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July 8, 2024

Liberty Utilities (New York Water) Corp. – Merrick Operations District
PWS ID No. NY2902840
MCL Deferral Exemption for 1,4-Dioxane
Quarterly Report – Second Quarter 2024

Introduction

On behalf of Liberty Utilities (New York Water) Corp. (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 deferral exemption which extended the MCL compliance deadline to August 25, 2024. This deferral exemption was granted under Part 5-1.92 of the NYS Sanitary Code. The intent of the deferral 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 are expected to continue for the foreseeable future; however, Liberty's accomplishments with construction during the term of the deferral and extension are expected to support project completion before the expiration in August of 2024.

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 exemption 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

The station has been returned to operational service during final construction and testing of the AOP and it is anticipated that the AOP treatment system construction will be completed, certified and will be placed into service in the third quarter of 2024. As indicated in the previous report, the Iron Removal Facility (IRF) improvements project, currently on-going at the site and 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 (NCDH) for placement into service. Miscellaneous other improvements at the site are on-going and are anticipated to be completed in the beginning of the third quarter of 2024. Substantial completion of the project occurred in the first quarter of 2024 with start-up and testing being completed in the second quarter of 2024. The IRF improvements should be completed and certified in the beginning of the third 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 AWQR from 2023, 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 found at Exemption PN Liberty New York Water Merrick - Liberty 9.11.23_updated.pdf (libertyutilities.com). All aforementioned documents are contained in **Attachment B**.

Analytical Sampling

Sample results for the wells for which the deferral exemption was granted (Seamans Neck Road Well 4 and Well 4 GAC and Jefferson Street Well 11), taken during the second quarter of 2024, are contained in the table below. Seamans Neck Road Well 3A was not in service during the second quarter of 2024 and, therefore, was not sampled. The 1,4-Dioxane levels for the Jefferson Street Well 11 in the first quarter of 2022 were 0.023 micrograms per Liter (ug/L) and, in the second quarter of 2022 through second quarter of 2024, 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**.

Second Quarter 2024 1,4-Dioxane Water Quality Monitoring Results

Merrick Operations District (PWS No. NY2902840)				
Location	**Well ID No.**	**Date Sampled**	**Lab Utilized**	**1,4-Dioxane (ug/L)**
Jefferson Street Well 11	N-07407	04/30/2024	Pace	ND
Seamans Neck Road Well 4	N-09338	06/19/24	Pace	1.8
Seamans Neck Road Well 4 GAC	GAC for N-09338	06/19/24	Pace	1.4

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 R. Sachs, P.E.
Vice President

PRS/LOt/kb
Enclosures
cc: K. Wheeler (NYSDOH)
B. Rogers (NYSDOH)
W. Provoncha (NCDH)
P. Young (NCDH)
R. Putnam (NCDH)
D. Franco (Liberty)
G. Sachs (Liberty)
J. Greenblatt (Liberty)
P. Connell (D&B)
L. Ortiz (D&B)
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ATTACHMENT A

Project Schedule Associated with
MCL Deferral/Exemption

Liberty New York Water
Merrick Operations District
MCL Exemption Report - Q2 2024

Seamans Neck Road
Wells 3A and 4
AOP Project Schedule

Task Name	2023 Qtr 1	2023 Qtr 2	2023 Qtr 3	2023 Qtr 4	2024 Qtr 1	2024 Qtr 2	2024 Qtr 3
Pilot Test (Complete)							
Basis of Design Report (BODR) (Complete)							
Regulatory Review of BODR (Complete)							
Detailed Design (Complete)							
Regulatory Review of Contract Documents (Complete)							
Town Zoning Process (Complete)							
Bidding (Complete) and Construction (Complete)							
Startup and Regulatory Acceptance Testing (In Progress)							

ATTACHMENT B

AWQRs and Public Notifications

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.

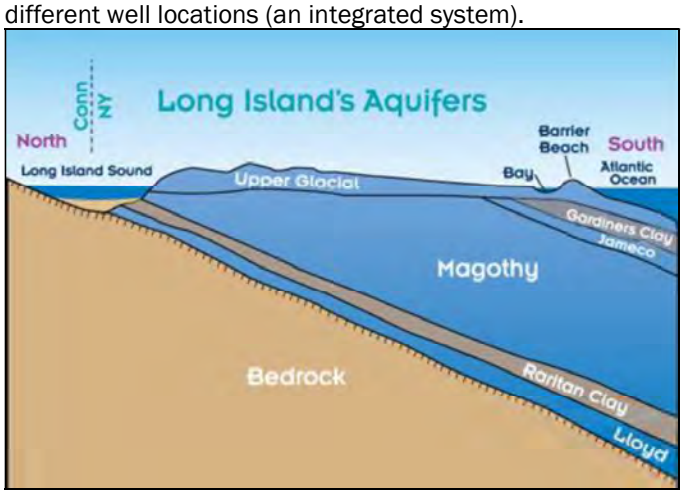
Source, Quality & Quantity

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


AT LESS THAN
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.

NEW YORK
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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WA220i

2024 Consumer Confidence Report on Water Quality for 2023

Annual Water Quality Report

Merrick Operations District

Public Water Supply ID# NY2902840

Liberty

Message from the President

Dear Liberty Customers,

At Liberty, our priority is providing you with safe, quality drinking water every single day. We pride ourselves on the investments we make to accomplish this – from improving infrastructure to enhancing our operations – we work around the clock to ensure your drinking water meets and exceeds 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 in our water infrastructure because strong infrastructure is a key factor in delivering quality water. Additionally, we have a rigorous water quality program that ensures the water delivered to your home or business is tested by independent laboratories. We send the data from those tests to our local regulators to verify compliance with all applicable SDWA and NYSDOH water regulations.

In this Water Quality Report (Consumer Confidence Report), you will find detailed information regarding the quality of water we provided during the calendar year 2023. The report includes information about the source of your water, the areas we serve, substances found in your drinking water with a detailed description on their source and need for removal. In addition, it outlines our intricate production process and distribution system.

If you have questions about this report, please contact us 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 which can help preserve this natural resource for future generations.

Along with the entire Liberty family, I thank you for being a valued customer. We are proud to be your water provider and look forward to serving you for years to come.

Sincerely,
Deborah Franco
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).

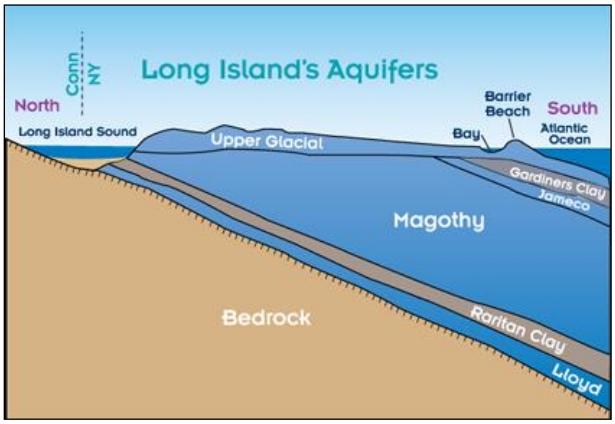
Communities Served

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 2023 with similar results. The next round of homeowner monitoring for the Lead and Copper Rule will be completed semiannually in 2024.

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 2023, we continued to make significant upgrades to our system and infra-structure. These improvements include:

- Replaced 2,498 water meters.
- Replaced 12 fire hydrants.
- Replaced 60 service lines and added 25 new service lines
- Started construction of a new iron removal facility at Charles Plant in Merrick.
- Started 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.
- Replaced Well pumps and motors for Seamans Neck Road 3A and 4.
- Replaced iron filter media at Seaman's Neck Road Plant.
- Demolished old wellhouse at Jefferson Plant in Merrick.
- Installed the Duck Pond Road Booster Station.
- Installed interconnections between Massapequa and South Farmingdale Water Districts.
- Replaced well pumps at Jerusalem and Old Mill.

Improvements planned for 2024 include:

- Replace approximately 9,600 water meters.
- Replace 15 fire hydrants.
- Replace 70 service lines and add 20 new service lines.
- Complete the new iron removal facility at Charles Plant in Merrick.
- Complete 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 Levittown.

