 | | 50-200 | | 8/30/23 18:50 |
| M3PFBS | 96.5 | | 50-200 | | 8/30/23 18:50 |
| M7PFUnA | 66.4 | | 50-200 | | 8/30/23 18:50 |
| **M2-6:2FTS** | **212** | * | 50-200 | PF-17 | 8/30/23 18:50 |
| M5PFPeA | 75.9 | | 50-200 | | 8/30/23 18:50 |
| M5PFHxA | 66.8 | | 50-200 | | 8/30/23 18:50 |
| M3PFHxS | 94.2 | | 50-200 | | 8/30/23 18:50 |
| M4PFHpA | 65.9 | | 50-200 | | 8/30/23 18:50 |
| M8PFOA | 71.1 | | 50-200 | | 8/30/23 18:50 |
| M8PFOS | 86.2 | | 50-200 | | 8/30/23 18:50 |
| M9PFNA | 60.4 | | 50-200 | | 8/30/23 18:50 |
| MPFDoA | 71.1 | | 50-200 | | 8/30/23 18:50 |

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Project Location: 1,4 DIOX/CL/PFAS/POC 8/1 Sample Description: Work Order: 23H2241

Date Received: 8/15/2023

**Field Sample #: N-07407** Sampled: 8/11/2023 08:50

**Sample ID: 23H2241-02**

Sample Matrix: Drinking Water

**Semivolatile Organic Compounds by - LC/MS-MS**

| Analyte | Results | RL | MCL/SMCL MA ORSG | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluoropentanoic acid (PFPeA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluorohexanoic acid (PFHxA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| 11Cl-PF3OUdS (F53B Major) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| 9Cl-PF3ONS (F53B Minor) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluorodecanoic acid (PFDA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluorododecanoic acid (PFDoA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluoroheptanesulfonic acid (PFHpS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluoro-4-oxapentanoic acid (PFMPA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluoro-5-oxahexanoic acid (PFMBA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluoropentanesulfonic acid (PFPeS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluorooctanoic acid (PFOA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |
| Perfluorononanoic acid (PFNA) | ND | 1.7 | | ng/L | 1 | | EPA 533 | 8/29/23 | 8/30/23 18:57 | QNW |

| Surrogates | % Recovery | | Recovery Limits | Flag/Qual | |
|---|---|---|---|---|---|
| M2-4:2FTS | 72.9 | | 50-200 | | 8/30/23 18:57 |
| M2-8:2FTS | 88.7 | | 50-200 | | 8/30/23 18:57 |
| MPFBA | 86.1 | | 50-200 | | 8/30/23 18:57 |
| M3HFPO-DA | 66.6 | | 50-200 | | 8/30/23 18:57 |
| M6PFDA | 84.8 | | 50-200 | | 8/30/23 18:57 |
| M3PFBS | 97.0 | | 50-200 | | 8/30/23 18:57 |
| M7PFUnA | 73.4 | | 50-200 | | 8/30/23 18:57 |
| **M2-6:2FTS** | **264** | * | 50-200 | PF-17 | 8/30/23 18:57 |
| M5PFPeA | 84.9 | | 50-200 | | 8/30/23 18:57 |
| M5PFHxA | 74.0 | | 50-200 | | 8/30/23 18:57 |
| M3PFHxS | 100 | | 50-200 | | 8/30/23 18:57 |
| M4PFHpA | 75.1 | | 50-200 | | 8/30/23 18:57 |
| M8PFOA | 89.5 | | 50-200 | | 8/30/23 18:57 |
| M8PFOS | 91.9 | | 50-200 | | 8/30/23 18:57 |
| M9PFNA | 76.1 | | 50-200 | | 8/30/23 18:57 |
| MPFDoA | 73.4 | | 50-200 | | 8/30/23 18:57 |

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## Sample Extraction Data

**Prep Method:EPA 533** **Analytical Method:EPA 533**

| Lab Number [Field ID] | Batch | Initial [mL] | Final [mL] | Date |
|---|---|---|---|---|
| 23H2241-01 [N-14347] | B349213 | 286 | 1.00 | 08/29/23 |
| 23H2241-02 [N-07407] | B349213 | 287 | 1.00 | 08/29/23 |

