



2019 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 NYCRR) 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. Our team at New York American Water takes our job of serving you safe, clean drinking water every day very seriously and we are proud to be your local water service provider.

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.

New York American Water invests in our infrastructure to ensure the delivery of quality drinking water. 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 make sure that quality water is always there when you need it.

Delivering safe, reliable water service requires significant investment to maintain and upgrade aging facilities. **In 2019, we invested approximately \$55.5 million in system improvements across the state.** New York American Water is also acting proactively to prepare for proposed regulation of emerging compounds, such as 1,4-Dioxane and PFOA/PFOS, by the New York State Department of Health.

Water is essential for public health, fire protection, economic development and overall quality of life. New York American Water's employees are committed to ensuring that quality water keeps flowing not only today, but well into the future.

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 2019.

Thank you for allowing us to serve you. **WE KEEP LIFE FLOWING.**

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 at 516-227-9692.



QUALITY. ONE MORE WAY WE KEEP LIFE FLOWING.

What is a Water Quality Report

To assure that water is safe to drink, the U.S. Environmental Protection Agency, 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 New York State Health Department 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 2019, 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 516-632-2215.

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 New York American Water. Additional copies of this report are available by contacting us at 516-632-2215.

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:*

New York American Water:

Customer Call Center: 1-877-426-6999 (M-F; 7am-7pm)

Emergencies: 1-877-426-6909 (24 hours)

Automated Meter Reading Line: 1-800-672-1095

TDD (Hearing/Speech impaired): 1-800-300-6202

On-line: www.newyorkamwater.com

Billing Payment Address:

New York American Water
PO BOX 371332
Pittsburgh, PA 15250-7332

Merrick Administrative Office:

New York American Water
60 Brooklyn Avenue
Merrick, NY 11566
516-632-2232

Water Information Sources :

New York State Department of Health
1-518-473-8600 • www.health.state.ny.us

Nassau County Health Department
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

US Environmental Protection Agency
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 New York American Water

New York American Water, 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](#).

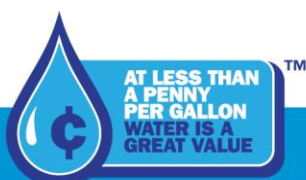
Communities Served

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

*community partially served

Average Residential Usage & Cost

In 2019, the average residential household used approximately 99,563 gallons of water at a cost of about \$600, or \$1.64 a day. With an average of 3.0 persons per household, the cost of water was about 55¢ a day per person.



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 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 New York American Water 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. Call our customer call center or 516-632-2236 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.

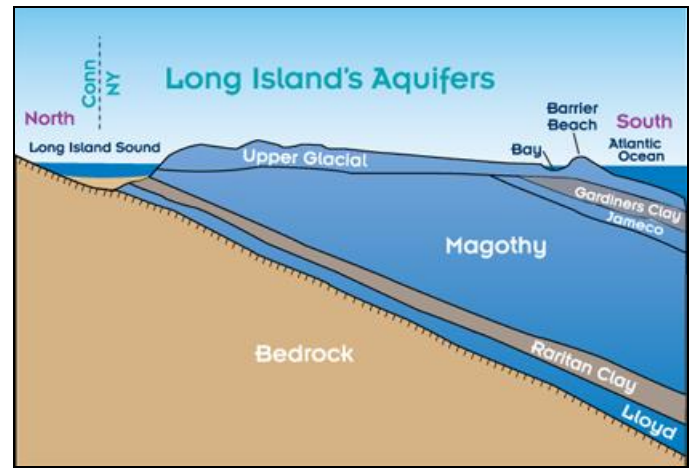
Source, Quality & Quantity

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. New York American Water – 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: Nassau County Department of Health)

Source Water Assessment

The NYS DOH, 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 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 516-632-2215.