- Install new pH optimization system at the Seaman's Neck Road Iron Treatment Plant.
- Install the Alken Road Booster Station.
- Rehabilitate wells at Old Mill, Newbridge, and Massapequa 8.
- Replace the 100,000-gal Backwash Waste Tank at Newbridge.

2023 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	5,086,900,000 Gal.
Total Water Sales	4,895,386,500 Gal.
Population Served (approx.)	135,000
Customers Served (accounts)	44,800
Miles of Mains	433

Average Residential Usage & Cost

In 2023, the average customer usage (commercial and residential) used approximately 109,272 gallons of water at a cost of about $781, or $2.14 a day. With an average of 3.0 persons per household, the cost of water was about 71¢ 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. Merrick Water System 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 NY 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 2023, 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. Dates in 2024 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 of 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 2023 Annual Water Quality Report

PRIMARY STANDARDS - Health Based

DISTRIBUTION SYSTEM

Disinfectant Residuals	Violation? (Yes/No)	Date of Sample	MRDL/ MCL	MCLG	Average/ Range	Typical Source of Constituent
Chlorine (ppm) [1]	No	09/2023	4	N/A	1.37 0.04 – 2.12	Drinking water disinfectant added for treatment.
Total Coliform	No	12/2023	TT ≥ 5% samples positive	N/A	1 positive sample	Naturally present in the environment.
E. coli [2]	No	01/18/2023 & 02/01/2023	1 or more positive samples	N/A	2 positive samples	Human and animal fecal waste

Disinfection By-Products [3]	Violation? (Yes/No)	Date of Sample	Primary MCL	MCLG	Detection	Typical Source of Constituent
TTHMs (ppb)	No	09/2023	80	N/A	ND – 4.4 RAA- 1.47	Byproduct of drinking water disinfection.

Lead & Copper [4]	Violation? (Yes/No)	Date of Sample	AL	MCLG	Sample Data	Range of Detection	90th % Level	Typical Source of Constituent
Copper (ppm)	No	07-12/ 2023	1.3	1.3	0 of the 101 samples collected exceeded the action level.	ND – 0.56	0.23	Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Lead (ppb)	No		15	0		ND – 1.3	ND	

RAW WELLS

Radiological Constituents [5]	Violation? (Yes/No)	Date of Sample	Primary MCL	MCLG	Range of Detections	Typical Source of Constituent
Combined Radium-226 & 228 (pCi/L)	No	11/2023	5	0	ND – 2.03	Erosion and decay of natural deposits.
Gross Beta (pCi/L)	No	11/2023	50 [a]	0	0.78 – 4.47	
Uranium (ppb)	No	11/2023	30 [b]	0	0.04 – 0.09	
Gross Alpha activity (pCi/L)	No	11/2023	15	0	0.02 – 4.13	

Inorganic Constituents	Violation? (Yes/No)	Date of Sample	Primary MCL	MCLG	Range of Detections	Typical Source of Constituent
Barium (ppm)	No	03/2023	2	2	ND – 0.01	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes.
Nitrate (ppm)	No	01/2023	10	10	ND – 0.19	Erosion of natural deposits, fertilizers, sanitary waste systems.
Copper (ppm)	No	02/2023	1.3	1.3	ND – 0.08	Erosion of natural deposits.
Lead (ppb) [6]	No	05/2023	15	0	Avg- 34.78 ND – 135	Erosion of natural deposits.

Thallium (ppb)	No	04/2023	2	0.5	Avg- 0.40 ND – 0.56	Leaching from ore processing sites; Discharge from electronics, glass, and drug factories.
Chloride (ppm)	No	01/2023	250	N/A	Avg- 9.7 3.0 – 22.2	Natural occurring or indicative of road salt contamination.
Selenium (ppb)	No	11/2023	50	50	ND – 0.002	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Sulfate (ppm)	No	03/2023	250	N/A	ND – 28.2	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Turbidity (NTU)	No	05/2023	5	N/A	ND – 1.8	Soil runoff.
Zinc (ppm)	No	01/2023	5	N/A	ND – 0.09	Naturally occurring.

Organic Constituents	Violation? (Yes/No)	Date of Sample	Primary MCL	MCLG	Range of Detection	Typical Source of Constituent
1,4 dioxane (ppb) [7]	No	10/2023	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	10/2023	5	0	ND – 23.6	Discharges from metal degreasing sites and other factories.
Perfluorooctanoic acid (PFOA) (ppt) [9]	No	10/2023	10	0	ND – 32	Released into the environment from widespread use in commercial and industrial applications.

SECONDARY STANDARDS - Aesthetics

RAW WELLS

Constituent	Violation? (Yes/No)	Date of Sample	Secondary MCL	MCLG	Average/ Range	Typical Source of Constituent
Sodium (ppm) [10]	No	11/2023	N/A	N/A	2.0 – 42.9	Naturally occurring; Road salt; Water softeners.
Iron (ppm) [11]	No	01/2023	0.3	N/A	ND – 3.1	Naturally occurring.
Manganese (ppm) [12]	No	01/2023	0.3	N/A	ND – 0.5	Naturally occurring.
Color (units)	No	11/2023	15	N/A	ND - 40	Natural color may be caused by decaying leaves, plants, and soil organic matter.
Odor (units) [13]	No	01/2023	3	N/A	ND - 4	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	01/2023	N/A	ND – 0.01	Naturally occurring.
Alkalinity (ppm)	N/A	01/2023	N/A	ND – 60.7	N/A
Calcium Hardness (ppm)	N/A	01/2023	N/A	ND – 10.6	N/A
Calcium (ppm)	N/A	01/2023	N/A	ND – 4.2	N/A
Corrosivity (LSI) [14]	N/A	01/2023	N/A	(-6.71) – (-1.86)	N/A
Total Hardness (ppm)	N/A	01/2023	N/A	1.2 – 17.5	N/A
Magnesium (ppm)	N/A	11/2023	N/A	ND – 1.9	N/A
pH (units) [15]	N/A	01/2023	N/A	4.40 – 7.10	N/A
TDS (ppm)	N/A	11/2023	N/A	ND - 171	N/A
Germanium (ppb)	N/A	06/2018	N/A	0.41	N/A
Perchlorate (ppb) [16]	N/A	11/2023	N/A	ND – 14.1	N/A
Lithium (ppb)	N/A	04/2023	N/A	ND – 139	N/A

6:2-Fluorotelomersulfonic acid (6:2 FTS) (ppt)	N/A	01/2023	N/A	ND – 90.1	See footnote 17.
Perfluorobutanesulfonic acid (PFBS) (ppt)	N/A	10/2023	N/A	ND – 1.4	
Perfluoropentanoic Acid (PFPeA) (ppt)	N/A	08/2023	N/A	ND – 1.8	
4,8-dioxa-3H-perfluorononanoic acid (ADONA) (ppt)	N/A	05/2023	N/A	ND – 26.9	
Perfluorobutanoic acid (PFBA) (ppt)	N/A	10/2023	N/A	ND – 55.0	

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 Merrick Operations Water district detected *E. coli* but has not violated the *E. coli* MCL. Chlorine residuals are sufficient to ensure disinfection, and all resamples were ND.

3- 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.

4- The levels presented represents the 90th percentile of 101 sites tested. The "action level" for copper and lead was not exceeded at any of 101 sites tested. Merrick is on standard monitoring where 100 samples are being collected semiannually.

5- 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

6- Lead was detected in one of the wells at 135 ppb. The well was immediately removed from service and sampled twice after. All resamples were ND.

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- The PFOA detection of 32 ppt was in one well. The well was removed from service. The sample was reanalyzed at the lab and was ND but unfortunately was reanalyzed out of hold time. The well was resampled three times immediately after, and all samples came back ND.

10- 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.

11- 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.

12- 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.

13- The odor result of 4 units was in one well. That well was removed from service and resampled. There was 2 units of odor in the resample.

14- The NCDOH recommends that the Langelier Saturation Index (for corrosivity) be as close to zero as possible.

15- NCDOH guidelines recommend a pH range of 7.5 – 8.5. The running annual average of all pH readings in the distribution system was 7.41 units in 2023.

16- The perchlorate detection of 14.1 ppb was detected in one well. The well was resampled and perchlorate was ND.

17- These chemicals are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). PFAS are manmade chemicals that have been widely used in various consumer, commercial, and industrial products since the 1950s. These chemicals' unique properties make them resistant to heat, oil, stains, grease, and water and useful in a wide variety of everyday products. The numbers reported here is the range of detections of the quarterly samples taken at each raw water source.

