

# Annual Drinking Water Quality Report

## **Borough of Wanaque Water Department**

**For the Year 2023, Results from the Year 2022**

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. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. Our primary water source is wells. Our three wells draw groundwater from an aquifer which is classified as Glacial Stratified Drift. In times of high water demand, we purchase water from the North Jersey District Water Supply Commission. Their supply sources are the Passaic River, and the Wanaque and Monksville Reservoir.

The New Jersey Department of Environmental Protection (NJDEP) has completed 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 to obtain information regarding these water systems Source Water Assessments. The Borough of Wanaque's source water susceptibility ratings and a list of potential contaminant sources is included.

The Borough of Wanaque Water Department and the North Jersey District Water Supply Commission 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>, 2022. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals and synthetic organic chemicals. Our system received monitoring waivers for asbestos and synthetic organic contaminants.

**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).**

<b>Wanaque Water Department Test Results</b>						
PWS ID# NJ1613002						
Contaminant	Violation Y/N	Level Detected	Units of Measure- ment	MC LG	MCL	Likely Source of Contamination
<b>Inorganic Contaminants:</b>						
Barium Test results Yr. 2020	N	Range = 0.008 – 0.02 Highest detect = 0.02	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper Test results Yr. 2022 Result at 90 <sup>th</sup> Percentile	N	90 <sup>th</sup> Percentile (1 <sup>st</sup> Half/2 <sup>nd</sup> Half): 1.3 / 0.414 Range of Results (1 <sup>st</sup> Half / 2 <sup>nd</sup> Half): ND–2.08 /ND-0.967  6 out of 129 samples exceeded the AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead Test results Yr. 2022 Result at 90 <sup>th</sup> Percentile	N	90 <sup>th</sup> Percentile (1 <sup>st</sup> Half/2 <sup>nd</sup> Half): 6 / 3.78 Range of Results (1 <sup>st</sup> Half / 2 <sup>nd</sup> Half): ND–18.2 /ND-5.32  1 out of 129 samples exceeded the AL	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nickel Test results Yr. 2020	N	Range = 0.9 – 1.3 Highest detect = 1.3	ppb	100	100	Erosion of natural deposits; found in the earth's crust
Nitrate (as Nitrogen) Test results Yr. 2022	N	Range = ND – 1.29 Highest detect = 1.29	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Synthetic Organic Contaminants:</b>						
PFNA Test results Yr. 2022	N	Highest LRAA = 1.8 Range = ND – 2.13	ppt	N/A	13	Discharge from industrial chemical factories
PFOA Test results Yr. 2022	N	Highest LRAA = 10 Range = 5 – 15	ppt	N/A	14	Discharge from industrial, chemical, and manufacturing factories, release of aqueous film forming foam

PFOS Test results Yr. 2022	N	Highest LRAA = 9 Range = 3 - 12 Highest LRAA = 9	ppt	N/A	13	Discharge from industrial, chemical factories, release of aqueous film forming foam
<b>Disinfection Byproducts:</b>						
TTHM Total Trihalomethanes Test results Yr. 2022	N	Highest LRAA = 18 Range = 7 - 25	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids Test results Yr. 2022	N	Highest LRAA = 2 Range = ND - 4	ppb	N/A	60	By-product of drinking water disinfection
<b>Radioactive Contaminants:</b>						
Uranium Test results Yr. 2018	N	Range = ND - 1.33 Highest detect = 1.33	pCi/L	0	30	Erosion of natural deposits
<b>Regulated Disinfectants</b>		<b>Level Detected</b>		<b>MRDL</b>		<b>MRDLG</b>
Chlorine Test results Yr. 2022		Average = 0.37 ppm Range: ND - 1.01		4.0 ppm		4.0 ppm

Special note regarding Lead: Call us at (973) 839-3000 extension 7118 to find out how to get our water tested for lead. Testing is essential because you cannot see, taste, or smell lead in drinking water.

Secondary Contaminant	Level Detected	Units of Measurement	RUL
Sodium - Test results Yr. 2020	Range = 30 - 78	ppm	50

We exceeded the Recommended Upper Limit (RUL) 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.

<b>North Jersey District Water Supply Commission (NJDWSC) 2022 Test Results PWS ID #NJ1613001</b>						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
Turbidity	N	Highest Measurement = 0.4 99.98% < 0.3 Range = 0.03-0.4	NTU	0	TT = 95% of samples < 0.3 NTU	Soil runoff
<b>Turbidity is a measure of the cloudiness of the water, and is monitored as an indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.</b>						
Total Organic Carbon	N	Removal Ratio: 1.0	ppm	NA	TT = Removal Ratio Range 0.9-1.4	Naturally present in the environment
<b>Inorganic Contaminants:</b>						
Lead Result at 90 <sup>th</sup> Percentile Test results Yr. 2022	N	2.2 No samples exceeded the action level	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Copper Result at 90 <sup>th</sup> Percentile Test results Yr. 2022	N	0.108 No samples exceeded the action level	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Barium Test results Yr. 2022	N	0.006	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
<b>Synthetic Organic Contaminants:</b>						
PFOA Test results Yr. 2022	N	Highest detect = 5.08 1 Sample	ppt	N/A	14	Discharge from industrial, chemical, and manufacturing factories, release of aqueous film forming foam
PFOS Test results Yr. 2022	N	Highest detect = 3.36 1 Sample	ppt	N/A	13	Discharge from industrial, chemical factories, release of aqueous film forming foam
<b>Disinfection Byproducts:</b>						
TTHM: Total Trihalomethanes Test results Yr. 2022	N	Range = 27 - 32 Highest Detect = 32	ppb	N/A	80	By-product of drinking water disinfection
HAA5: Haloacetic Acids Test results Yr. 2022	N	Range = 21 - 21 Highest detect = 21	ppb	N/A	60	By-product of drinking water disinfection
<b>Regulated Disinfectants</b>		<b>Level Detected</b>		<b>MRDL</b>		<b>MRDLG</b>
Chlorine Test results Yr. 2022		Average = 0.71 ppm Range: 0.52-1.01 ppm		4.0 ppm		4.0 ppm