**QUALITY CONTROL**

**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B349213 - EPA 533** | | | | | | | | | | |
| **Blank (B349213-BLK1)** | | | | Prepared: 08/29/23 Analyzed: 08/30/23 | | | | | | |
| Perfluorobutanoic acid (PFBA) | ND | 1.9 | ng/L | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.9 | ng/L | | | | | | | |
| Perfluoropentanoic acid (PFPeA) | ND | 1.9 | ng/L | | | | | | | |
| Perfluorohexanoic acid (PFHxA) | ND | 1.9 | ng/L | | | | | | | |
| 11Cl-PF3OUdS (F53B Major) | ND | 1.9 | ng/L | | | | | | | |
| 9Cl-PF3ONS (F53B Minor) | ND | 1.9 | ng/L | | | | | | | |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | 1.9 | ng/L | | | | | | | |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | ND | 1.9 | ng/L | | | | | | | |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | ND | 1.9 | ng/L | | | | | | | |
| Perfluorodecanoic acid (PFDA) | ND | 1.9 | ng/L | | | | | | | |
| Perfluorododecanoic acid (PFDoA) | ND | 1.9 | ng/L | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | ND | 1.9 | ng/L | | | | | | | |
| Perfluoroheptanesulfonic acid (PFHpS) | ND | 1.9 | ng/L | | | | | | | |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | ND | 1.9 | ng/L | | | | | | | |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.9 | ng/L | | | | | | | |
| Perfluoro-4-oxapentanoic acid (PFMPA) | ND | 1.9 | ng/L | | | | | | | |
| Perfluoro-5-oxahexanoic acid (PFMBA) | ND | 1.9 | ng/L | | | | | | | |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | ND | 1.9 | ng/L | | | | | | | |
| Perfluoropentanesulfonic acid (PFPeS) | ND | 1.9 | ng/L | | | | | | | |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.9 | ng/L | | | | | | | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | ND | 1.9 | ng/L | | | | | | | |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.9 | ng/L | | | | | | | |
| Perfluorooctanoic acid (PFOA) | ND | 1.9 | ng/L | | | | | | | |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.9 | ng/L | | | | | | | |
| Perfluorononanoic acid (PFNA) | ND | 1.9 | ng/L | | | | | | | |
| Surrogate: M2-4:2FTS | *30.6* | | ng/L | 35.4 | | 86.7 | 50-200 | | | |
| Surrogate: M2-8:2FTS | *30.2* | | ng/L | 36.2 | | 83.4 | 50-200 | | | |
| Surrogate: MPFBA | *35.6* | | ng/L | 37.7 | | 94.5 | 50-200 | | | |
| Surrogate: M3HFPO-DA | *30.0* | | ng/L | 37.7 | | 79.6 | 50-200 | | | |
| Surrogate: M6PFDA | *35.4* | | ng/L | 37.7 | | 93.8 | 50-200 | | | |
| Surrogate: M3PFBS | *32.0* | | ng/L | 35.1 | | 91.0 | 50-200 | | | |
| Surrogate: M7PFUnA | *31.1* | | ng/L | 37.7 | | 82.6 | 50-200 | | | |
| **Surrogate: M2-6:2FTS** | *112* | | ng/L | 35.8 | | **312** * | 50-200 | | | PF-17 |
| Surrogate: M5PFPeA | *35.1* | | ng/L | 37.7 | | 93.2 | 50-200 | | | |
| Surrogate: M5PFHxA | *31.4* | | ng/L | 37.7 | | 83.3 | 50-200 | | | |
| Surrogate: M3PFHxS | *32.9* | | ng/L | 35.7 | | 91.9 | 50-200 | | | |
| Surrogate: M4PFHpA | *32.0* | | ng/L | 37.7 | | 85.0 | 50-200 | | | |
| Surrogate: M8PFOA | *36.3* | | ng/L | 37.7 | | 96.2 | 50-200 | | | |
| Surrogate: M8PFOS | *31.3* | | ng/L | 36.1 | | 86.5 | 50-200 | | | |
| Surrogate: M9PFNA | *31.0* | | ng/L | 37.7 | | 82.3 | 50-200 | | | |
| Surrogate: MPFDoA | *30.8* | | ng/L | 37.7 | | 81.7 | 50-200 | | | |
| **LCS (B349213-BS1)** | | | | Prepared: 08/29/23 Analyzed: 08/30/23 | | | | | | |
| Perfluorobutanoic acid (PFBA) | 1.93 | 1.9 | ng/L | 1.89 | | 102 | 50-150 | | | |
| Perfluorobutanesulfonic acid (PFBS) | 1.40 | 1.9 | ng/L | 1.67 | | 83.9 | 50-150 | | | |
| Perfluoropentanoic acid (PFPeA) | 1.87 | 1.9 | ng/L | 1.89 | | 99.3 | 50-150 | | | |
| Perfluorohexanoic acid (PFHxA) | 2.24 | 1.9 | ng/L | 1.89 | | 119 | 50-150 | | | |
| 11Cl-PF3OUdS (F53B Major) | 1.24 | 1.9 | ng/L | 1.78 | | 69.8 | 50-150 | | | |
| 9Cl-PF3ONS (F53B Minor) | 1.26 | 1.9 | ng/L | 1.76 | | 71.9 | 50-150 | | | |