Definitions, Terms and Abbreviations

90th %: 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.
HAA5: Haloacetic Acids (mono-, di- and tri-chloracetic acid, and mono- and di- bromoacetic acid) as a group.
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.
ppt: parts per trillion or nanograms per liter.
TTHM: Total Trihalomethanes (chloroform, bromodichloromethane, dibromochloromethane, and bromoform) as a group.

What Does This Information Mean?

As you can see by the table, our system had no sample limit violations in 2023. 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 Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.	***French*** Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.
Korean 이 보고는 귀하께서 드시는 식수에 대한 중요한 정보가 포함되어 있습니다. 번역을 하시든지 아니면 이 보고를 읽고 이해하시는 분과 말씀하시기를 바랍니다.	***Chinese*** 這份報告含有非常重要有關您喝的水的資料，請找懂這份報告的人翻譯或解釋給您聽。

Listing of Non-Detected (ND) Contaminants – 2023 (Merrick Operations)

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

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

Metals:
Antimony
Arsenic
Beryllium
Cadmium
Chromium
Mercury
Silver
Fluoride
Cyanide

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
Perfluorooctanesulfonic acid (PFOS)

Unregulated compounds:
Perfluoronononoic 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)
8:2 Fluorotelomer sulfonic acid (8:2 FTS)
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)
HFPO-DA (Gen-X)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
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)
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)
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 1,4dioxane 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?

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

The Liberty Merrick Water System has received an exemption from the New York State Department of Health for the new 1,4-Dioxane Maximum Contamination Level (MCL) in order to meet the changes in potable water requirements. The Liberty Merrick Water System was granted an MCL exemption for 1,4-dioxane on August 25th, 2023, because it has been proactive in its efforts to establish and implement an action plan for managing the above-referenced compound. When a public water system (PWS) is issued an exemption, mandatory compliance strategies which include control measures required by the State Health Department are to be included. In exchange, the Department agrees to defer enforcement actions, such as assessing fines, if the water district is meeting the established deadlines. The Liberty Merrick Water System is required to update the State and the Nassau County Department of Health each calendar quarter on the status of our projects. If they do not meet the mandated compliance strategies, enforcement actions can be resumed. (https://new-york-water.libertyutilities.com/uploads/Exemption PN Liberty New York Water Merrick - Liberty 9.11.23_updated.pdf).

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 : 04/30/2024 11:15 AM Point N-07407
Received : 04/30/2024 12:36 PM Location Jefferson 11 Well
Collected By CLIENT

Lab No. : 70296006002
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	05/07/2024 6:20 PM	002 BP4U1/1

Analytical Method: EPA 522 Prep Method: EPA 522 Prep Date: 05/01/2024 9:00 AM

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Analyzed:	Container:
1,4-Dioxane (p-Dioxane)	<0.020		1	ug/L	1	05/01/2024 8:18 PM	002 AG2R1/2
Surr: 1,4-Dioxane-d8 (S)	87%		1	%REC		05/01/2024 8:18 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	05/01/2024 11:01	002 VG9C1/2
1,1,1-Trichloroethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,1,2,2-Tetrachloroethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,1,2-Trichloroethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,1,2-Trichlorotrifluoroethane	<0.50	N3	1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,1-Dichloroethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,1-Dichloroethene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,1-Dichloropropene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,2,3-Trichlorobenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,2,3-Trichloropropane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,2,4-Trichlorobenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,2,4-Trimethylbenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,2-Dichlorobenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,2-Dichloroethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,2-Dichloropropane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,3,5-Trimethylbenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,3-Dichlorobenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,3-Dichloropropane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
1,4-Dichlorobenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
2,2-Dichloropropane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
2-Chlorotoluene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
4-Chlorotoluene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Benzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Bromobenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Bromochloromethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Bromodichloromethane	<0.50		1	ug/L		05/01/2024 11:01	002 VG9C1/2
Bromoform	<0.50		1	ug/L		05/01/2024 11:01	002 VG9C1/2
Bromomethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Carbon tetrachloride	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Chlorobenzene	<0.50		1	ug/L	5	05/01/2024 11:01	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

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. : 70296006002
Client Sample ID.: N-07407

Federal ID : 2902840
Collected : 04/30/2024 11:15 AM Point N-07407
Received : 04/30/2024 12:36 PM Location Jefferson 11 Well
Collected By CLIENT

Chlorodifluoromethane	<0.50	N3	1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Chloroethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Chloroform	<0.50		1	ug/L		05/01/2024 11:01	002 VG9C1/2
Chloromethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Dibromochloromethane	<0.50		1	ug/L		05/01/2024 11:01	002 VG9C1/2
Dibromomethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Dichlorodifluoromethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Ethylbenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Hexachloro-1,3-butadiene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Isopropylbenzene (Cumene)	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Methyl-tert-butyl ether	<0.50		1	ug/L	10	05/01/2024 11:01	002 VG9C1/2
Methylene Chloride	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Styrene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Tetrachloroethene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Toluene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Total Trihalomethanes (Calc.)	<0.50		1	ug/L	80	05/01/2024 11:01	002 VG9C1/2
Trichloroethene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Trichlorofluoromethane	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Vinyl chloride	<0.50		1	ug/L	2	05/01/2024 11:01	002 VG9C1/2
cis-1,2-Dichloroethene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
cis-1,3-Dichloropropene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
m&p-Xylene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
n-Butylbenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
n-Propylbenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
o-Xylene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
p-Isopropyltoluene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
sec-Butylbenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
tert-Butylbenzene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
trans-1,2-Dichloroethene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
trans-1,3-Dichloropropene	<0.50		1	ug/L	5	05/01/2024 11:01	002 VG9C1/2
Surr: 1,2-Dichlorobenzene-d4 (S)	98%		1	%REC		05/01/2024 11:01	002 VG9C1/2
Surr: 4-Bromofluorobenzene (S)	96%		1	%REC		05/01/2024 11:01	002 VG9C1/2

Qualifiers:
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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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TEL: (516) 370-6000 FAX: (516) 886-5526
www.pacelabs.com

WorkOrder :
70296006

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

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www.pacelabs.com

WorkOrder :
70296006

Additional Qualifiers

N3 - Accreditation is not offered by the relevant laboratory accrediting body for this parameter.

ANALYTICAL REPORT

Lab Number:	L2424010
Client:	Pace Analytical Services, LLC 575 Broad Hollow Rd Melville, NY 11747
ATTN:	Jennifer Aracri
Phone:	(516) 370-6016
Project Name:	NYAW
Project Number:	WO70296006
Report Date:	05/08/24

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: NYAW
Project Number: WO70296006

Lab Number: L2424010
Report Date: 05/08/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2424010-01	N-014434	DW	NY	04/30/24 10:45	05/01/24
L2424010-02	N-07407	DW	NY	04/30/24 11:15	05/01/24

Project Name:	NYAW	**Lab Number:**	L2424010
Project Number:	WO70296006	**Report Date:**	05/08/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Darian Dailey

Title: Technical Director/Representative Date: 05/08/24

ORGANICS

SEMIVOLATILES

Project Name: NYAW
Project Number: WO70296006

Lab Number: L2424010
Report Date: 05/08/24

SAMPLE RESULTS

Lab ID: L2424010-01
Client ID: N-014434
Sample Location: NY

Date Collected: 04/30/24 10:45
Date Received: 05/01/24
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 05/07/24 18:18
Analyst: CAP

Extraction Method: EPA 533
Extraction Date: 05/07/24 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.75	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.75	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.75	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.75	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.75	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.75	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.75	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.75	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.75	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.75	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.75	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.75	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.75	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.75	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.75	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.75	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.75	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.75	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.75	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.75	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.75	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.75	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.75	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.75	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.75	--	1

Project Name: NYAW **Lab Number:** L2424010

Project Number: WO70296006 **Report Date:** 05/08/24

SAMPLE RESULTS

Lab ID: L2424010-01 Date Collected: 04/30/24 10:45

Client ID: N-014434 Date Received: 05/01/24

Sample Location: NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	83		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	88		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	81		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	81		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	85		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	88		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	89		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	91		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	94		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	99		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	99		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	104		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	73		50-200

