

# Annual Drinking Water Quality Report

## The North Caldwell Water Department

### Report for the Year 2021, Results from the Year 2020

Following is this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day.

The North Caldwell Water Department and our suppliers routinely monitor for contaminants in your drinking water according to Federal and State laws. The tables show the results of that monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2020. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants does not change frequently. Some of our data, though representative, are more than one year old.

**Our water supply:** In 2020 we purchased our drinking water from the Borough of Essex Fells Water Utility, the Passaic Valley Water Commission and the North Jersey District Water Supply Commission. Essex Fells uses seventeen wells which draw groundwater from the Watchung Basalt, Brunswick Shale, and Stratified Glacial Drift. The wells range in depth from 94 to 566 feet and provide the majority of the drinking water throughout the year. During times of peak demand, they sometimes purchase water from New Jersey American Water. Water Quality test results for the North Jersey District Water Supply Commission, the Passaic Valley Water Commission and New Jersey American Water are included in this report. Supply sources are the Passaic River, and the Wanaque and Monksville Reservoir. The New Jersey Department of Environmental Protection (NJDEP) has completed and issued the Source Water Assessment Reports and Summaries for these public water systems, which are available at [WWW.state.nj.us/dep/swap](http://WWW.state.nj.us/dep/swap) or by contacting NJDEP's Bureau of Safe Drinking Water at (609) 292-5550. You may also contact your public water system at 973-228-6414. Essex Fells Water Utility's source water susceptibility ratings and a list of potential contaminant sources is included.

**Vulnerable populations:** Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

**Special considerations regarding children, pregnant women, nursing mothers, and others:** Children may receive a slightly higher amount of a contaminant present in the water than do adults, on a body weight basis, because they may drink a greater amount of water per pound of body weight than do adults. For this reason, reproductive or developmental effects are used for calculating a drinking water standard if these effects occur at lower levels than other health effects of concern. If there is insufficient toxicity information for a chemical (for example, lack of data on reproductive or developmental effects), an extra uncertainty factor may be incorporated into the calculation of the drinking water standard, thus making the standard more stringent, to account for additional uncertainties regarding these effects. In the cases of lead and nitrate, effects on infants and children are the health endpoints upon which the standards are based.

North Caldwell Water Department - 2020 Test Results PWS ID# NJ0715001						
Contaminant	Violati on Y/N	Level Detected	Units of Measurement	MCLG	MCL	Likely Source of Contamination
<b>Inorganics:</b>						
Copper Result at 90 <sup>th</sup> Percentile	N	0.17 No samples exceeded the action level.	Ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead Result at the 90 <sup>th</sup> Percentile	N	3.1 No samples exceeded the action level.	Ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
<b>Disinfection By-Products:</b>						
TTHM Total trihalomethanes	N	Range = 31 - 51 Highest LRAA= 49	Ppb	N/A	80	By-product of drinking water disinfection
(HAA5) Total Haloacetic Acids	N	Range = 9 - 30 Highest LRAA = 27	ppb	N/A	60	By-product of drinking water disinfection

Regulated Disinfectants	Level Detected	MRDL	MRDLG
Chlorine	Range = 0.2 – 0.3 ppm Average = 0.3 ppm	4.0 ppm	4.0 ppm

**Chlorine:** Water additive used to control microbes.

HAA5 and TTHM compliance is based on the Locational Running Annual Average (LRAA), calculated at each monitoring location. The LRAA calculation is based on four completed quarters of monitoring results.

**For additional information:** If you have any questions about this report or concerning your water utility, please call Michael Grasso at 973-228-6414. If you want to learn more, please attend any of our regularly scheduled Borough Council meetings at Borough Hall on Gould Avenue. Meetings are held on the third Tuesday of each month at 8:00 p.m.

Essex Fells Water Utility - 2020 Test Results						
PWS ID #NJ0706001						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MC LG	MCL	Likely Source of Contamination
<b>Inorganic Contaminants:</b>						
Arsenic Test results Yr. 2018	N	Range = ND – 1.2 Highest detect = 1.2	ppb	n/a	5	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium Test results Yr. 2018	N	Range = 0.19 – 0.39 Highest detect = 0.39	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium Test results Yr. 2018	N	Range: 1.2 – 2.5 Highest Level = 2.5	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Copper Result at 90 <sup>th</sup> Percentile Test results Yr. 2018	N	0.17 No samples exceeded the action level.	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits.
Lead Result at 90 <sup>th</sup> Percentile Test results Yr. 2018	N	ND No samples exceeded the action level.	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	N	Range: 2.1 – 3.6 Highest detect = 3.6	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Disinfection By-Products:</b>						
HAA5 Haloacetic Acids	N	Range = ND - 2 Highest LRAA = 1	ppb	N/A	60	By-product of drinking water disinfection
TTHM Total Trihalomethanes	N	Range = ND – 7 Highest LRAA = 9	ppb	N/A	80	By-product of drinking water disinfection
<b>Radioactive Contaminants:</b>						
Gross Alpha Test results Yr. 2015	N	Range = ND – 4.4 Highest detect = 4.4	pCi/l	0	15	Erosion of natural deposits
<b>Regulated Disinfectants</b>		<b>Level Detected</b>		<b>MRDL</b>		<b>MRDLG</b>
Chlorine		Range = 0.4 – 0.6 ppm Average = 0.5 ppm		4.0 ppm		4.0 ppm