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.

#### **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 constituent is not present.

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.

Parts per trillion (ppt) or Nanograms per liter - one part per trillion corresponds to one penny in \$10 billion.

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.

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 Contaminant Level - 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 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.

Locational Running Annual Average (LRAA) - the average result per location, calculated using the most recent 4 quarters if a system samples quarterly, or the annual results if a system samples annually.

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.

#### **HEALTH EFFECTS:**

Barium: Barium is a naturally occurring ore used in a variety of manufactured goods. The EPA has found that in some people, short exposure to Barium in exceedance of the MCL can cause gastrointestinal disturbances and muscle weakness. Long term exposure to barium at levels above the MCL may cause high blood pressure.

Chlorine: Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

Copper: Copper is an essential nutrient, but some people who drink water that contains copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water that contains copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilsons Disease should consult their personal doctor.

HAA5 (Haloacetic Acids): Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

**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. Wanaque 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 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>.

**Nickel:** Some people who drink water containing nickel in excess of the MCL over many years may experience liver effects.

**Nitrate:** 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 for advice from your health care provider.

**PFNA (Perfluorononanoic Acid):** Some people who drink water containing perfluorononanoic acid in excess of the MCL over many years could experience problems with their liver, kidneys, immune system; or in males, reproductive system. For females, drinking water containing PFNA in excess of the MCL over many years may cause developmental delays in a fetus and/or an infant.

**PFOA (Perfluorooctanoic Acid):** Some people who drink water containing perfluorooctanoic acid in excess of the MCL over many years could experience problems with their blood serum cholesterol levels, liver, kidney, immune system, or, in males, reproductive system. Drinking water containing perfluorooctanoic acid in excess of the MCL over many years may also increase the risk of testicular and kidney cancer. For females, drinking water containing perfluorooctanoic acid in excess of the MCL over many years may cause developmental delays in a fetus and/or an infant.

**PFOS (Perfluorooctanesulfonic Acid):** Some people who drink water containing perfluorooctanesulfonic acid in excess of the MCL over many years could experience problems with their immune system, kidney, liver, or endocrine system. For females, drinking water containing perfluorooctanesulfonic acid in excess of the MCL over many years may cause developmental effects and problems with the immune system, liver, or endocrine system in a fetus and/or an infant. Some of these developmental effects can persist through childhood.

**Sodium:** We exceeded the secondary 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.

**THMs (Trihalomethanes):** Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

**Uranium:** Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

### **Wanaque Water Department- PWSID # NJ1613002**

Wanaque Water Department is a public community water system consisting of 3 wells and 1 purchased surface water source.

This system's source water comes from the following aquifer: glacial sand and gravel

This system purchases water from the following water systems: North Jersey Water Supply Commission (NJDWSC)

### **Violations**

Our water system received three (3) violations in 2022. The first was for failure to submit, in a timely manner, a lead service line inventory form to the New Jersey Department of Environmental Protection (NJDEP). We will make every effort going forward for more timely submission of our requirements. The next two violations were Monitoring Violations for our Volatile Organic Chemicals (VOCs) at two out of three of our Point of Entry locations for compliance period January 1, 2020, to December 31, 2022. Our Monitoring Schedule dictates that VOC samples for these two Point of Entries be collected in July. In error, our samples were collected in June. We are making every effort for strict adherence to our current schedule for all sampling requirements.

### **Susceptibility Ratings for Wanaque Water Department Sources**

The New Jersey Department of Environmental Protection (NJDEP) has completed and issued the Source Water Protection Report and Summary for this public water system, which is available at [www.nj.gov/dep/watersupply/swap/creport.htm](http://www.nj.gov/dep/watersupply/swap/creport.htm) or by contacting the NJDEP, Bureau of Safe Drinking Water at 609-292-5550.

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.

Sources	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection Byproduct Precursors		
	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 - 3		2	1	2	1				3	1		2			3	1	2			3				3

**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.

**If you have any questions about this report or concerning your drinking water, please call (973) 839-3000 ext. 7118. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Borough Council meetings on the 2<sup>nd</sup> Monday of each month at 7pm at the Town Hall (579 Ringwood Avenue, Wanaque, NJ).**