Project Name: NYAW
Project Number: WO70296006
Lab Number: L2424010
Report Date: 05/08/24

SAMPLE RESULTS

Lab ID: L2424010-02
Client ID: N-07407
Sample Location: NY

Date Collected: 04/30/24 11:15
Date Received: 05/01/24
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 05/07/24 18:27
Analyst: CAP

Extraction Method: EPA 533
Extraction Date: 05/07/24 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.76	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.76	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.76	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.76	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.76	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.76	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.76	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.76	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.76	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.76	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.76	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.76	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.76	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.76	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.76	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.76	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.76	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.76	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.76	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.76	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.76	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.76	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.76	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.76	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.76	--	1

Project Name: NYAW **Lab Number:** L2424010

Project Number: WO70296006 **Report Date:** 05/08/24

SAMPLE RESULTS

Lab ID: L2424010-02 Date Collected: 04/30/24 11:15

Client ID: N-07407 Date Received: 05/01/24

Sample Location: NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	83		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	86		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	86		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	77		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	81		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	90		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	97		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	98		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	74		50-200

Project Name: NYAW
Project Number: WO70296006

Lab Number: L2424010
Report Date: 05/08/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 136,533
Analytical Date: 05/07/24 16:16
Analyst: CAP

Extraction Method: EPA 533
Extraction Date: 05/07/24 06:50

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab for sample(s): 01-02 Batch: WG1917774-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.00	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.00	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.00	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--

Project Name: NYAW
Project Number: WO70296006

Lab Number: L2424010
Report Date: 05/08/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 136,533
Analytical Date: 05/07/24 16:16
Analyst: CAP

Extraction Method: EPA 533
Extraction Date: 05/07/24 06:50

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab for sample(s): 01-02 Batch: WG1917774-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	93		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	103		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	72		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	87		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	85		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	88		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	83		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	91		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	93		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	97		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	88		50-200

Lab Control Sample Analysis
Batch Quality Control

Project Name: NYAW
Project Number: WO70296006

Lab Number: L2424010
Report Date: 05/08/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-02 Batch: WG1917774-2								
Perfluorobutanoic Acid (PFBA)	98		-		70-130	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	112		-		70-130	-		30
Perfluoropentanoic Acid (PFPeA)	100		-		70-130	-		30
Perfluorobutanesulfonic Acid (PFBS)	92		-		70-130	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	91		-		70-130	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	85		-		70-130	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	86		-		70-130	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	96		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	96		-		70-130	-		30
Perfluoropentanesulfonic Acid (PFPeS)	90		-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	92		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	104		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	93		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	101		-		70-130	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	102		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	98		-		70-130	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	93		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	93		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	92		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	91		-		70-130	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	113		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NYAW

Project Number: WO70296006

Lab Number: L2424010

Report Date: 05/08/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-02 Batch: WG1917774-2								
Perfluorodecanoic Acid (PFDA)	94		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	100		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	91		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	100		-		70-130	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	93				50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	98				50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	84				50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	96				50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92				50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94				50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	88				50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	99				50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97				50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	98				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	91				50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	102				50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	104				50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	95				50-200

Matrix Spike Analysis
Batch Quality Control

Project Name: NYAW
Project Number: WO70296006

Lab Number: L2424010
Report Date: 05/08/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab	Associated sample(s): 01-02	QC Batch ID: WG1917774-3				QC Sample: L2422958-01			Client ID: MS Sample			
Perfluorobutanoic Acid (PFBA)	2.06	37.6	39.7	100		-	-		70-130	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	37.6	38.7	103		-	-		70-130	-		30
Perfluoropentanoic Acid (PFPeA)	ND	37.6	37.3	99		-	-		70-130	-		30
Perfluorobutanesulfonic Acid (PFBS)	ND	33.4	33.2	100		-	-		70-130	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	37.6	34.4	92		-	-		70-130	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	33.5	29.3	87		-	-		70-130	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	37.6	31.9	85		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	35.2	32.2	91		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	37.6	38.3	102		-	-		70-130	-		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	35.3	33.2	94		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	37.6	37.8	101		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	37.6	41.0	109		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	34.3	32.7	95		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	35.5	32.2	91		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	35.8	34.1	95		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	37.6	38.1	101		-	-		70-130	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	35.8	33.1	92		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	37.6	36.8	98		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	34.9	34.6	99		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	35.1	33.1	94		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	36.1	38.8	108		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	37.6	37.6	100		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: NYAW
Project Number: WO70296006

Lab Number: L2424010
Report Date: 05/08/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab	Associated sample(s): 01-02	QC Batch ID: WG1917774-3	QC Sample: L2422958-01	Client ID: MS Sample								
Perfluoroundecanoic Acid (PFUnA)	ND	37.6	38.8	103		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	35.5	33.8	95		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	37.6	38.3	102		-	-		70-130	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	94				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	87				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	90				50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	72				50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	99				50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	88				50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	81				50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77				50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	85				50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	106				50-200
Perfluoro[13C4]Butanoic Acid (MPFBA)	76				50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	84				50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	87				50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84				50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	87				50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89				50-200

Lab Duplicate Analysis
Batch Quality Control

Project Name: NYAW
Project Number: WO70296006

Lab Number: L2424010
Report Date: 05/08/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1917774-4 QC Sample: L2422958-02 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/l	NC		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	ND	ng/l	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	ND	ng/l	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	ND	ng/l	NC		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	ND	ng/l	NC		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: NYAW
Project Number: WO70296006

Lab Number: L2424010
Report Date: 05/08/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1917774-4 QC Sample: L2422958-02 Client ID: DUP Sample						
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	**47**	Q	**41**	Q	50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	51		**42**	Q	50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		89		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	79		73		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**41**	Q	**35**	Q	50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	**40**	Q	**35**	Q	50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	88		84		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	**42**	Q	**36**	Q	50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	91		90		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	50		**42**	Q	50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		89		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	59		53		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	96		99		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	69		68		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	78		83		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	**37**	Q	**30**	Q	50-200

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Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2424010-01A	Plastic 250ml Ammonium Acetate preserved	A	NA		3.8	Y	Absent		A2-533(28)
L2424010-01B	Plastic 250ml Ammonium Acetate preserved	A	NA		3.8	Y	Absent		A2-533(28)
L2424010-02A	Plastic 250ml Ammonium Acetate preserved	A	NA		3.8	Y	Absent		A2-533(28)
L2424010-02B	Plastic 250ml Ammonium Acetate preserved	A	NA		3.8	Y	Absent		A2-533(28)

*Values in parentheses indicate holding time in days

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PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: NYAW
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PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

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Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

136 Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 533, EPA Document 815-B-19-020, November 2019.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Chain of Custody

5/2/24 L2424010

PASI New York Laboratory

Pace

Workorder: 70296006 Workorder Name: 1,4 DIOX/POC/PFAS/CL 4/30 Results Requested By: 5/14/2024

Report / Invoice To	Subcontract To
Jennifer Aracri Pace Analytical Melville 575 Broad Hollow Road Melville, NY 11747 Phone 516-370-6016 Email: jennifer.aracri@pacelabs.com	Pace-Westborough 8 Walkup Drive Westborough, MA 01581 P.O. 70296006 JSA

Send Invoice To: invoices@pacelabs.coupahost.com
State of Sample Origin: NY

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	PFAS by 533	Requested Analysis	LAB USE ONLY
1	N-014434 -01	4/30/2024 10:45	70296006001	Drinking		X		
2	N-07407 -02	4/30/2024 11:15	70296006002	Drinking		X		
3								
4								
5								

Transfers	Released By	Date/Time	Received By	Date/Time
1	PACE LI	5/1/24 18:00	MSMA(AN)	5/1 0900
2	MSMA(AN)	5/1 2100	Anthony Green	MAY 01 2024 2213
3	Anthony Green		Olivia Hayford 5/2/24	01:15

Comments: 25 Compound List (NYAW)

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

Wednesday, May 01, 2024 1:43:15 PM

FMT-ALL-C-002rev.00 24March2009

Page 1 of 1

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# : 70296006
70296006

Date: 4/30/24
Collected By: M Gomes
Accepted By: Syd P 11, 12:36
Cooler Temp: 11.1 °C (B)