**Chlorine:** Water additive used to control microbes.

TTHM compliance is based on a Locational Running Annual Average (LRAA), calculated at each monitoring location. The LRAA calculation is based on four completed quarters of monitoring results.

The Essex Fells Water Utility monitored for the following unregulated contaminants in 2019 & 2020. Unregulated contaminants are those for which the US Environmental Protection Agency (EPA) or the New Jersey Department of Environmental Protection (NJDEP) has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA and NJDEP in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted. Per – and polyfluoroalkyl substances (PFAS) are widely found in the environment. EPA has identified a health advisory level for two PFAS analytes, PFOA and PFOS 0.070 ppb either singly or combined, and NJDEP has adopted new drinking water standards (Maximum Contaminant Levels (MCLs)) for PFOA and PFOS of 14 ng/L (ppt) and 13 ng/L (ppt), respectively, as of January 2021.

Contaminant	Level Detected	Units of Measurement	Likely source
(PFOS) Perfluorooctane Sulfonate	Range = 4.5 – 7.3	ppt	Used in the manufacture of fluoropolymers.
(PFOA) Perfluorooctanoic Acid	Range = 18.0 – 33.0	ppt	Used in the manufacture of fluoropolymers.

#### What are PFOA and PFOS?

Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) are per- and polyfluoroalkyl substances (PFAS), previously referred to as perfluorinated compounds, or PFCs, that are man-made and used in industrial and commercial applications. PFOA was used as a processing aid in the manufacture of fluoropolymers used in non-stick cookware and other products, as well as other commercial and industrial uses based on its resistance to harsh chemicals and high temperatures. PFOS is used in metal plating and finishing as well as in various commercial products. PFOS was previously used as a major ingredient in aqueous film forming foams for firefighting and training, and PFOA and PFOS are found in consumer products such as stain resistant coatings for upholstery and carpets, water resistant outdoor clothing, and grease proof food packaging. Although the use of PFOA and PFOS has decreased substantially, contamination is expected to continue indefinitely because these substances are extremely persistent in the environment and are soluble and mobile in water. More information can be found at:

[https://www.state.nj.us/dep/wms/bears/docs/2019-4-15-FAQs\\_PFOS-PFOA-websites-OLA%204-24-19SDM-\(003\).pdf](https://www.state.nj.us/dep/wms/bears/docs/2019-4-15-FAQs_PFOS-PFOA-websites-OLA%204-24-19SDM-(003).pdf)

**DEFINITIONS:**

In the "Test Results" tables you may find some terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the contaminant.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Organic Compounds - Chemicals associated with carbon or living matter.

Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is 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.

Maximum Contaminant Level Goal - The "Goal" (MCLG) is 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.

Secondary Contaminant - Substances that do not have an impact on health. Secondary Contaminants affect aesthetic qualities such as odor, taste or appearance. Secondary standards are recommendations, not mandates.

Recommended Upper Limit (RUL) - Recommended maximum concentration of secondary contaminants. These reflect aesthetic qualities such as odor, taste or appearance. RUL's are recommendations, not mandates.

Maximum Residual Disinfectant Level (MRDL): The highest level of a 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 contamination

Total Organic Carbon - Total Organ Carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. The *Treatment Technique* for TOC requires that 35% - 45% of the TOC in the raw water is removed through the treatment processes.

Turbidity - Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium microbial growth. Turbidity is measured as an indication of the effectiveness of the filtration process. The *Treatment Technique* for turbidity requires that no individual sample exceeds 1 NTU and 95% of the samples collected during the month must be less than 0.3 NTU.