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 a 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 also 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: <https://amwater.com/nyaw/water-quality/lead-and-drinking-water>

System Improvements

In 2019, we continued to make *significant upgrades* to our system and infrastructure. These improvements include:

- Replaced 7,679 feet of water main throughout the service territory.
- Replaced 10 fire hydrants
- Replaced 139 service lines
- Replaced 843 water meters
- Completed construction on new 1 Million Gallon water storage tank and booster station at the Demott Avenue station in Wantagh.
- Completed Arc Flash safety project at electrical supply cabinets at all treatment facilities.
- Started construction on iron removal filter plant renovations at Newbridge Road treatment plant.
- Started planning and permitting of replacement wells at Newbridge Road, Jefferson Street, and Massapequa treatment plant locations.

Improvements planned for 2020 include:

- Replace approximately 6,700 feet of water main.
- Replace 5 fire hydrants
- Replace approximately 1,200 water meters.
- Complete construction of renovations to the Newbridge Road iron removal treatment plant.
- Start work on permitting and construction of 1,4-Dioxane removal Advanced Oxidation (AOP) treatment facility at Seamans Neck Road treatment plant.
- Complete construction of replacement water supply wells at the Newbridge Road, Jefferson Street, and Massapequa treatment plant locations.

Do I Need to Take Special Precautions?

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount 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 Nassau County Department of Health 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.



Substances that may be present in source water include:

- **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, 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 a number of 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 Nassau County Department of Health 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 0.5 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 2017 with similar results. We are on an approved reduced monitoring schedule, and the next round of homeowner monitoring for the Lead and Copper Rule will be completed in the summer of 2020.

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

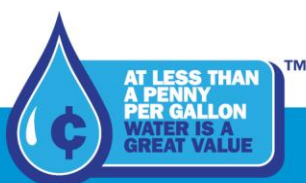
The Water Quality Table – “**Table of Detected Contaminants**” is the most important section in this report, containing details on New York American Water's comprehensive testing program for drinking water at the tap. It compares the results from tests we performed in 2019 (and earlier) with the health 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 **4.7 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.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** 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.
- **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
- **Nephelometric Turbidity Unit (NTU):** A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **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 assure 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.

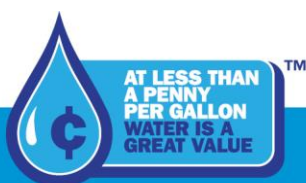
Tests are done on water taken from the well (“raw water”), water within our treatment facilities, water exiting our treatment plants at the point-of-entry to the distribution system, and from sites located throughout our distribution system after treatment. These tests are conducted in the company’s state certified laboratory, by the Nassau County Health Department Laboratory, and by independent, certified laboratories approved by the state, who report results simultaneously to the company and to the Health Department. New York State 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 516-632-2215 and request a copy.

2019 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	5,302,021,000 Gal.
Total Water Sales	4,928,311,000 Gal.
Total Water Lost from System*	373,710,000 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. 7.0% of total water delivered to the system; of which, approximately 3.0% is accounted for and 4.0% is unaccounted for.



Water Quality Table – Table of Detected Contaminants 2019 (SA2 - Merrick Operations)