☑ 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:
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.
4/30 10:45	GW	Jefferson 12A N-0144434	RW	✓	RO	✓	5.3 / 13.1	1,4 Dioxane ⊕ Packet ⊕ PFC method 533 ⊕ Chlorides	
11:15	GW	Jefferson 11 N-07407	RW	✓	RO	✓	5.13 / 12.9	↓	

Remarks:

DC#_Title: Excel Form Template
Effective Date

Client: NYAW

Work ID: 1,4DIUX/PUC/533/CL 4/30

Profile #: F153

COC Page ______ of ______

☑ Use Point Number Spreadsheet

☐ Multiday Project

☐ Add SCLOGFD to first sample for field charge

COC Line Item		VG9U	VG9C	VG9H	VG9S	VG9T	DG9Y	DG9P	DG9A	DG8T	DG8S	AG4U	AG3U	AG2U	AG1U	AG34	AG3S	AG4E	AG3T	AG2R	AG1T	AG1H	AG1A	AG5U	AG44	CG1U	WG9O	WG4O	BP4U	BP3U	BP2U	BP1U	BP3S	BP2S	BP4N	BP3N	BP2N	BP3C	BP3T	BP3B	BP3R	BP1Z	BP1N	BP1B	BP5T	R	WG2U	WGFU	WGKU	WGDU	ZPLC	GN	WP	TEDL	BG1H	LLHG	BG1N	IOC	SOC
			2																	2									1											2																			
			2																	2									1											2																			

Container Codes

Glass

VG9U	40mL unpres clear vial	AG4U	125mL unpres amber glass
VG9C	40mL Ascorbic-HCl clear vial	AG3U	250mL unpres amber glass
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass
VG9S	40mL Sulfuric clear vial	AG1U	1liter unpres amber glass
VG9T	40mL Na Thiosulfate vial	AG34	Ammonium Cl 250mL bottle
DG9Y	40mL Citrate-Na Thiosulfate	AG3S	250mL H2SO4 amber glass
DG9P	40mL amber vial - TSP	AG4E	125mL EDA amber glass
DG9A	Ascorbic/Maleic Acid 40mL	AG3T	250mL Na Thio amber glass
DG8T	Na Thio 60mL vial	AG2R	Na Sulfite 500mL (Blue Cap)
DG9S	Ammonium Cl/CuSO4 40mL	AG1T	Na Thiosulfate 1L bottle
CG1U	1L Unpres Jar (Can Fill)	AG1H	1L HCl amber glass
WG9O	2oz clear soil jar	AG1A	1L Ammonium Chloride
WG4O	4oz clear soil jar	AG5U	100mL unpres Amber Glass
		AG44	Ammonium Cl 120mL bottle

Plastic

BP4U	125mL unpreserved plastic
BP3U	250mL unpreserved plastic
BP2U	500mL unpreserved plastic
BP1U	1L unpreserved plastic
BP4N	125mL HNO3 plastic
BP3N	250mL HNO3 plastic
BP2N	500mL HNO3 plastic
BP3S	250mL H2SO4 plastic
BP2S	500mL H2SO4 plastic
BP3C	NaOH 250mL bottle
BP3T	250mL Trizma
BP3B	250mL Ammonium Acetate
BP3R	250mL NH4SO4-NH4OH
BP1Z	1L NaOH, Zn Acetate
BP1N	1L HNO3 plastic
BP1B	Na Thiosulfate Amber Bottle

Misc.

BP5T	120mL Coliform Na Thio
R	Terracore Kit
WG2U	2oz Unpreserved Jar
WGFU	4oz Unpreserved Jar
WGKU	8oz Unpreserved Jar
WGDU	16oz Unpreserved Jar
ZPLC	Ziplock Bag
TEDL	Tedlar Bag
BG1H	1L HCL Clear Glass
GN	General
WP	Wipe
LLHG	Low Level Hg Bottles
BG1N	1L HNO3 Clear Glass

IOC

BP1U	1L unpreserved plastic
BP3N*	250mL HNO3 plastic
BP3C	250mL Sodium Hydroxide
AG2U	500mL unpres amber glass
BP3U	250mL unpreserved plastic

* 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
DG8T	Na Thiosulfate 60mL vial
DG8M	MonoClAcetate/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 ______

Additional Comments

WO#: 70296006
PM: JSA Due Date: 05/09/24
CLIENT: NYAW

DC#_Title: ENV-FRM-MELV-0024 v07_SCUR
Effective Date: 4/12/2024

WO#: 70296006
PM: JSA Due Date: 05/09/24
CLIENT: NYAW

Client Name: NYAW 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 ☐ Ziplock ☐ None ☐ Other Type of Ice: Wet Blue None

Thermometer Used: TH211 Correction Factor: 0.4 Samples on ice, cooling process has begun
Cooler Temperature(°C): 11.1 Cooler Temperature Corrected(°C): 10.7 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 originate 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: AJ 4/30/24

				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: -Pace Containers Used	☐Yes ☐Yes	☐No ☐No		9.
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 Matrix: SL WT OIL OTHER	☐Yes	☐No		12.

Date and Initials of person checking preservation: AJ 4/30/24

All containers needing preservation have been pH paper Lot #	☐Yes	☐No	☐N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl 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: KI starch test strips Lot # Residual chlorine strips Lot #	☐Yes	☐No	☐N/A	14. Positive for Res. Chlorine? Y N
SM 4500 CN samples checked for sulf Lead Acetate Strips Lot #	☐Yes	☐No	☐N/A	15. Positive for Sulfide? Y N
Headspace in ALK Bottle (>6mm):	☐Yes	☐No	☐N/A	
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 Managers review (which includes the SCUR) is documented electronically in LIMS

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# : 70296006

70296006

Date: 4/30/24

Collected By: M Gomes

Accepted By: Byd DTL 12:36

Cooler Temp: 11.1 °C (B)

☑ 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:

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.
4/30 10:45	GW	Jefferson 12A N-014434	RW	✓	RO	✓	5.3 / 13.1	1,4 Dioxane ⊕ PCL ox ⊕ PFC method 533 ⊕ Chlorides	
11:15	GW	Jefferson 11 N-07407	RW	✓	RO	✓	5.13 / 12.9	↓	

Remarks:

Client: NYAW

Profile #: F153

Work ID: 1.40JUx/PUC1533/CL 4/30

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	VG9T	DG9Y	DG9P	DG9A	DG6T	DG9S	AG4U	AG3U	AG2U	AG1U	AG34	AG3S	AG4E	AG3T	AG2R	AG1T	AG1H	AG1A	AG5U	AG44	CG1U	WG9O	WG4O	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	TEDL	BGIH	LLHG	BG1N	IOC	SOC
1			2																	2									1											2																						
2			2																	2									1											2																						
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11																																																																	
12																																																																	

Container Codes

Glass				Plastic	
VG9U	40mL unpres clear vial	AG4U	125mL unpres amber glass	BP4U	125mL unpreserved plastic
VG9C	40mL Ascorbic-HCl clear vial	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic
VG9H	40mL HCl clear vial	AG2U	500mL unpres amber glass	BP2U	500mL unpreserved plastic
VG9S	40mL Sulfuirc clear vial	AG1U	1liter unpres amber glass	BP1U	1L unpreserved plastic
VG9T	40mL Na Thiosulfate vial	AG34	Ammonium Cl 250mL bottle	BP4N	125mL HNO3 plastic
DG9Y	40mL Citrate-Na Thiosulfate	AG3S	250mL H2SO4 amber glass	BP3N	250mL HNO3 plastic
DG9P	40mL amber vial - TSP	AG4E	125mL EDA amber glass	BP2N	500mL HNO3 plastic
DG9A	Ascorbic/Maleic Acid 40mL	AG3T	250mL Na Thio amber glass	BP3S	250mL H2SO4 plastic
DG6T	Na Thio 60mL Vial	AG2R	Na Sulfile 500mL (blue Cap)	BP2S	500mL H2SO4 plastic
DG9S	Ammonium Cl/CuSO4 40mL	AG1T	Na Thiosulfate 1L bottle	BP3C	NaOH 250mL bottle
CG1U	1L Unpres Jar (Con Ed)	AG1H	1L HCl amber glass	BP3T	250mL Trizma
WG9O	8oz clear soil jar	AG1A	1L Ammonium Chloride	BP3S	250mL Ammonium Acetale
WG4O	4oz clear soil jar	AG5U	100mL unpres Amber Glass	BP3R	250mL NH4SO4-NH4OH
		AG44	Ammonium Cl 120mL bottle	BP1Z	1L NaOH, Zn Acetale
				BP1N	1L HNO3 plastic
				BP1B	Na Thiosulfate Amber Bottle