New Jersey American Water – Short Hills System is a public community water system consisting of 25 wells, 4 surface water intakes, 12 purchased ground water sources, 3 purchased surface water sources. Source water comes from the following aquifers and / or surface water bodies: Passaic River, Brunswick Aquifer System, and Canoe Brook

New Jersey American Water – Short Hills System - 2020 Test Results						
PWS ID # NJ0712001						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MC LG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants:</b>						
Total Organic Carbon	N	Range = 50 – 68% (35 – 45% Required)	ppm	N/A	TT % of removal	Naturally present in the environment.
Turbidity	N	Range = 0.02 – 0.17 100% samples < 0.3	NTU	0	TT = % of samples < 0.3	Soil runoff
<b>Inorganic Contaminants:</b>						
Nitrate (as Nitrogen)	N	Range = ND – 0.3 Highest detect = 0.3	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Microbiological Contaminants:</b>						
Total coliform Bacteria	N	Range = ND – 0.8% Highest Detect = 0.8%	N/A	0	5% of monthly samples	Naturally present in the environment
<b>Radioactive Contaminants:</b>						
Gross Alpha Test results Yr. 2018	N	Range = ND – 13.1 Highest detect = 13.1	pCi/l	0	15	Erosion of natural deposits
Combined Radium 228 & 226 Test results Yr. 2018	N	Range = ND – 3.19 Highest detect = 3.19	pCi/l	0	5	Erosion of natural deposits
<b>Volatile Organic Contaminants:</b>						
1,2,3 – Trichloropropane	N	Range = ND – 0.01 Highest detect = 0.01	ppb	0.03	0.03	Discharge from industrial chemical factories; erosion of natural deposits
<b>Regulated Disinfectants:</b>		<b>Level Detected</b>		<b>MRDL</b>		<b>MRDLG</b>

<b>Chlorine:</b> Water additive used to control microbes.	Range = 0.7 – 1.5 ppm Average = 0.7 ppm	4.0 ppm	4.0 ppm
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**Nitrate** in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

#### **Unregulated Contaminant Monitoring Rule (UCMR4)**

New Jersey American Water participated in the Unregulated Contaminant Monitoring Rule. Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA and DEP in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted. Our results are available upon request. For testing conducted within our service area, the following substances were found.

<b>Unregulated Contaminant Monitoring Rule 4 (UCMR4 2018-2019)</b>					
<b>Contaminant</b>	<b>Unit</b>	<b>NJDEP Guidance Level</b>	<b>Highest Level Detected</b>	<b>Range</b>	<b>Typical Source</b>
Manganese	ppb	NA	4	2 - 47	Naturally present in the environment; used in steel production, fertilizer, batteries, and fireworks; drinking water and wastewater treatment chemical

NJ American Water – Short Hills System monitored for the following unregulated contaminants in 2020. Unregulated contaminants are those for which the US Environmental Protection Agency (EPA) or the New Jersey Department of Environmental Protection (NJDEP) has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA and NJDEP in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted. Per- and polyfluoroalkyl substances (PFAS) are widely found in the environment. EPA has identified a health advisory level for two PFAS analytes, PFOA and PFOS 0.070 ppb either singly or combined, and NJDEP has adopted new drinking water standards (Maximum Contaminant Levels (MCLs)) for PFOA and PFOS of 14 ng/L (ppt) and 13 ng/L (ppt), respectively, as of January 2021.

<b>Contaminant</b>	<b>Level Detected</b>	<b>Units of Measurement</b>	<b>Likely source</b>
(PFOS) Perfluorooctane Sulfonate	Range = ND – 7.4	ppt	Used in the manufacture of fluoropolymers.
(PFOA) Perfluorooctanoic Acid	Range = ND – 2.4	ppt	Used in the manufacture of fluoropolymers.

#### **What are PFOA and PFOS?**

Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) are per- and polyfluoroalkyl substances (PFAS), previously referred to as perfluorinated compounds, or PFCs, that are man-made and used in industrial and commercial applications. PFOA was used as a processing aid in the manufacture of fluoropolymers used in non-stick cookware and other products, as well as other commercial and industrial uses based on its resistance to harsh chemicals and high temperatures. PFOS is used in metal plating and finishing as well as in various commercial products. PFOS was previously used as a major ingredient in aqueous film forming foams for firefighting and training, and PFOA and PFOS are found in consumer products such as stain resistant coatings for upholstery and carpets, water resistant outdoor clothing, and grease proof food packaging. Although the use of PFOA and PFOS has decreased substantially, contamination is expected to continue indefinitely because these substances are extremely persistent in the environment and are soluble and mobile in water. More information can be found at:

[https://www.state.nj.us/dep/wms/bears/docs/2019-4-15-FAQs\\_PFOS-PFOA-websites-OLA%204-24-19SDM-\(003\).pdf](https://www.state.nj.us/dep/wms/bears/docs/2019-4-15-FAQs_PFOS-PFOA-websites-OLA%204-24-19SDM-(003).pdf)