**QUALITY CONTROL**

**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B349213 - EPA 533** | | | | | | | | | | | |
| **LCS (B349213-BS1)** | | | | Prepared: 08/29/23 Analyzed: 08/30/23 | | | | | | | |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 1.49 | 1.9 | ng/L | 1.78 | | 84.1 | | 50-150 | | | |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | 1.39 | 1.9 | ng/L | 1.89 | | 73.8 | | 50-150 | | | |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | 1.51 | 1.9 | ng/L | 1.81 | | 83.6 | | 50-150 | | | |
| Perfluorodecanoic acid (PFDA) | 1.31 | 1.9 | ng/L | 1.89 | | 69.3 | | 50-150 | | | |
| Perfluorododecanoic acid (PFDoA) | 1.68 | 1.9 | ng/L | 1.89 | | 89.0 | | 50-150 | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.38 | 1.9 | ng/L | 1.68 | | 82.4 | | 50-150 | | | |
| Perfluoroheptanesulfonic acid (PFHpS) | 1.49 | 1.9 | ng/L | 1.80 | | 82.7 | | 50-150 | | | |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | 1.62 | 1.9 | ng/L | 1.76 | | 91.9 | | 50-150 | | | |
| Perfluorohexanesulfonic acid (PFHxS) | 1.37 | 1.9 | ng/L | 1.73 | | 79.3 | | 50-150 | | | |
| Perfluoro-4-oxapentanoic acid (PFMPA) | 1.50 | 1.9 | ng/L | 1.89 | | 79.6 | | 50-150 | | | |
| Perfluoro-5-oxahexanoic acid (PFMBA) | 1.46 | 1.9 | ng/L | 1.89 | | 77.2 | | 50-150 | | | |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | 1.42 | 1.9 | ng/L | 1.79 | | 79.2 | | 50-150 | | | |
| Perfluoropentanesulfonic acid (PFPeS) | 1.30 | 1.9 | ng/L | 1.77 | | 73.3 | | 50-150 | | | |
| Perfluoroundecanoic acid (PFUnA) | 1.81 | 1.9 | ng/L | 1.89 | | 95.7 | | 50-150 | | | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 1.64 | 1.9 | ng/L | 1.89 | | 86.9 | | 50-150 | | | |
| Perfluoroheptanoic acid (PFHpA) | 1.87 | 1.9 | ng/L | 1.89 | | 99.2 | | 50-150 | | | |
| Perfluorooctanoic acid (PFOA) | 1.73 | 1.9 | ng/L | 1.89 | | 91.8 | | 50-150 | | | |
| Perfluorooctanesulfonic acid (PFOS) | 1.46 | 1.9 | ng/L | 1.74 | | 83.5 | | 50-150 | | | |
| Perfluorononanoic acid (PFNA) | 1.42 | 1.9 | ng/L | 1.89 | | 75.4 | | 50-150 | | | |
| Surrogate: M2-4:2FTS | *31.6* | | ng/L | 35.4 | | 89.3 | | 50-200 | | | |
| Surrogate: M2-8:2FTS | *33.3* | | ng/L | 36.2 | | 92.0 | | 50-200 | | | |
| Surrogate: MPFBA | *37.1* | | ng/L | 37.7 | | 98.3 | | 50-200 | | | |
| Surrogate: M3HFPO-DA | *31.3* | | ng/L | 37.7 | | 83.0 | | 50-200 | | | |
| Surrogate: M6PFDA | *37.8* | | ng/L | 37.7 | | 100 | | 50-200 | | | |
| Surrogate: M3PFBS | *33.9* | | ng/L | 35.2 | | 96.3 | | 50-200 | | | |
| Surrogate: M7PFUnA | *32.4* | | ng/L | 37.7 | | 85.8 | | 50-200 | | | |
| **Surrogate: M2-6:2FTS** | *83.9* | | ng/L | 35.9 | | **234** | * | 50-200 | | | S-29 |
| Surrogate: M5PFPeA | *36.4* | | ng/L | 37.7 | | 96.4 | | 50-200 | | | |
| Surrogate: M5PFHxA | *33.1* | | ng/L | 37.7 | | 87.6 | | 50-200 | | | |
| Surrogate: M3PFHxS | *33.1* | | ng/L | 35.8 | | 92.5 | | 50-200 | | | |
| Surrogate: M4PFHpA | *33.4* | | ng/L | 37.7 | | 88.4 | | 50-200 | | | |
| Surrogate: M8PFOA | *37.3* | | ng/L | 37.7 | | 98.9 | | 50-200 | | | |
| Surrogate: M8PFOS | *33.1* | | ng/L | 36.2 | | 91.5 | | 50-200 | | | |
| Surrogate: M9PFNA | *33.3* | | ng/L | 37.7 | | 88.4 | | 50-200 | | | |
| Surrogate: MPFDoA | *32.4* | | ng/L | 37.7 | | 85.9 | | 50-200 | | | |
| **LCS Dup (B349213-BSD1)** | | | | Prepared: 08/29/23 Analyzed: 08/30/23 | | | | | | | |
| Perfluorobutanoic acid (PFBA) | 1.92 | 1.9 | ng/L | 1.89 | | 102 | | 50-150 | 0.530 | 50 | |
| Perfluorobutanesulfonic acid (PFBS) | 1.41 | 1.9 | ng/L | 1.67 | | 84.3 | | 50-150 | 0.445 | 50 | |
| Perfluoropentanoic acid (PFPeA) | 1.88 | 1.9 | ng/L | 1.89 | | 99.5 | | 50-150 | 0.181 | 50 | |
| Perfluorohexanoic acid (PFHxA) | 2.48 | 1.9 | ng/L | 1.89 | | 131 | | 50-150 | 10.2 | 50 | |
| 11Cl-PF3OUdS (F53B Major) | 1.34 | 1.9 | ng/L | 1.78 | | 75.6 | | 50-150 | 7.93 | 50 | |
| 9Cl-PF3ONS (F53B Minor) | 1.33 | 1.9 | ng/L | 1.76 | | 75.5 | | 50-150 | 4.95 | 50 | |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 1.48 | 1.9 | ng/L | 1.78 | | 83.5 | | 50-150 | 0.781 | 50 | |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | 1.67 | 1.9 | ng/L | 1.89 | | 88.3 | | 50-150 | 17.8 | 50 | |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | 1.38 | 1.9 | ng/L | 1.81 | | 76.2 | | 50-150 | 9.21 | 50 | |
| Perfluorodecanoic acid (PFDA) | 1.48 | 1.9 | ng/L | 1.89 | | 78.3 | | 50-150 | 12.1 | 50 | |
| Perfluorododecanoic acid (PFDoA) | 1.69 | 1.9 | ng/L | 1.89 | | 89.6 | | 50-150 | 0.624 | 50 | |