Misc.	
SP5T	120mL Coliform Na Thio
R	Terracore Kit
WG2U	2oz Unpreserved Jar
WGFU	4oz Unpreserved Jar
WGKU	8oz Unpreserved Jar
WGDU	16oz Unpreserved Jar
ZPLC	Ziplock Bag
TEDL	Tedlar Bag
BG1H	1L HCL Clear Glass
GN	General
WP	Wipe
LLHG	Low Level Hg Bottles
BG1N	1L HNO3 Clear Glass

IOC	
BP1U	1L unpreserved plastic
BP3N*	250mL HNO3 plastic
BP3C	250mL Sodium Hydroxide
AG2U	500mL unpres amber glass
BP3U	250mL unpreserved plastic

* 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/ malelc Acid vials
DG9Y	Cilrate/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 Thiosullate 1L Amber
AG1A	525.3 Chemical Blend

Sender Initials _____

Additional Comments

WO#: 70296006
PM: JSA Due Date: 05/09/24
CLIENT: NYAW

WO# : 70296006
PM: JSA Due Date: 05/09/24
CLIENT: NYAW

Client Name: NYAW 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: TH211 Correction Factor: 0.4 ☑ Samples on ice, cooling process has begun

Cooler Temperature(°C): 11.1 Cooler Temperature Corrected(°C): 10.7 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: AS 4/30/24

				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: -Pace Containers Used:	☑ Yes ☑ Yes	☐ No ☐ No		9.
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 Matrix: SL (WT) OIL OTHER	☑ Yes	☐ No		12.

Date and Initials of person checking preservation: AS 4/30/24

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 sulf	☐ Yes	☐ No	☑ N/A	15.
Lead Acetate Strips Lot #				Positive for Sulfide? Y N
Headspace in ALK Bottle (>6mm):	☐ Yes	☐ No	☑ N/A	
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 (which includes the SCUR) is documented electronically in LIMS.

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 : 06/19/2024 02:20 PM Point N-09338
Received : 06/19/2024 02:50 PM Location Seamanneck 4 Well
Collected By CLIENT

Lab No. : 70302218001
Client Sample ID.: N-09338

Analytical Method:EPA 200.8

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Analyzed:	Container:
Lead	<1.0		1	ug/L	15	06/28/2024 1:41 PM	001 BP4N1/1
Thallium	0.37		1	ug/L	2	06/28/2024 1:41 PM	001 BP4N1/1

Analytical Method:EPA 300.0

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Analyzed:	Container:
Chloride	16.5		1	mg/L	250	07/04/2024 5:50 PM	001 BP4U1/1

Analytical Method:EPA 522 Prep Method: EPA 522 Prep Date: 06/21/2024 10:45

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Analyzed:	Container:
1,4-Dioxane (p-Dioxane)	**1.8***		1	ug/L	1	06/21/2024 9:00 PM	001 AG2R1/2
Surr: 1,4-Dioxane-d8 (S)	96%		1	%REC		06/21/2024 9:00 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	06/24/2024 5:26 PM	001 VG9C1/2
1,1,1-Trichloroethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,1,2,2-Tetrachloroethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,1,2-Trichloroethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,1,2-Trichlorotrifluoroethane	<0.50	N3,L1	1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,1-Dichloroethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,1-Dichloroethene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,1-Dichloropropene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,2,3-Trichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,2,3-Trichloropropane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,2,4-Trichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,2,4-Trimethylbenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,2-Dichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,2-Dichloroethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,2-Dichloropropane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,3,5-Trimethylbenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,3-Dichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,3-Dichloropropane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
1,4-Dichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
2,2-Dichloropropane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
2-Chlorotoluene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
4-Chlorotoluene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Benzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Bromobenzene	<0.50		1	ug/L	5	06/24/2024 5:26 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.

Kimberley Mack

Kimberley Mack

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

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. : 70302218001
Client Sample ID.: N-09338

Federal ID : 2902840
Collected : 06/19/2024 02:20 PM Point N-09338
Received : 06/19/2024 02:50 PM Location Seamanneck 4 Well
Collected By CLIENT

Bromochloromethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Bromodichloromethane	<0.50		1	ug/L		06/24/2024 5:26 PM	001 VG9C1/2
Bromoform	<0.50		1	ug/L		06/24/2024 5:26 PM	001 VG9C1/2
Bromomethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Carbon tetrachloride	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Chlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Chlorodifluoromethane	<0.50	N3,IL,v3	1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Chloroethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Chloroform	<0.50		1	ug/L		06/24/2024 5:26 PM	001 VG9C1/2
Chloromethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Dibromochloromethane	<0.50		1	ug/L		06/24/2024 5:26 PM	001 VG9C1/2
Dibromomethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Dichlorodifluoromethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Ethylbenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Hexachloro-1,3-butadiene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Isopropylbenzene (Cumene)	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Methyl-tert-butyl ether	<0.50		1	ug/L	10	06/24/2024 5:26 PM	001 VG9C1/2
Methylene Chloride	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Styrene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Tetrachloroethene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Toluene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Total Trihalomethanes (Calc.)	<0.50		1	ug/L	80	06/24/2024 5:26 PM	001 VG9C1/2
Trichloroethene	4.4		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Trichlorofluoromethane	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Vinyl chloride	<0.50		1	ug/L	2	06/24/2024 5:26 PM	001 VG9C1/2
cis-1,2-Dichloroethene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
cis-1,3-Dichloropropene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
m&p-Xylene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
n-Butylbenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
n-Propylbenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
o-Xylene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
p-Isopropyltoluene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
sec-Butylbenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
tert-Butylbenzene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
trans-1,2-Dichloroethene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
trans-1,3-Dichloropropene	<0.50		1	ug/L	5	06/24/2024 5:26 PM	001 VG9C1/2
Surr: 1,2-Dichlorobenzene-d4 (S)	89%		1	%REC		06/24/2024 5:26 PM	001 VG9C1/2
Surr: 4-Bromofluorobenzene (S)	89%		1	%REC		06/24/2024 5:26 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.

Kimberley Mack

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: Effluent
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 : 06/19/2024 02:00 PM Point Seamanneck 4
Received : 06/19/2024 02:50 PM Location Seamanneck 4 Well
Collected By CLIENT

Lab No. : 70302218002
Client Sample ID.: GAC-4S

Analytical Method:EPA 200.8

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Analyzed:	Container:
Lead	<1.0		1	ug/L	15	06/28/2024 1:46 PM	002 BP4N1/1
Thallium	<0.30		1	ug/L	2	06/28/2024 1:46 PM	002 BP4N1/1

Analytical Method:EPA 300.0

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Analyzed:	Container:
Chloride	19.4		1	mg/L	250	07/04/2024 7:17 PM	002 BP4U1/1

Analytical Method:EPA 522 Prep Method: EPA 522 Prep Date: 06/21/2024 10:45

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Analyzed:	Container:
1,4-Dioxane (p-Dioxane)	**1.4***		1	ug/L	1	06/21/2024 9:31 PM	002 AG2R1/2
Surr: 1,4-Dioxane-d8 (S)	71%		1	%REC		06/21/2024 9:31 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	06/24/2024 5:00 PM	002 VG9C1/2
1,1,1-Trichloroethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,1,2,2-Tetrachloroethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,1,2-Trichloroethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,1,2-Trichlorotrifluoroethane	<0.50	N3,L1	1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,1-Dichloroethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,1-Dichloroethene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,1-Dichloropropene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,2,3-Trichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,2,3-Trichloropropane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,2,4-Trichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,2,4-Trimethylbenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,2-Dichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,2-Dichloroethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,2-Dichloropropane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,3,5-Trimethylbenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,3-Dichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,3-Dichloropropane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
1,4-Dichlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
2,2-Dichloropropane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
2-Chlorotoluene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
4-Chlorotoluene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Benzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Bromobenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 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
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Result(s) reported meet(s) NYS Regulatory Limit(s).
Result(s) flagged with * Exceed NYS Regulatory Limit(s). Limit Noted.