**Cryptosporidium** is a microbial pathogen found in surface water throughout the United States. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at a greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. New Jersey American Water conducted a study of their water supply to determine the amount of Cryptosporidium in untreated raw source water. Cryptosporidium range of detections = ND – 0.182

New Jersey American Water conducts annual sampling to determine the radon levels in all sources of our water supply. Our water showed radon levels ranging from non-detectable to 1059 pCi/l in the Short Hills System. The EPA is developing regulations to reduce Radon in drinking water. Radon in the air is inexpensive to test and easy to remediate. For Additional information, call the EPA's Radon Hotline at 1-800-SOS-Radon. Radon is a radioactive gas that occurs naturally in some groundwater.

**Lead:** 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. The North Caldwell Water Department and its suppliers are 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 second to 2 minutes before using water for drinking and cooking. If you are concerned about lead in your 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 or at <http://www.epa.gov/safewater/lead>. However, for those served by a lead service line, flushing times may vary based on the length of the service line and plumbing configuration in your home. If your home is set back further from the street a longer flushing time may be needed. *To conserve water, other household water usage activities such as showering, washing clothes, and running the dishwasher are effective methods of flushing out water from a service line.* To determine if you have a lead service line, contact us at 973-228-6414.

## **Essex Fells Water Department - PWSID # NJ0706001**

Essex Fells Water Department is a public community water system consisting of 17 wells

This system can purchase water from the following water systems: Twp. Of Verona, New Jersey American Water – Short Hills System

### **Susceptibility Ratings for Essex Fells Water Department Sources**

The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report.

The seven contaminant categories are defined at the bottom of this page. DEP considered all surface water highly susceptible to pathogens, therefore all intakes received a high rating for the pathogen category. For the purpose of Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

**If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water.** The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection Byproduct Precursors		
Sources	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells - 17		11	6	8	9			3	14	17			4	11	2	3	14		17			4	13	

**Pathogens:** Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.

**Nutrients:** Compounds, minerals and elements that aid growth, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.

**Volatile Organic Compounds:** Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.

**Pesticides:** Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.

**Inorganics:** Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.

**Radionuclides:** Radioactive substances that are both naturally occurring and man-made. Examples include radium and uranium.

**Radon:** Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information go to <http://www.nj.gov/dep/rpp/radon/index.htm> or call (800) 648-0394.

**Disinfection Byproduct Precursors:** A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.

**Potential sources of contamination:** 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 storm water runoff, industrial or domestic wastewater discharges, oil and gas projection, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water 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 storm water 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental

Passaic Valley Water Commission (PVWC) is a major supplier of drinking water in Northern New Jersey. PVWC's main facility is the Little Falls Water Treatment Plant located in Totowa, NJ. Water diverted from the Passaic and Pompton Rivers is treated, filtered and disinfected at the plant. Treated water is then mixed with treated water from the North Jersey District Water Supply Commission's Wanaque Reservoir treatment plant.

North Jersey District Water Supply Commission (NJDWSC) 2020 Test Results PWS ID #NJ1613001						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants:</b>						
Turbidity	N	Highest Measurement 0.9 Range = 0.01 – 0.9 99.1 % < 0.3	NTU	0	TT 0.3 NTU % Of the NTU	Soil runoff
Total Organic Carbon (%)	N	Removal Ratio 0.8 – 1.1	%	NA	TT = % removal	Naturally present in the environment
<b>Inorganic Contaminants:</b>						
Barium	N	0.008	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (as Nitrogen)	N	0.15	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Passaic Valley Water Commission 2020 Test Results PWS ID #NJ1605002						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants:</b>						
Turbidity	N	Highest Measurement = 0.27 Range = 0.02 – 0.27 100 % samples < 0.3	NTU	0	TT = % of monthly samples < 0.3 NTU	Soil runoff
Total Organic Carbon (%)	N	Range = 55 - 82 100 % (25 – 50 % required)		NA	TT = % removal	Naturally present in the environment
<b>Inorganic Contaminants:</b>						
Barium	N	Range = 0.02 – 0.03 Highest detect = 0.03	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	N	Range = ND – 0.05 Highest detect = 0.05	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	N	Range = 0.59 – 2.14 Highest detect = 2.14	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nickel	N	Range = 1.96 – 3.40 Highest detect =	ppb	N/A	N/A	Erosion of natural deposits
<b>Disinfection Byproducts:</b>						
Bromate	N	Range = ND – 6.98 Highest detect = 6.98	ppb	N/A	10	By-product of drinking water disinfection
<b>Secondary Contaminant</b>		<b>Level Detected</b>	<b>Units of Measurement</b>			<b>RUL</b>
Sodium Test results Yr. 2020		Range = 46 - 95	ppm			50

The Passaic Valley Water Commission exceeded the Recommended Upper Limit for sodium. For healthy individuals, the sodium intake from water is not important, because a much greater intake of sodium takes place from salt in the diet. However, sodium levels above the Recommended Upper Limit (RUL) may be of concern to individuals on a sodium restricted diet.

