

Annual Drinking Water Quality Report

North Caldwell Hilltop System

For the Year 2017, Results from the Year 2016

We are pleased to present to you 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. Our constant goal is to provide you with a safe and dependable supply of drinking water.

This water is supplied by the Township of Verona via the two million gallon water storage tank located on the Hilltop property, which is solely comprised of water purchased from the Passaic Valley Water Commission (PVWC) and the North Jersey District Water Supply Commission (NJDWSC). The New Jersey Department of Environmental Protection (NJDEP) has completed and issued the Source Water Assessment Report and Summary for these public water systems, which are available at 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 to obtain information regarding these Source Water Assessments.

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).

We have learned through our monitoring and testing that some contaminants have been detected. As you can see by the tables, we had no violations. We are proud that your drinking water meets or exceeds all Federal and State safety requirements. The tables show the results of our monitoring for the period of January 1st to December 31st, 2016. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

North Caldwell Hilltop Water System 2016 Test Results PWS ID #NJ0715002						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MC LG	MCL	Likely Source of Contamination
Inorganic Contaminants:						
Copper Result at 90 th Percentile Test results yr. 2014	N	0.09 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 th Percentile Test results Yr. 2014	N	ND No samples exceeded the action level	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Disinfection Byproducts:						
TTHM Total Trihalomethanes	N	Range = 59 – 74 Highest detect = 74	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids	N	Range = 5 - 24 Highest detect = 24	ppb	N/A	60	By-product of drinking water disinfection
Regulated Disinfectants		Level Detected		MRDL		MRDLG
Chlorine		Average = 0.3 ppm		4.0 ppm		4.0 ppm

Essex Fells Hilltop Water System 2016 Test Results PWS ID #NJ0706002						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MC LG	MCL	Likely Source of Contamination
Disinfection Byproducts:						
TTHM Total Trihalomethanes	N	70	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids	N	Range = 36 – 38 Highest detect = 38	ppb	N/A	60	By-product of drinking water disinfection
Regulated Disinfectants		Level Detected		MRDL		MRDLG
Chlorine		Average = 0.7 ppm		4.0 ppm		4.0 ppm

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 Hilltop System, the Passaic Valley Water Commission and the North Jersey District Water Supply Commission 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>.

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.

Passaic Valley Water Commission 2016 Test Results PWS ID# NJ1605002						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants:						
Turbidity	N	Highest Measurement = 0.17 Range = 0.03 – 0.17 100 % samples < 0.3	NTU	0	TT = % of monthly samples < 0.3 NTU	Soil runoff
Total Organic Carbon (%)	N	Range = 51 – 75 % (35 – 50 % required)		NA	TT = % removal	Naturally present in the environment
Inorganic Contaminants:						
Barium	N	Range = 0.015 – 0.024 Highest detect = 0.024	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	N	Range = ND – 0.60 Highest detect = 0.60	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Lead Result at 90th Percentile	Y	17.96 10 samples out of 130 exceeded the action level	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Copper Result at 90 th Percentile	N	0.079 No samples exceeded the action level	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	N	Range = 0.07 – 0.087 Highest detect = 0.087	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	N	Range = 0.72 – 4.05 Highest detect = 4.05	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nickel	N	Range = 1.54 – 2.75 Highest detect = 2.75	ppb	N/A	N/A	Erosion of natural deposits
Selenium	N	Range = ND – 0.74 Highest detect = 0.74	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium	N	Range = ND – 0.6 Highest detect = 0.6	ppb	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Disinfection Byproducts:						
TTHM Total Trihalomethanes	N	Highest LRAA = 46	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids	N	Highest LRAA = 28	ppb	N/A	60	By-product of drinking water disinfection
Secondary Contaminant		Level Detected	Units of Measurement		RUL	
Sodium		Range = 55 - 130	ppm		50	

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.

The Passaic Valley Water Commission (PVWC) 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.

Passaic Valley Water Commission exceeded the Action Level (AL) for Lead. They would like to reassure their customers that providing the best quality drinking water is their priority and PVWC's water quality continues to be outstanding. The water delivered to the customers of PVWC has no lead contamination. They monitor the lead content in the water leaving their treatment plant daily. The North Caldwell Hilltop System Did Not Exceed the Action Level (AL) for Lead.

The high levels of lead were caused by plumbing fixtures and solders inside those homes that contain lead; not the water entering the homes. PVWC has implemented steps to address this issue as quickly as possible for the customers whose homes are impacted.

Unregulated Contaminants for Which EPA Requires Monitoring

The Passaic Valley Water Commission (PVWC) collected data in 2016 as part of an ongoing study to determine the general occurrence of unregulated contaminants. Currently, there are no drinking water standards for these compounds. PVWC continues in and supports these types of regulatory and research efforts to maintain a position of leadership in cutting edge water treatment. Unregulated contaminant monitoring helps the USEPA and the NJDEP to determine where certain contaminants occur and whether they should consider regulating those contaminants in the future.