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Laboratory Results

Results for the samples and analytes requested

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Sample Information:
Type: Drinking Water
Origin: Effluent
Routine

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

Lab No. : 70302218002
Client Sample ID.: GAC-4S

Federal ID : 2902840
Collected : 06/19/2024 02:00 PM Point Seamanneck 4
Received : 06/19/2024 02:50 PM Location Seamanneck 4 Well
Collected By CLIENT

Bromochloromethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Bromodichloromethane	<0.50		1	ug/L		06/24/2024 5:00 PM	002 VG9C1/2
Bromoform	<0.50		1	ug/L		06/24/2024 5:00 PM	002 VG9C1/2
Bromomethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Carbon tetrachloride	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Chlorobenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Chlorodifluoromethane	<0.50	N3,IL,v3	1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Chloroethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Chloroform	<0.50		1	ug/L		06/24/2024 5:00 PM	002 VG9C1/2
Chloromethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Dibromochloromethane	<0.50		1	ug/L		06/24/2024 5:00 PM	002 VG9C1/2
Dibromomethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Dichlorodifluoromethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Ethylbenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Hexachloro-1,3-butadiene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Isopropylbenzene (Cumene)	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Methyl-tert-butyl ether	<0.50		1	ug/L	10	06/24/2024 5:00 PM	002 VG9C1/2
Methylene Chloride	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Styrene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Tetrachloroethene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Toluene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Total Trihalomethanes (Calc.)	<0.50		1	ug/L	80	06/24/2024 5:00 PM	002 VG9C1/2
Trichloroethene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Trichlorofluoromethane	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Vinyl chloride	<0.50		1	ug/L	2	06/24/2024 5:00 PM	002 VG9C1/2
cis-1,2-Dichloroethene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
cis-1,3-Dichloropropene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
m&p-Xylene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
n-Butylbenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
n-Propylbenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
o-Xylene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
p-Isopropyltoluene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
sec-Butylbenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
tert-Butylbenzene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
trans-1,2-Dichloroethene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
trans-1,3-Dichloropropene	<0.50		1	ug/L	5	06/24/2024 5:00 PM	002 VG9C1/2
Surr: 1,2-Dichlorobenzene-d4 (S)	88%		1	%REC		06/24/2024 5:00 PM	002 VG9C1/2
Surr: 4-Bromofluorobenzene (S)	94%		1	%REC		06/24/2024 5:00 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.
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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.

Kimberley Mack

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www.pacelabs.com

WorkOrder :
70302218

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
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WorkOrder :
70302218

Additional Qualifiers

IL - This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.

L1 - Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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.

WO#: 70302218

70302218

Sample Request Form
PUBLIC WATER SUPPLIER

Date: 6/19/24

Collected By: JP Gomes

Accepted By: JP PCI 6/19 14:50

Cooler Temp: 1.5 °C (B)

❑ WELL OFF LINE _____

☑ WELL RUN TO SYSTEM _____

❑ YES ❑ NO VOC'S PRESERVED WITH HCl

Client Info:

Name or Code: Liberty Merrick

Address: 60 Brooklyn Ave
Merrick NY 11566

Phone #: _____

Attn: _____

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.
6/19 14:20	GW	Seaman Neck 4	RW	/	RO	/	5.23/14.4	1,4 Dioxane	
		N-09338						⊕PFC method 533	
								⊕Chlorides ⊕PCI/VOC	
								⊕Thallium ⊕Lead	
14:00	PW	Seaman Neck GAC	E	GAC	RO	/	7.24/13.1		
↓		GAC-45						↓	

Remarks:

DC#_Title: Excel Form Template
Effective Date:

WO#: 70302218
PM: JSA **Due Date: 07/01/24**
CLIENT: NYAW

Client Name: NYAW **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 ☐ Ziplot ☑ None ☐ Other **Type of Ice:** Wet Blue ☑ None

Thermometer Used: TIR11 **Correction Factor:** -0.1 ☐ Samples on ice, cooling process has begun
Cooler Temperature(°C): 1.5 **Cooler Temperature Corrected(°C):** 1.4 **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: JH 6/19

				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: -Pace Containers Used:	☑ Yes ☑ Yes	☐ No ☐ No		9.
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 Matrix: SL WT OIL OTHER	☑ Yes	☐ No		12.

Date and Initials of person checking preservation: JH 6/19

All containers needing preservation have been checked.	☑ Yes	☐ No	☐ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot # 200623				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: KI starch test strips Lot # Residual chlorine strips Lot #	☐ Yes	☐ No	☑ N/A	14. Positive for Res. Chlorine? Y N
SM 4500 CN samples checked for sul Lead Acetate Strips Lot #	☐ Yes	☐ No	☑ N/A	15. Positive for Sulfide? Y N
Headspace in ALK Bottle (>6mm):	☐ Yes	☐ No	☑ N/A	
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 (which includes the SCUR) is documented electronically in LIMS.

ANALYTICAL REPORT

Lab Number:	L2435463
Client:	Pace Analytical Services, LLC 575 Broad Hollow Rd Melville, NY 11747
ATTN:	Jennifer Aracri
Phone:	(516) 370-6016
Project Name:	NYAW
Project Number:	WO70302218
Report Date:	07/02/24

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2435463-01	N-09338	DW	NY	06/19/24 14:20	06/21/24
L2435463-02	GAC-4S	DW	NY	06/19/24 14:00	06/21/24

Project Name:	NYAW	**Lab Number:**	L2435463
Project Number:	WO70302218	**Report Date:**	07/02/24

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NYAW	**Lab Number:**	L2435463
Project Number:	WO70302218	**Report Date:**	07/02/24

Case Narrative (continued)

Perfluorinated Alkyl Acids by EPA 533

L2435463-01R, -02R2, WG1940429-3R, and WG1940429-4R2: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Ashley Boucher

Title: Technical Director/Representative Date: 07/02/24

ORGANICS

SEMIVOLATILES

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

SAMPLE RESULTS

Lab ID: L2435463-01 R
Client ID: N-09338
Sample Location: NY

Date Collected: 06/19/24 14:20
Date Received: 06/21/24
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 06/30/24 22:40
Analyst: TBR

Extraction Method: EPA 533
Extraction Date: 06/27/24 19:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.70	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.70	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.70	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.70	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.70	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.70	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.70	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.70	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.70	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.70	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.70	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.70	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.70	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.70	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.70	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.70	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.70	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.70	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.70	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.70	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.70	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.70	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.70	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.70	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.70	--	1

Project Name: NYAW **Lab Number:** L2435463

Project Number: WO70302218 **Report Date:** 07/02/24

SAMPLE RESULTS

Lab ID: L2435463-01 R
Client ID: N-09338
Sample Location: NY

Date Collected: 06/19/24 14:20
Date Received: 06/21/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	60		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	63		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	100		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	110		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	58		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	53		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	56		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	114		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	62		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	70		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	105		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	80		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	85		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	52		50-200

Project Name: NYAW
Project Number: WO70302218
Lab Number: L2435463
Report Date: 07/02/24

SAMPLE RESULTS

Lab ID: L2435463-02 R2
Client ID: GAC-4S
Sample Location: NY

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 07/01/24 20:06
Analyst: TBR

Date Collected: 06/19/24 14:00
Date Received: 06/21/24
Field Prep: Not Specified

Extraction Method: EPA 533
Extraction Date: 06/27/24 19:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.70	--	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.70	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.70	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.70	--	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.70	--	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.70	--	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.70	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.70	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.70	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.70	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.70	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.70	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.70	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.70	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.70	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.70	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.70	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.70	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.70	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.70	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.70	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.70	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.70	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.70	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.70	--	1

Project Name: NYAW **Lab Number:** L2435463

Project Number: WO70302218 **Report Date:** 07/02/24

SAMPLE RESULTS

Lab ID: L2435463-02 R2 Date Collected: 06/19/24 14:00

Client ID: GAC-4S Date Received: 06/21/24

Sample Location: NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	68		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	69		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	99		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	107		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	63		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	62		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	53		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	96		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	58		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	99		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	61		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	102		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	69		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	73		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	56		50-200

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 136,533
Analytical Date: 06/28/24 17:05
Analyst: CAP