REGULATED SUBSTANCES

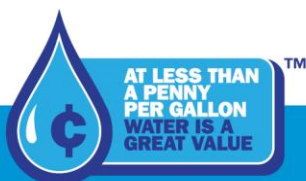
Contaminant (units)	Date Sampled	MCL	MCLG	Maximum Amount Detected	Range: Low-High	Compliance Achieved	Typical Source
Microbiological							
Total Coliform (% positive samples in any given month) ¹	2019 (highest month was July 2019)	TT=>5% samples positive	0	1.6% ¹ (2 POS out of 126 total samples in July 2019)	ND (0%) – 1.6%	Yes	Naturally present in the environment
E. Coli ²	2019 (One positive sample in July 2019)	Any Positive sample ²	0	One positive sample, followed by Negative resamples	ND (0%) - 0.79%	Yes	Human and Animal fecal waste
Disinfection By-Products							
TTHM's [Total Trihalomethanes] (ppb) ³	2019	80	0	4.4	ND - 4.4	Yes	By-product of drinking water disinfection
Disinfection By-Products							
HAA5's [Total Haloacetic acids] (ppb) ⁴	2019	60	0	1.0	ND - 1.0	Yes	By-product of drinking water disinfection
Disinfectants							
Chlorine (ppm) ⁵	2019	MRDL = 4.0	MRDLG=4.0	2.20	0.22 - 2.20	Yes	Water additive used to control microbes
Radiological ⁶							
Gross Alpha Activity (pCi/L)	2016 - 2018	15	0	8.06	ND – 8.06	Yes	Erosion of natural deposits
Gross Beta Activity (pCi/L)	2016 - 2018	50	0	4.23	0.171 – 4.23	Yes	Erosion of natural deposits
Combined Radium-226 and Radium-228 (pCi/L)	2016 - 2018	5	0	4.61	0.280 – 4.61	Yes	Erosion of natural deposits
Uranium (ug/L)	2016 - 2018	30	0	0.187	ND - 0.187	Yes	Erosion of natural deposits

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	Typical Source
Copper (ppm) ⁷	2017	1.3	1.3	0.29	ND – 0.40	No	Corrosion of household plumbing systems
Lead (ppb) ⁸	2017	15	0	2.2	ND – 23.8	No	Corrosion of household plumbing systems

Metals & Inorganic Substances

Contaminant (units)	Date Sampled	MCL	MCLG	Maximum Amount Detected	Range: Low-High	Typical Source
Barium (ppb)	2019	2,000	2,000	4.7	ND – 4.7	Erosion of natural deposits
Calcium (ppm)	2019	N/A	N/A	4.9	0.72 – 4.9	Naturally occurring
Chlorides (ppm)	2019	250	N/A	19.4	4.2 – 19.4	Naturally occurring or indicative of road salt contamination
Iron (ppb) ⁹	2019	300	N/A	510	ND - 510	Naturally occurring
Manganese (ppb) ⁹	2019	300	N/A	10	ND – 10	Naturally occurring
Nickel (ppb)	2019	NONE	N/A	4.0	14 – 4.0	Naturally occurring
Nitrates as N (ppm)	2019	10	10	0.077	ND – 0.077	Erosion of natural deposits; Runoff from fertilizers and septic tanks
Sodium (ppm) ¹⁰	2019	NONE	N/A	43.4	7.7 – 43.4	Naturally occurring; Road salt; Water softeners
Sulfate (ppm)	2019	250	N/A	30.0	ND – 30.0	Naturally occurring; Road salt; Water softeners



Organic Substances

Contaminant (units)	Date Sampled	MCL	MCLG	Maximum Amount Detected	Range: Low-High	Typical Source
Trichloroethene (TCE)- (ppb)	2019	5	0	1.3	ND - 1.3	Discharges from metal degreasing sites and other factories. Grumman-NAVY plume

Physical Parameters & Unregulated Substances

Contaminant (units)	Date Sampled	Maximum Amount Detected	Range: Low-High	Typical Source
Alkalinity (ppm)	2019	56.0	7.2 - 56.0	N/A
Calcium Hardness (ppm)	2019	12.1	1.8 - 12.1	N/A
Color Index (units)	2019	5	ND - 5	Presence of metals such as copper, iron and manganese. Results greater than 15 units are considered 'discolored'.
Corrosivity (Langelier Index) ¹¹	2019	(-4.03)	(-1.93) - (-4.03)	N/A
Hardness, Total (ppm)	2019	19.9	2.8 - 19.9	N/A
Magnesium (ppm)	2019	1.9	0.23 - 1.9	Naturally occurring
Odor (units)	2019	1	ND - 1	Chlorine-based, as used for drinking water disinfection
Perchlorate (ppb) ¹²	2019	18.4	ND - 18.4	By-product of fertilizer, fireworks, rocket fuel, explosives
pH (units) ¹³	2019	7.8	6.6 - 7.8	N/A
Total Dissolved Solids [TDS] (ppm)	2019	251	122 - 251	N/A

