

Presented By  
Township of Verona

WATER TESTING PERFORMED IN 2016

# WATER QUALITY ANNUAL REPORT

♻️ Recycled and Recyclable  
Copyright ©2017 Gemini Group LLC  
All rights reserved  
NJ000306

Township of Verona  
10 Commerce Court  
Verona, NJ 07044

**Definitions**

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**LRAA (Local Annual Running Average):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

**MCL (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.

**MCLG (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.

**MRDL (Maximum Residual Disinfectant Level):** 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.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity or turbidity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**removal ratio:** A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

**RUL (Recommended Upper Limit):** RULs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

**TON (Threshold Odor Number):** A measure of odor in water.

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

**Community Participation**

You are invited to participate in our evening council meetings to present your interests regarding your drinking water. We meet the first and third Mondays of each month beginning at 7:00PM at Verona Town Hall, 600 Bloomfield Avenue, Verona, NJ.

PR SRT STD  
U.S. Postage  
**PAID**  
Gemini Group  
22901

## We've Come a Long Way

Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

For more information about this report and other questions regarding your drinking water, please contact Jeff Sonntag at the Verona Water Department at (973) 857-4843 or at [jsonntag@veronanj.org](mailto:jsonntag@veronanj.org). You also may call the U.S. EPA Bureau of Safe Drinking Water Hotline at (800) 426-4791 or the New Jersey Department of Environmental Protection (NJDEP), Bureau of Safe Drinking Water, at (609) 292-5550.



## Source Water Assessment

The NJDEP has not completed a Source Water Assessment Report and Summary for the Verona Well Water System, but assessments have been completed for the PVWC and NJDWSC systems. These reports are available at [www.state.nj.us/dep/swap](http://www.state.nj.us/dep/swap) or by contacting the NJDEP, Bureau of Safe Drinking Water, at (609) 292-5550. Each report lists the intake susceptibility ratings for eight contaminant categories ranging from Low to High:

WATER SYSTEM	PATHOGENS	NUTRIENTS	PESTICIDES	VOC	IOC	RADIONUCLIDES	RADON	DISINFECTION BP
PVWC	High	High	Medium-Low	Medium	High	Low	Low	High
NJDWSC	High	High	Medium-Low	Medium	High	Low	Low	High

## Monitoring For *Cryptosporidium*

*Cryptosporidium* is a microbial parasite found in surface water throughout the United States. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people 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 be spread through means other than drinking water.

Source water monitoring by PVWC has detected the presence of *Cryptosporidium* in both the Pompton River and Passaic River.

SOURCE WATER PATHOGEN MONITORING				
CONTAMINANT (UNIT OF MEASURE)	PVWC SOURCE WATERS		NJDWSC	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	

## Substances That Could Be in Water

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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater 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 U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## What is the Source of Our Drinking Water?

Our water is derived from two different water supplies: ground water wells that the Township of Verona owns and operates and treated surface water purchased from the Passaic Valley Water Commission (PVWC). The well water is withdrawn from the Felville aquifer via two deep rock wells located in Verona. The water from PVWC comes from the Wanaque Reservoir, owned and operated by the North Jersey District Water Supply Commission (NJDWSC) located in Wanaque, New Jersey. PVWC also can provide water from their Little Falls treatment plant located in Totowa, New Jersey, that uses water from the Passaic River and/or Pompton River. All water sources are treated to produce safe drinking water that satisfies all state and federal standards. In addition to these water supplies, we have emergency water connections with both Essex Fells and the New Jersey American Water Company, which are capable of providing drinking water to Verona in the event of an interruption in our normal water services.

## Test Results

Our water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents only those substances that were detected; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES <sup>1</sup>											
				Township of Verona Water Department		Passaic Valley Water Commission (PVWC)		North Jersey Distric Water Supply Commission (NJWSC)			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2011	15	0	3.06	2.48–3.63	NA	NA	NA	NA	No	Erosion of natural deposits
Arsenic (ppb)	2016	5	0	2.08	ND–4.7	NA	NA	NA	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2014	2	2	0.250	0.187–0.313	0.024 <sup>2</sup>	0.015–0.024 <sup>2</sup>	0.014 <sup>2</sup>	NA <sup>2</sup>	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2016	[4]	[4]	0.47	0.11–0.92	NA	NA	NA	NA	No	Water additive used to control microbes
Chromium (ppb)	2014	100	100	13	13–14	0.60 <sup>2</sup>	ND–0.60 <sup>2</sup>	NA	NA	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2016	4	4	NA	NA	0.087	0.07–0.087	NA	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2016	60	NA	31.3	ND–44.3	NA	NA	NA	NA	No	By-product of drinking water disinfection
Nickel (ppb)	2014	100	NA	5	4–5	2.75 <sup>2</sup>	1.54–2.75 <sup>2</sup>	NA	NA	No	Pollution from mining and refining operations; natural occurrence in soil
Nitrate (ppm)	2016	10	10	1.69	1.67–1.71	4.05	0.72–4.05	0.284	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2016	50	50	NA	NA	0.74	ND–0.74	NA	NA	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes] (ppb)	2016	80	NA	59.7	ND–75.8	NA	NA	NA	NA	No	By-product of drinking water disinfection
Total Organic Carbon (% removal)	2016	TT	NA	NA	NA	NA	51–75	NA	NA	No	Naturally present in the environment
Total Organic Carbon (removal ratio)	2016	TT	NA	NA	NA	NA	NA	1.0	0.76–1.0	No	Naturally present in the environment
Turbidity <sup>3</sup> (NTU)	2016	TT	NA	NA	NA	0.17	0.03–0.17	0.38	0.12–0.38	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2016	TT = 95% of samples <= 0.3 NTU	NA	NA	NA	100	NA	99.7	NA	No	Soil runoff