Extraction Method: EPA 533
Extraction Date: 06/27/24 19:14

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab for sample(s): 01-02 Batch: WG1940429-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	--
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.00	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.00	--
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.00	--
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 136,533
Analytical Date: 06/28/24 17:05
Analyst: CAP

Extraction Method: EPA 533
Extraction Date: 06/27/24 19:14

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab for sample(s): 01-02 Batch: WG1940429-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	100		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	113		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	100		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	99		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	101		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	105		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	108		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	112		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	107		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	108		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	107		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	110		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	112		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	100		50-200

Lab Control Sample Analysis
Batch Quality Control

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-02 Batch: WG1940429-2								
Perfluorobutanoic Acid (PFBA)	95		-		70-130	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	96		-		70-130	-		30
Perfluoropentanoic Acid (PFPeA)	97		-		70-130	-		30
Perfluorobutanesulfonic Acid (PFBS)	90		-		70-130	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	88		-		70-130	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	83		-		70-130	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	94		-		70-130	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	103		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	92		-		70-130	-		30
Perfluoropentanesulfonic Acid (PFPeS)	98		-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	103		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	97		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	95		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	87		-		70-130	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	92		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	94		-		70-130	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	92		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	102		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	92		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	90		-		70-130	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	96		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NYAW

Project Number: WO70302218

Lab Number: L2435463

Report Date: 07/02/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-02 Batch: WG1940429-2								
Perfluorodecanoic Acid (PFDA)	94		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	100		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	91		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	101		-		70-130	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	89				50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	93				50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	112				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	111				50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	90				50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92				50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104				50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	128				50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101				50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	108				50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	98				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	114				50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	107				50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	107				50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	86				50-200

Matrix Spike Analysis
Batch Quality Control

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab	Associated sample(s): 01-02	QC Batch ID: WG1940429-3	QC Sample: L2435463-01	Client ID: N-09338								
Perfluorobutanoic Acid (PFBA)	ND	142	138	97		-	-		70-130	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	142	139	98		-	-		70-130	-		30
Perfluoropentanoic Acid (PFPeA)	ND	142	137	96		-	-		70-130	-		30
Perfluorobutanesulfonic Acid (PFBS)	ND	126	108	86		-	-		70-130	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	142	118	83		-	-		70-130	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	127	99.5	78		-	-		70-130	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	142	129	91		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	133	137	103		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	142	139	98		-	-		70-130	-		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	134	116	87		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	142	159	112		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	142	145	102		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	130	115	89		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	134	106	79		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	135	124	92		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	142	128	90		-	-		70-130	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	136	114	84		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	142	139	98		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	132	120	91		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	133	111	84		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	136	143	105		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	142	141	99		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab	Associated sample(s): 01-02	QC Batch ID: WG1940429-3	QC Sample: L2435463-01	Client ID: N-09338								
Perfluoroundecanoic Acid (PFUnA)	ND	142	147	103		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	134	113	84		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	142	141	99		-	-		70-130	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	109				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	118				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	130				50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	59				50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	96				50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	84				50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	68				50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	67				50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108				50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	99				50-200
Perfluoro[13C4]Butanoic Acid (MPFBA)	71				50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	75				50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	109				50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	74				50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86				50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	108				50-200

Lab Duplicate Analysis
Batch Quality Control

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1940429-4 QC Sample: L2435463-02 Client ID: GAC-4S						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/l	NC		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	ND	ng/l	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	ND	ng/l	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	ND	ng/l	NC		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	ND	ng/l	NC		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1940429-4 QC Sample: L2435463-02 Client ID: GAC-4S						
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	68		80		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	69		86		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	99		95		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	107		98		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	63		76		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	62		73		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		93		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	53		74		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	96		104		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	58		83		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	99		103		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	61		83		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	102		101		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	69		86		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	73		92		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	56		72		50-200

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
Report Date: 07/02/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2435463-01A	Plastic 250ml Ammonium Acetate preserved	A	NA		3.9	Y	Absent		A2-533(28)
L2435463-01B	Plastic 250ml Ammonium Acetate preserved	A	NA		3.9	Y	Absent		A2-533(28)
L2435463-02A	Plastic 250ml Ammonium Acetate preserved	A	NA		3.9	Y	Absent		A2-533(28)
L2435463-02B	Plastic 250ml Ammonium Acetate preserved	A	NA		3.9	Y	Absent		A2-533(28)

*Values in parentheses indicate holding time in days

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
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PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: NYAW
Project Number: WO70302218

Lab Number: L2435463
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PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	NYAW	**Lab Number:**	L2435463
Project Number:	WO70302218	**Report Date:**	07/02/24

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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REFERENCES

136 Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 533, EPA Document 815-B-19-020, November 2019.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

6/22/24 L2435463

Chain of Custody

PASI New York Laboratory

Pace

Workorder: 70302218 Workorder Name: 1.4DIOX/PFAS/CL/POC/PB/TL 6/19 Results Requested By: 7/5/2024

Report / Invoice To	Subcontract To
Jennifer Aracri Pace Analytical Melville 575 Broad Hollow Road Melville, NY 11747 Phone 516-370-6016 Email: jennifer.aracri@pacelabs.com	Pace-Westborough 8 Walkup Drive Westborough, MA 01581 P.O. 70302218 JSA

Send Invoice To: invoices@pacelabs.coupahost.com
State of Sample Origin: NY

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers	Requested Analysis: PFAS by 533	LAB USE ONLY
1	N-09338	6/19/2024 14:20	70302218001	Drinking		X	
2	GAC-4S	6/19/2024 14:00	70302218002	Drinking		X	
3							
4							
5							

Comments: 25 Compound List (NYAW)

Transfers	Released By	Date/Time	Received By	Date/Time
1	MS MA(AN)	6/21/24 18	MS MA(AN)	6/21 1951
2		6/21 2112	Anthony Green	JUN 21 2024 2045
3	Anthony Green	6/22 0040		6/22/24 0040

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

6/22/24 0600 6/22/24 06:00

6/22/24 L2435463

WO#: 70302218

70302218

Sample Request Form
PUBLIC WATER SUPPLIER

Date: 6/19/24

Collected By: M Gomes

Accepted By: for PCI 6/19 14:50

Cooler Temp: 1.5 °C (B)

☐ WELL OFF LINE

☑ WELL RUN TO SYSTEM

☐ YES ☐ NO VOC'S PRESERVED WITH HCl

Client Info:

Name or Code: Liberty Gamck

Address: 60 Bradley Ave
Point Reyes CA 94956

Phone #:

Attn:

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.
6/19 14:20	GW	Seaman Nack 4	RW	/	RO	/	5.72 / 14.4	1,4 Dioxane	
		N-09338						ⓓPFC method 533	
								ⓐChlorides ⓑFluoride	
								ⓔthallium ⓕlead	
14:00	PW	Seaman Nack GAC	E	GAC	RO	/	7.24 / 13.1		
		GAC-45							

Remarks:

6/22/24 L2435463

DC#_Title: Excel Form Template
Effective Date:

WO#: 70302218

Client Name: NYAW Project #

PM: JSA Due Date: 07/01/24

CLIENT: NYAW

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 ✓ Ziplok ✓ None ☐ Other Type of Ice: Wet ✓ Blue ✓ None

Thermometer Used: T181 Correction Factor: -0.1 ☐ Samples on ice, cooling process has begun

Cooler Temperature(°C): 1.3 Cooler Temperature Corrected(°C): 1.2 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)? ☐ Ye ☐ 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: TH 6/24

				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: -Pace Containers Used:	✓Yes ✓Yes	☐No ☐No		9.
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 Matrix: SL WT OIL OTHER	✓Yes	☐No		12.

Date and Initials of person checking preservation: TH 6/24

All containers needing preservation have been pH paper Lot # 200313	✓Yes	☐No	☐N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl 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) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	✓Yes	☐No	☐N/A	Initial when completed: / Lot # of added preservative: / Date/Time preservative added:
Samples checked for dechlorination: KI starch test strips Lot # Residual chlorine strips Lot #	☐Yes	☐No	✓N/A	14. Positive for Res. Chlorine? Y N
SM 4500 CN samples checked for sul Lead Acetate Strips Lot #	☐Yes	☐No	✓N/A	15. Positive for Sulfide? Y N
Headspace in ALK Bottle (>6mm):	☐Yes	☐No	✓N/A	
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 (which includes the SCUR) is documented electronically in LIMS.