**QUALITY CONTROL**

**Semivolatile Organic Compounds by - LC/MS-MS - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B349213 - EPA 533** | | | | | | | | | | | |
| **LCS Dup (B349213-BSD1)** | | | | Prepared: 08/29/23 Analyzed: 08/30/23 | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.43 | 1.9 | ng/L | 1.68 | | 85.1 | | 50-150 | 3.21 | 50 | |
| Perfluoroheptanesulfonic acid (PFHpS) | 1.30 | 1.9 | ng/L | 1.80 | | 72.2 | | 50-150 | 13.6 | 50 | |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | 1.55 | 1.9 | ng/L | 1.76 | | 88.0 | | 50-150 | 4.28 | 50 | |
| Perfluorohexanesulfonic acid (PFHxS) | 1.63 | 1.9 | ng/L | 1.73 | | 94.3 | | 50-150 | 17.3 | 50 | |
| Perfluoro-4-oxapentanoic acid (PFMPA) | 1.53 | 1.9 | ng/L | 1.89 | | 81.1 | | 50-150 | 1.89 | 50 | |
| Perfluoro-5-oxahexanoic acid (PFMBA) | 1.49 | 1.9 | ng/L | 1.89 | | 79.1 | | 50-150 | 2.42 | 50 | |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | 1.47 | 1.9 | ng/L | 1.79 | | 82.3 | | 50-150 | 3.82 | 50 | |
| Perfluoropentanesulfonic acid (PFPeS) | 1.31 | 1.9 | ng/L | 1.77 | | 73.8 | | 50-150 | 0.718 | 50 | |
| Perfluoroundecanoic acid (PFUnA) | 1.53 | 1.9 | ng/L | 1.89 | | 81.3 | | 50-150 | 16.3 | 50 | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 1.73 | 1.9 | ng/L | 1.89 | | 91.5 | | 50-150 | 5.15 | 50 | |
| Perfluoroheptanoic acid (PFHpA) | 1.95 | 1.9 | ng/L | 1.89 | | 104 | | 50-150 | 4.35 | 50 | |
| Perfluorooctanoic acid (PFOA) | 1.74 | 1.9 | ng/L | 1.89 | | 92.4 | | 50-150 | 0.593 | 50 | |
| Perfluorooctanesulfonic acid (PFOS) | 1.42 | 1.9 | ng/L | 1.74 | | 81.2 | | 50-150 | 2.78 | 50 | |
| Perfluorononanoic acid (PFNA) | 1.59 | 1.9 | ng/L | 1.89 | | 84.2 | | 50-150 | 11.1 | 50 | |
| Surrogate: M2-4:2FTS | *34.5* | | ng/L | 35.4 | | 97.6 | | 50-200 | | | |
| Surrogate: M2-8:2FTS | *38.3* | | ng/L | 36.2 | | 106 | | 50-200 | | | |
| Surrogate: MPFBA | *37.1* | | ng/L | 37.7 | | 98.5 | | 50-200 | | | |
| Surrogate: M3HFPO-DA | *29.6* | | ng/L | 37.7 | | 78.4 | | 50-200 | | | |
| Surrogate: M6PFDA | *33.5* | | ng/L | 37.7 | | 88.7 | | 50-200 | | | |
| Surrogate: M3PFBS | *36.8* | | ng/L | 35.2 | | 105 | | 50-200 | | | |
| Surrogate: M7PFUnA | *34.3* | | ng/L | 37.7 | | 90.9 | | 50-200 | | | |
| **Surrogate: M2-6:2FTS** | *75.7* | | ng/L | 35.9 | | **211** | * | 50-200 | | | S-29 |
| Surrogate: M5PFPeA | *37.0* | | ng/L | 37.7 | | 98.1 | | 50-200 | | | |
| Surrogate: M5PFHxA | *31.2* | | ng/L | 37.7 | | 82.6 | | 50-200 | | | |
| Surrogate: M3PFHxS | *36.5* | | ng/L | 35.8 | | 102 | | 50-200 | | | |
| Surrogate: M4PFHpA | *32.0* | | ng/L | 37.7 | | 84.8 | | 50-200 | | | |
| Surrogate: M8PFOA | *36.4* | | ng/L | 37.7 | | 96.4 | | 50-200 | | | |
| Surrogate: M8PFOS | *37.7* | | ng/L | 36.2 | | 104 | | 50-200 | | | |
| Surrogate: M9PFNA | *33.4* | | ng/L | 37.7 | | 88.6 | | 50-200 | | | |
| Surrogate: MPFDoA | *30.1* | | ng/L | 37.7 | | 79.9 | | 50-200 | | | |