SECONDARY SUBSTANCES											
				Township of Verona Water Department		Passaic Valley Water Commission (PVWC)		North Jersey Distric Water Supply Commission (NJWSC)			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	RUL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
ABS/L.A.S. (ppm)	2016	500	NA	NA	NA	129	ND–129	NA	NA	No	Common major components of synthetic detergents
Aluminum (ppb)	2014	200	NA	ND	NA	35 <sup>2</sup>	15–35 <sup>2</sup>	45 <sup>2</sup>	NA <sup>2</sup>	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2014	250	NA	140	138–142	146 <sup>2</sup>	102–146 <sup>2</sup>	77 <sup>2</sup>	NA <sup>2</sup>	No	Runoff/leaching from natural deposits
Color (Units)	2016	10	NA	NA	NA	NA	NA	2	NA	No	Naturally occurring organic materials
Corrosivity (Units)	2014	Non-corrosive	NA	0.2	-0.2–0.7	NA	NA	NA	NA	No	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water; Affected by temperature and other factors
Hardness [as CaCO <sub>3</sub> ] <sup>4</sup> (ppm)	2014	250	NA	354	324–384	160 <sup>2</sup>	112–160 <sup>2</sup>	72 <sup>2</sup>	NA <sup>2</sup>	No	Naturally occurring
Iron (ppb)	2016	300	NA	ND	NA	ND	NA	6	NA	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2016	50	NA	3.66	NA	5	2–5	2	NA	No	Leaching from natural deposits
Odor (TON)	2014	3	NA	ND	NA	16 <sup>2</sup>	6–16 <sup>2</sup>	ND <sup>2</sup>	NA <sup>2</sup>	No	Naturally occurring organic materials
pH (Units)	2014	6.5–8.5	NA	7.7	7.3–8.1	7.92 <sup>2</sup>	7.52–8.33 <sup>2</sup>	7.98 <sup>2</sup>	NA <sup>2</sup>	No	Naturally occurring
Sodium <sup>5</sup> (ppm)	2014	50	NA	36	27–45	130 <sup>2</sup>	55–130 <sup>2</sup>	42 <sup>2</sup>	NA <sup>2</sup>	No	Naturally occurring
Sulfate (ppm)	2014	250	NA	45	26–64	90 <sup>2</sup>	49–90 <sup>2</sup>	10 <sup>2</sup>	NA <sup>2</sup>	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids (ppm)	2014	500	NA	624	586–662	492 <sup>2</sup>	313–492 <sup>2</sup>	186 <sup>2</sup>	NA <sup>2</sup>	No	Runoff/leaching from natural deposits
Zinc (ppm)	2014	5	NA	0.03	ND–0.03	0.004 <sup>2</sup>	0.002–0.004 <sup>2</sup>	0.008 <sup>2</sup>	NA <sup>2</sup>	No	Runoff/leaching from natural deposits; Industrial wastes

### UNREGULATED SUBSTANCES (TOWNSHIP OF VERONA WATER DEPARTMENT)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromoform (ppb)	2016	0.708	0.269–1.72	By-product of drinking water disinfection

### UNREGULATED CONTAMINANT MONITORING RULE - PART 3 (UCMR3)

		Township of Verona Water Department		Passaic Valley Water Commission (PVWC)	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
1-4 dioxane (ppb)	2015	0.11	ND–0.11	NA	NA
Chlorate (ppb)	2015	62	ND–109	250 <sup>2</sup>	ND–495 <sup>2</sup>
Chromium (ppb)	2015	0.48	ND–0.89	NA	NA
Hexavalent chromium (ppb)	2015	0.27	ND–0.65	NA	NA
Molybdenum (ppb)	2015	1.1	ND–1.1	NA	NA
Perfluorooctanoic Acid (ppb)	2015	0.0194	ND–0.0288	NA	NA
Strontium (ppb)	2015	421	62–1,180	NA	NA
Vanadium (ppb)	2015	1.56	ND–8.3	NA	NA

<sup>1</sup> Under a waiver granted on December 30, 1998, by the State of New Jersey Department of Environmental Protection, our system does not have to monitor for synthetic organic chemicals/pesticides because several years of testing have indicated that these substances do not occur in our source water. The SDWA 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 synthetic organic chemicals and asbestos.

<sup>2</sup> Sampled in 2016.

<sup>3</sup> Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU (no sample may exceed 1 NTU).

<sup>4</sup> These values reflect the hardness at the production wells. Lower hardness values exist at the faucet due to blending of well water with lower hardness surface water purchased from PVWC.

<sup>5</sup> 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 may be a concern to individuals on a sodium restricted diet.

## Lead in Home Plumbing

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. We 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 seconds to 2 minutes before using water for drinking or 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 [www.epa.gov/lead](http://www.epa.gov/lead).