## **CRYPTOSPORIDIUM**

*Cryptosporidium* is a microbial pathogen found in surface water throughout the United States. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are viable or capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may spread through means other than drinking water. Passaic Valley Water Commission (PVWC) conducted special source water *Cryptosporidium* and *Giardia* monitoring in 2020.

## **SOURCE WATER PATHOGEN MONITORING**

Contaminant	PVWC Plant Intake	Typical Source
<i>Cryptosporidium</i> , Oocysts/L	Range = 0.0 – 0.09	Microbial pathogens found in surface waters throughout the United States.
<i>Giardia</i> , Cysts/L	Range = 0.0 – 0.83	

Unregulated contaminants are those for which EPA requires monitoring but has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

## **ADDITIONAL PVWC TREATMENT PLANT MONITORING RESULTS**

Detected Contaminants	Little Falls WTP Effluent Range of Results	
Chlorate (ppb)	(121 - 345)	<p>Test results presented in this table were collected as part of a study to determine the general occurrence of these contaminants. PVWC continues to participate in and support these types of regulatory and research efforts to maintain a position of leadership in drinking water supply.</p> <p>There are currently no EPA drinking water standards in effect for these contaminants although EPA has established health advisory levels for some of these to provide an estimate of acceptable drinking water levels based on health effects information.</p> <p>EPA has published Health Advisory levels for Perfluorooctanoic acid, (PFOA) and Perfluorooctanesulfonic acid, (PFOS), of 0.070 parts per billion (ppb) combined.</p> <p>Health advisory levels are non-enforceable and non-regulatory and provide technical information to state agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination.</p>
1,4-Dioxane (ppb)	(ND – 0.24)	
Perfluorobutanesulfonic acid (PFBS) (ppt)	(ND – 3.1)	
Perfluoroheptanoic acid (PFHp/A) (ppt)	(ND – 3.1)	
Perfluorohexanesulfonic acid (PFHxS) (ppt)	(ND – 2.1)	
Perfluorohexanoic acid (PFHxA) (ppt)	(3.1 – 8.6)	
Perfluorooctanesulfonic acid (PFOS) (ppt)	(2.9 – 3.4)	
Perfluorooctanoic acid (PFOA) (ppt)	(4.8 – 7.6)	

## **SOURCE WATER ASSESSMENT**

NJDEP has prepared Source Water Assessment reports and summaries for all public water systems. The Source Water Assessment for the PVWC system (PWS ID 1605002), and NJDWSC system (PWS ID 1613001) can be obtained by accessing NJDEP's source water assessment web site at <http://www.nj.gov/dep/watersupply/swap/index.html> or by contacting NJDEP's Bureau of Safe Drinking Water at 609-292-5550. If a system is rated highly susceptible for a contamination category, it does not mean a customer is – or will be – consuming contaminated water. The rating reflects the potential for contamination of a source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any of those contaminants are detected at frequencies and concentrations above allowable levels. The source water assessments performed on the intakes for each system list the following susceptibility ratings for a variety of contaminants that may be present in source waters:

Intake Susceptibility Ratings	Pathogens	Nutrients	Pesticides	Volatile Organic Compounds	Inorganic Contaminants	Radionuclides	Radon	Disinfection Byproduct Precursors
PVWC 4 Surface Water	4-High	4-High	1-Medium 3- Low	4-Medium	4-High	4-Low	4-Low	4-High
NJDWSC 5 Surface Water	5-High	5-High	2-Medium 3- Low	5-Medium	5-High	5-Low	5-Low	5-High

**Pathogens:** Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.

**Nutrients:** Compounds, minerals and elements that aid growth, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.

**Volatile Organic Compounds:** Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.

**Pesticides:** Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.

**Inorganics:** Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.

**Radionuclides:** Radioactive substances that are both naturally occurring and man-made. Examples include radium and uranium.

**Radon:** Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information go to <http://www.nj.gov/dep/rpp/radon/index.htm> or call (800) 648-0394.

**Disinfection Byproduct Precursors:** A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.