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

**FLAG/QUALIFIER SUMMARY**

| | |
|---|---|
| * | QC result is outside of established limits. |
| † | Wide recovery limits established for difficult compound. |
| ‡ | Wide RPD limits established for difficult compound. |
| # | Data exceeded client recommended or regulatory level |
| ND | Not Detected |
| RL | Reporting Limit is at the level of quantitation (LOQ) |
| DL | Detection Limit is the lower limit of detection determined by the MDL study |
| MCL | Maximum Contaminant Level |
| | Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded. |
| | No results have been blank subtracted unless specified in the case narrative section. |
| PF-17 | Extracted Internal Standard recovery is outside of control limits. Data is not significantly affected since associated analyte is not detected and bias is on the high side. |
| S-29 | Extracted Internal Standard is outside of control limits. |

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

## CERTIFICATIONS

**Certified Analyses included in this Report**

| Analyte | Certifications |
|---|---|
| ***EPA 533 in Drinking Water*** | |
| Perfluorobutanoic acid (PFBA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorobutanesulfonic acid (PFBS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoropentanoic acid (PFPeA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorohexanoic acid (PFHxA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 11Cl-PF3OUdS (F53B Major) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 9Cl-PF3ONS (F53B Minor) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Hexafluoropropylene oxide dimer acid (HFPO-DA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 8:2 Fluorotelomersulfonic acid (8:2FTS A) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorodecanoic acid (PFDA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorododecanoic acid (PFDoA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoroheptanesulfonic acid (PFHpS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 4:2 Fluorotelomersulfonic acid (4:2FTS A) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorohexanesulfonic acid (PFHxS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoro-4-oxapentanoic acid (PFMPA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoro-5-oxahexanoic acid (PFMBA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| 6:2 Fluorotelomersulfonic acid (6:2FTS A) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoropentanesulfonic acid (PFPeS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoroundecanoic acid (PFUnA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluoroheptanoic acid (PFHpA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorooctanoic acid (PFOA) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorooctanesulfonic acid (PFOS) | NH,NY,VT-DW,ME,NJ,PA,CT |
| Perfluorononanoic acid (PFNA) | NH,NY,VT-DW,ME,NJ,PA,CT |

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

| Code | Description | Number | Expires |
|---|---|---|---|
| CT | Connecticut Department of Public Health | PH-0821 | 12/31/2024 |
| NY | New York State Department of Health | 10899 NELAP | 04/1/2024 |
| NH | New Hampshire Environmental Lab | 2516 NELAP | 02/5/2024 |
| NJ | New Jersey DEP | MA007 NELAP | 06/30/2024 |
| VT-DW | Vermont Department of Health Drinking Water | VT-255716 | 06/12/2024 |
| ME | State of Maine | MA00100 | 06/9/2025 |
| PA | Commonwealth of Pennsylvania DEP | 68-05812 | 06/30/2024 |

HF 23H2241

# Internal Transfer Chain of Custody

☐ Samples Pre-Logged into eCOC.