Contaminant	Little Falls WTP (Range of Results)
1,4 - Dioxane	Range = 0.18 – 0.19 ppb
Chlorate	Range = ND – 495 ppb
	Range = ND – 0.55 ppb

Chloromethane	
Perfluorobutanesulfonic Acid	Range = 0.0032 – 0.0044 ppb
Perfluoroheptanoic Acid	Range = 0.0032 – 0.0049 ppb
Perfluorohexanesulfonic Acid	Range = 0.0038 – 0.0068 ppb
Perfluorohexanoic Acid	Range = 0.011 – 0.017ppb
Perfluorononanoic Acid	Range = ND – 0.0043 ppb
Perfluorooctanesulfonic Acid (PFOS)	Range = 0.0077 – 0.015 ppb
Perfluorooctanoic Acid (PFOA)	Range = 0.0099 – 0.014 ppb

Unregulated Contaminants for Which EPA Requires Monitoring

The Passaic Valley Water Commission (PVWC) collected data in 2015 as part of an ongoing study to determine the general occurrence of unregulated contaminants. Currently, there are no drinking water standards for these compounds. PVWC continues in and supports these types of regulatory and research efforts to maintain a position of leadership in cutting edge water treatment. Unregulated contaminant monitoring helps the USEPA and the NJDEP to determine where certain contaminants occur and whether they should consider regulating those contaminants in the future.

Contaminant	Little Falls WTP (Range of Results)
Chlorate	Range = 88 - 373 ppb

Additional PVWC Treatment Plant Monitoring Results

The data presented in this table is PVWC data collected in 2013 as part of a study to determine the general occurrence of perchlorate. Currently, there is no drinking water standard for Perchlorate to compare the results to and thus they are presented for informational purposes only. PVWC continues to participate in and support these types of regulatory and research efforts to maintain a position of leadership in the drinking water supply industry.

Contaminant	Little Falls WTP Intake	Little Falls WTP Effluent
Perchlorate	ND	0.12 ppb

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 production, 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 Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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 Essex Fells Water Utility, the Passaic Valley Water Commission and the North Jersey District Water Supply Commission 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>.

PVWC and NJDWSC started the second round of source water monitoring in accordance with the requirements of EPA's Long Term 2 Enhanced Surface Water Treatment Rule. The data collected in 2016 is presented in the Source Water Pathogen Monitoring table below. Results of this monitoring will be used to determine whether additional treatment for removal/inactivation of *Cryptosporidium* is required for each Treatment Plant.

SOURCE WATER PATHOGEN MONITORING

Contaminant	PVWC Source Waters		NJDWSC Source Water	Typical Source
	Passaic River	Pompton River		
<i>Cryptosporidium</i> , Oocysts/L	0 - 0.4	0 - 0.857	0 - 0.1	Microbial pathogens found in surface waters throughout the United States.
<i>Giardia</i> , Cysts/L	0 - 1.1	0 - 1.143	0 - 0.1	

North Jersey District Water Supply Commission (NJDWSC) 2016 Test Results PWS ID #NJ1613001						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MCLG	MCL	Likely Source of Contamination

Microbiological Contaminants						
Turbidity	N	Highest Measurement = 0.38 99.7 % < 0.3 Average = 0.12	NTU	0	TT 0.3 NTU % Of the NTU	Soil runoff
Total Organic Carbon (%)	N	Removal Ratio 0.76 -1.0 RAA – 1.0	ppm	NA	TT = % removal	Naturally present in the environment
Inorganic Contaminants:						
Lead Result at 90 th Percentile	N	2.3 No samples exceeded the action level	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Copper Result at 90 th Percentile	N	0.13 No samples exceeded the action level	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Barium	N	0.014	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (as Nitrogen)	N	0.28	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Disinfection Byproducts:						
TTHM Total Trihalomethanes	N	Range = 42 - 51 Highest Detect = 51	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids	N	Range = 33 - 34 Highest detect = 34	ppb	N/A	60	By-product of drinking water disinfection
Regulated Disinfectants		Level Detected	MRDL		MRDLG	
Chlorine		Average = 0.55 ppm	4.0 ppm		4.0 ppm	

DEFINITIONS:

In the "Test Results" tables you will find many 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.

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 (TOC) - We are required to remove a certain percentage of (TOC) from our drinking water on a monthly basis. Total Organic Carbon has no adverse health effects. However, TOC provides a medium for the formation of disinfection byproducts.

Turbidity – A measure of the particulate matter or "cloudiness" of the water. High turbidity can hinder the effectiveness of disinfectants.

For additional information: If you have any questions about this report or concerning your water utility, please contact Frank Zichelli at 973-228-6410 x107. If you want to learn more, please attend any of our regularly scheduled Borough Council meetings at Borough Hall on Gould Avenue. Meetings are typically held on the third Tuesday of each month at 7:30 p.m.