Footnotes:

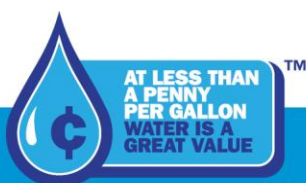
- ¹ A total of 1,455 distribution system bacteriological samples were taken in 2019, with 5 positive Total Coliform results = 0.34% positive for the year.
- ² A violation occurs when a Total Coliform positive sample is positive and is positive for E. Coli AND a repeat total coliform is positive OR when a total coliform positive sample is negative for E. Coli, but a repeat total coliform sample is positive and the resample is also positive for E. Coli. **In this case, all resamples collected were Negative for both total coliform and E. Coli.**
- ³ Total Trihalomethanes (TTHM's) mean the sum of: Bromoform, Bromodichloromethane, Dibromochloromethane, and Chloroform. The highest 'Locational Running Annual Average' was 3.2 ppb in 2019.
- ⁴ Total Haloacetic acids (HAA5's) include the sum of: Monochloroacetic acid, Dichloroacetic acid, Trichloroacetic acid, Bromoacetic acid, and Dibromoacetic acid. The highest 'Locational Running Annual Average' was less than 1.0 ppb (" <1.0 ") in 2019.
- ⁵ The running annual average of all Chlorine Residual readings (1,455) in the distribution system was **1.49 ppm** for 2019.
- ⁶ Radiological results are from individual raw water wells, and not distribution locations, as required by the Nassau County Dept. of Health (NCDOH).
- ⁷ 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.
- ⁸ The level presented represents the 90th percentile of 54 sites tested. The "action level" for lead was exceeded at one of 54 sites tested.
- ⁹ 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 New York American Water - Merrick Operations district. The Total of iron and manganese should not exceed 500 ppb, unless allowed by the state, as is the case with New York American Water - Merrick Operations district.
- ¹⁰ 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.
- ¹¹ The Nassau County Dept. of Health (NCDOH) recommends that the Langelier Saturation Index (for corrosivity) be as close to zero as possible.
- ¹² Nassau County Dept. of Health (NCDOH) guidelines state for Perchlorate: A "Primary Action Level" of 18.0 ppb, and a "Secondary Action Level" of 5.0 ppb as tested for in raw water wells. The detections reported could not be duplicated in ground water well sources and distribution system samples - Sample bottle contamination has been suspected. All subsequent Perchlorate resamples were ND (<4.0 ppb).
- ¹³ Nassau County Dept. of Health (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 **7.06 units** in 2019.

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 EPA has not established drinking water standards for. The purpose of unregulated contaminant monitoring is to assist EPA 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 New York State Department of Health.}

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, Trichloroacetic 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 EPA 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
Cobalt (ppb)	2014	8.5	ND - 8.5	Naturally-occurring; medicines
Chromium (ppb)	2014	3.6	ND - 3.6	Naturally-occurring; steel manufacturing; metal plating
Chromium VI (ppb)	2014	0.28	ND - 0.28	Naturally-occurring; steel manufacturing; metal plating
Strontium (ppb) *	2014	51.0	2.2 - 51.0	Naturally-occurring
Vanadium (ppb)	2014	0.3	ND - 0.3	Naturally-occurring
Molybdenum (ppb)	2014	1.1	ND - 1.1	Naturally-occurring
Chlorate (ppb)	2014	210	22 - 210	Agricultural defoliant
1,4-Dioxane (ppb) **	2014, 2017-2019*	1.35	ND - 1.35	Manufacturing solvent

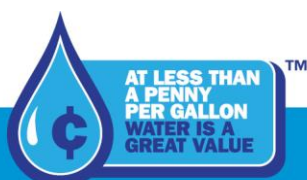
* USEPA health advisory level for Strontium is 4,000 ppb.