State Of Origin: NY
Cert. Needed: [X] Yes [ ] No
Owner Received Date: 8/11/2023 Results Requested By: 8/25/2023

**Workorder:** 70266700 **Workorder Name:** 1,4 DIOX/CL/PFAS/POC 8/1

| Report To | Subcontract To |
|---|---|
| Jennifer Aracri<br>Pace Analytical Melville<br>575 Broad Hollow Road<br>Melville, NY 11747<br>Phone 516-370-6016 | Pace New England<br>39 Spruce St.<br>East Longmeadow, MA 01028<br>Phone (413)525-2332 |

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Other | PFAS by 533 | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|
| 1 | N-14347 | PS | 8/11/2023 07:30 | 70266700001 | Drinking | 1 | X | |
| 2 | N-07407 | PS | 8/11/2023 08:50 | 70266700002 | Drinking | 1 | X | |
| 3 | N-14435 | PS | 8/11/2023 09:45 | 70266700003 | Drinking | 1 | X | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Pace LI | 8/14/23 | MSMA(AN) | 8/14 1720 |
| 2 | MSMA(AN) | 8/14 1940 | Anthony Green | AUG 14 2023 |
| 3 | Anthony Green | 8/15/23 0020 | | 8/15/23 0020 |

Comments: 25 Compound List 2025

Cooler Temperature on Receipt _____ °C | Custody Seal Y or N | Received on Ice Y or N | Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

8/15/23 0300 AAL 8/15/23 07:00

AAL 8/15/23 08:45 8/15/23 845 3.2

MC

| Pace ANALYTICAL SERVICES | DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist |
|---|---|
| | Effective Date: 07/13/2023 |

# Log In Back-Sheet

Client PACE

Project L4 DICK/CL/PFAS/PACE 811

MCP/RCP Required NA

Deliverable Package Requirement NA

Location L4 DICK/CL/PFAS/PACE 811

PWSID# (When Applicable) NA

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time LA 8/15/23 845

Back-Sheet By / Date / Time LA 8/15/23 1214

Temperature Method Gun # 5

Temp ✓ < 6° C Actual Temperature 3.2

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

**Notes regarding Samples/COC outside of SOP:**

Missing Sample 3

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

| | True | False |
|---|---|---|
| Received on Ice | ☑ | ☐ |
| Received in Cooler | ☑ | ☐ |
| Custody Seal: DATE TIME | ☐ | ☑ |
| COC Relinquished | ☑ | ☐ |
| COC/Samples Labels Agree | ☑ | ☐ |
| All Samples in Good Condition | ☑ | ☐ |
| Samples Received within Holding Time | ☑ | ☐ |
| Is there enough Volume | ☐ | ☐ |
| Proper Media/Container Used | ☑ | ☐ |
| Splitting Samples Required | ☐ | ☑ |
| MS/MSD | ☐ | ☑ |
| Trip Blanks | ☐ | ☑ |
| Lab to Filters | ☐ | ☑ |
| COC Legible | ☑ | ☐ |

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☐

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

**Additional Container Notes**

***Note: West Virginia requires all samples to have their temperature taken. Note any outliers.***

Qualtrax ID: 120836

| Pace ANALYTICAL SERVICES | DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist |
|---|---|
| | Effective Date: 07/13/2023 |

| Sample | | | |
|---|---|---|---|
| 16oz Amb/Clear | Soils Jars (Circle Amb/Clear) | | |
| 8oz Amb/Clear | | | |
| 4oz Amb/Clear | | | |
| 2oz Amb/Clear | | | |
| Unpreserved | Ambers | 1 Liter | |
| HCL | | | |
| Sulfuric | | | |
| Sulfuric | | 250mL | |
| Phosphoric | | | |
| HCl | | | |
| Unpreserved | | 100mL | |
| Unpreserved | Plastics | 1 Liter | |
| Sulfuric | | | |
| Unpreserved | | 500mL | |
| Sulfuric | | | |
| Unpreserved | | 250mL | |
| Trizma | | | |
| Sulfuric | | | |
| Nitric | | | |
| NaOH | | | |
| Ammonium Acetate | | | |
| NaOH/Zinc | | | |
| Unpreserved | VOA Vials | | |
| HCl | | | |
| MeOH | | | |
| D.I. Water | | | |
| BiSulfate | | | |
| Col/Bact | Other / Fill in | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | |

Qualtrax ID: 120836

WO# : 70266700

70266700

# Sample Request Form
## PUBLIC WATER SUPPLIER

Date: 8/11/23

Collected By: M Gomes

Accepted By: 8/11/23 1210

Cooler Temp: 11.2 °C (B)

☐ WELL OFF LINE _____

☑ WELL RUN TO SYSTEM All

☐ YES ☐ NO VOC'S PRESERVED WITH HCl

**Client Info:**

Name or Code: Liberty Merrick

Address: 60 Brooklyn Ave
Merrick NY 11566

Phone #: _____

Attn: Natasha Nicola

Proj. # or (Name): _____

Bill To: _____

Copies To: _____

| Sample Types | Purpose | Origin | Treatment Types |
|---|---|---|---|
| PW - Potable Water | RO - Routine | D - Distribution | AST - Air Stripper |
| GW - Groundwater | RE - Resample | RW - Raw Well | GAC - Granular Activated Charcoal |
| SW - Surface Water | S - Special | TW - Treated Well | N - Nitrate Removal Plant |
| WW - Waste Water | | T - Tank | FE - Iron Removal Plant |
| AQ - Aqueous | | MW - Monitoring Well | O - Other |
| S - Soil | | I - Influent | |
| | | E - Effluent | |

**Sample Info:**

| Date/Time Collected: | Sample Type | Location | Origin | Treatment Type | Purpose | Field Readings $Cl_2$ | Field Readings pH/Temp | Analysis | Lab No. |
|---|---|---|---|---|---|---|---|---|---|
| 8/11 7:30 | GW | Seaman Neck 3A N-14347 | RW | — | RO | — | 4.95 / 13.2 | 1,4 Dioxane ⊕ PAL/VOC ⊕ DFC method 533 ⊕ Chlorides | 001 |
| 8:50 | GW | Jefferson II N-07407 | RW | — | RO | — | 5.61 / 14.5 | | 002 |
| 9:45 | GW | Newbridge 4a N-01443S | RW | — | RO | — | 4.85 / 13.6 | | 003 |

Remarks:

Client: ENYAW  Profile #: _____

Work ID: 1,4 Diox / CL / PFAS / POL  COC Page _____ of _____

☒ Use Point Number Spreadsheet  ☐ Multiday Project

☐ Add SCLOGFD to first sample for field charge

| COC Line Item | Matrix | VG9U | VG9C | VG9H | VG9S | DG9T | DG9Y | DG9P | DG9A | DG6T | DG9S | AG4U | AG3U | AG2U | AG1U | AG34 | AG3S | AG4E | AG3T | AG2R | AG1T | AG1H | AG1A | CG1U | BP4U | BP3U | BP2U | BP1U | BP3S | BP2S | BP4N | BP3N | BP2N | BP3C | BP3T | BP35 | BP3R | BP1Z | BP1N | BP1B | SP5T | R | WG2U | WGFU | WGKU | WGDU | ZPLC | GN | WP | IOC | SOC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 2 | | | | | | | | | | | | | | | | | 2 | | | | | 1 | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| 2 | | | 2 | | | | | | | | | | | | | | | | | 2 | | | | | 1 | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| 3 | | | 2 | | | | | | | | | | | | | | | | | 2 | | | | | 1 | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | \ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Container Codes

| Glass | | | | Plastic | | Misc. | |
|---|---|---|---|---|---|---|---|
| VG9U | 40mL unpres clear vial | AG4U | 125mL unpres amber glass | BP4U | 125mL unpreserved plastic | SP5T | 120mL Coliform Na Thio |
| VG9C | 40mL Ascorbic-HCl clear vial | AG3U | 250mL unpres amber glass | BP3U | 250mL unpreserved plastic | R | Terracore Kit |
| VG9H | 40mL HCl clear vial | AG2U | 500mL unpres amber glass | BP2U | 500mL unpreserved plastic | WG2U | 2oz Unpreserved Jar |
| VG9S | 40mL Sulfuirc clear vial | AG1U | 1liter unpres amber glass | BP1U | 1L unpreserved plastic | WGFU | 4oz Unpreserved Jar |
| DG9T | 40mL Na Thiosulfate vial | AG34 | Ammonium Cl 250mL bottle | BP4N | 125mL HNO3 plastic | WGKU | 8oz Unpreserved Jar |
| DG9Y | 40mL Citrate-Na Thiosulfate | AG3S | 250mL H2SO4 amber glass | BP3N | 250mL HNO3 plastic | WGDU | 16oz Unpreserved Jar |
| DG9P | 40mL amber vial - TSP | AG4E | 125mL EDA amber glass | BP2N | 500mL HNO3 plastic | ZPLC | Ziplock Bag |
| DG9A | Ascorbic/Maleic Acid 40mL | AG3T | 250mL Na Thio amber glass | BP3S | 250mL H2SO4 plastic | TEDL | Tedlar Bag |
| DG6T | Na Thio 60mL Vial | AG2R | Na Sulfite 500mL (blue Cap) | BP2S | 500mL H2SO4 plastic | BG1H | 1L HCL Clear Glass |
| DG9S | Ammonium Cl/CuSO4 40mL | AG1T | Na Thiosulfate 1L bottle | BP3C | NaOH 250mL bottle | GN | General |
| CG1U | 1L Unpres Jar (Con Ed) | AG1H | 1L HCl amber glass | BP3T | 250mL Trizma | WP | Wipe |
| | | AG1A | (NH4Cl) | BP35 | 250mL Ammonium Acetate | | |
| WG9O | 8oz clear soil jar | | | BP3R | 250mL NH4SO4-NH4OH | | |
| WG4O | 4oz clear soil jar | | | BP1Z | 1L NaOH, Zn Acetate | | |
| | | | | BP1N | 1L HNO3 plastic | | |
| | | | | BP1B | Na Thiosulfate Amber Bottle | | |

| IOC | |
|---|---|
| BP1U | 1L unpreserved plastic |
| BP3N* | 250mL HNO3 plastic |
| BP3C | 250mL Sodium Hydroxide |
| AG2U | 500mL unpres amber glass |
| | |
| | |

* Can also be a BP4N

| Matrix | |
|---|---|
| WT | Water |
| SL | Solid |
| NAL | Non-aqueous Liquid |
| OL | OIL |
| WP | Wipe |
| DW | Drinking Water |

| SOC | |
|---|---|
| VG9T | 40mL Na Thio amber vial |
| DG9A | 40mL Ascorbic acid/ maleic Acid vials |
| DG9Y | Citrate/Na Thiosulfate 40mL |
| DG6T | Na Thiosulfate 60mL vial |
| DG6M | MonoClActetic/Na Thio 60mL |
| AG3U | 250mL unpres amber glass |
| AG3T | Na Thiosulfate 250mL bottle |
| BP1B | Na Thiosulfate Amber bottle |
| AG1T | Na Thiosultate 1L Amber |
| AG1A | 525.3 Chemical Blend |

Sender Initials _____

Additional Comments

WO#: 70266700

PM: JSA  Due Date: 08/25/23

CLIENT: NYAW

**WO#: 70266700**
**PM: JSA** **Due Date: 08/25/23**
**CLIENT: NYAW**

Client Name: Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☑ No Temperature Blank Present: ☐ Yes ☑ No
Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Ziploc ☑ None ☐ Other Type of Ice: Wet Blue None

Thermometer Used: TH190 Correction Factor: 0.4 ☐ Samples on ice, cooling process has begun
Cooler Temperature(°C): 11.2 Cooler Temperature Corrected(°C): 10.9 Date/Time 5035A kits placed in freezer
Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ Yes ☐ No

Did samples orignate from a foreign source including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MELV-0076) and include with SCUR/COC paperwork.

Date and Initials of person examining contents: AB 8/12/23

| | | | | COMMENTS: |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | | 5. |
| Short Hold Time Analysis (<72hr): | ☐Yes | ☑No | | 6. |
| Rush Turn Around Time Requested | ☐Yes | ☑No | | 7. |
| Sufficient Volume: (Triple volume provided for MS/MSD) | ☑Yes | ☐No | | 8. |
| Correct Containers Used: | ☑Yes | ☐No | | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | | |
| Containers Intact: | ☑Yes | ☐No | | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. Note: if sediment is visible in the dissolved container. |
| Sample Labels match COC: -Includes date/time/ID/Analysis | ☑Yes | ☐No | | 12. |
| Matrix: | SL | WT | OIL OTHER | |

Date and Initials of person checking preservation: AS

| | | | | |
|---|---|---|---|---|
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 13. ☐ $HNO_3$ ☐ $H_2SO_4$ ☐ NaOH ☐ HCl |
| pH paper Lot # | | | | Sample # |
| All containers needing preservation are found to be in compliance with method recommendation? ($HNO_3$, $H_2SO_4$, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide) | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis | | | | Initial when completed: / Lot # of added preservative: / Date/Time preservative added: |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| KI starch test strips Lot # | | | | |
| Residual chlorine strips Lot # | | | | Positive for Res. Chlorine? Y N |
| SM 4500 CN samples checked for sul | ☐Yes | ☐No | ☑N/A | 15. |
| Lead Acetate Strips Lot # | | | | Positive for Sulfide? Y N |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☑No | ☐N/A | 16. |
| Trip Blank Present: | ☐Yes | ☐No | ☑N/A | 17. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |

**Client Notification/ Resolution:** Field Data Required? Y / N
Person Contacted: Date/Time:
Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.