** USEPA guidance level for 1,4-dioxane is 35 ppb.

** 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 proposed Regulation of Emerging Contaminants by New York State Dept of Health:](#)

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. PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. PFAS can be found in:

- Food packaged in PFAS-containing materials, processed with equipment that used PFAS, or grown in PFAS-contaminated soil or water.
- Commercial household products, including stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products and fire-fighting foams (a major source of groundwater contamination at airports and military bases where firefighting training occurs).
- Workplace, including production facilities or industries (e.g., chrome plating, electronics manufacturing or oil recovery) that use PFAS.

Today's Drinking Water Standards for Emerging Compounds

Currently, the U.S. Environmental Protection Agency (EPA) has established guidance for the presence of PFOA/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. No federal maximum contaminant level (MCL) for 1,4-Dioxane in drinking water has been established.

New York American Water meets all current federal, state and local drinking water standards.

New York State Department of Health's (NYSDOH) Proposed Regulation of Emerging Compounds

The New York State Department of Health has indicated that they are looking to establish regulations for PFOA/PFOS and regulations for 1,4-Dioxane sometime in 2020. In anticipation of these regulations, New York American Water is acting proactively to identify the presence of these emerging compounds in our water supply well sources and design, permit, and construct the appropriate treatment where needed.

NYSDOH Proposed Maximum Contaminant Levels (MCL's):

- **1,4-Dioxane = 1.0 parts per Billion** (NYAW-Merrick operations district had 2 out of 16 wells testing above the 1.0 ppb proposed MCL; both wells with detections of 1,4-Dioxane are wells 3A and 4 at the Seamans Neck Road treatment plant in Levittown.)
- **PFOA/PFOS = 10.0 parts per Trillion** for each parameter (NYAW-Merrick district had No Detections in any of 16 wells tested in 2019)

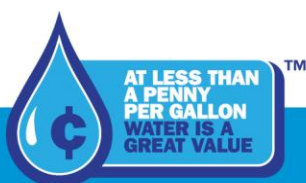
New York American Water's Action Plan

New York American Water is acting proactively to ensure we are prepared for New York State's proposed regulations of PFOA/PFOS and 1,4-Dioxane when they are finalized. Additional information will be provided to customers as the New York State Department of Health provides guidance on their proposed regulation of these emerging compounds.

For more information, visit www.nyamwater.com/water-quality/water-safety

Click here for announcements from the NYS Governor on regulation of emerging compounds in drinking water and consumer products. <https://www.governor.ny.gov/news/governor-cuomo-announces-availability-350-million-water-system-upgrades-statewide-and-directs>

<https://www.governor.ny.gov/news/governor-cuomo-signs-legislation-help-prevent-water-contamination-14-dioxane>



Listing of Non-Detected (ND) Contaminants – 2019 (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:

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)
Dichlorodifluoromethane
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
Hexachlorobutadiene
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) phthalate
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):

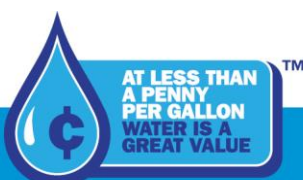
1,1-Dichloroethane
1,2,3-Trichloropropane
1,3-Butadiene
Bromochloromethane (halon1011)
Bromomethane
Chlorodifluoromethane
Chloromethane

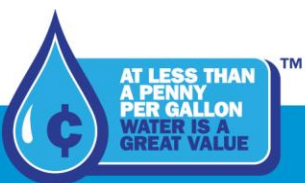
UCMR# Perfluorinated Compounds Group (all ND):

Perfluorooctanesulfonic acid (PFOS)
Perfluorooctanoic 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
Ethinylestradiol (ethinyl estradiol)
Hydroxyestradiol
Testosterone





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