

**PASSAIC VALLEY WATER COMMISSION (PVWC) PWS ID NJ1605002 - 2019 WATER QUALITY DATA**

				Water Treatment Plant Results		
PRIMARY CONTAMINANTS	Compliance Achieved	MCLG	MCL	PVWC Little Falls WTP PWS ID NJ1605002	NJDWSC Wanaque WTP PWS ID NJ1613001	TYPICAL SOURCE
<b>TURBIDITY AND TOTAL ORGANIC CARBON</b>				<b>Highest Result (Range of Results)</b>	<b>Highest Result (Average)</b>	
Turbidity, NTU*	PVWC = Yes NJDWSC^= No	NA	TT = 1	0.34 (0.017 - 0.34)	2.1^ (0.09 average)	Soil runoff.
	Yes	NA	TT = percentage of samples <0.3 NTU (min 95% required)	<b>Lowest Monthly Percentage of Samples Meeting the Turbidity Limits</b>		
				100%	98.6%	
^NJDWSC incurred a Combined Filter Effluent Turbidity violation in May 2019. There is nothing you need to do. You weren't being supplied with water from NJDWSC at the time of the turbidity violation. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.						
* 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.						
Total Organic Carbon, %	Yes	NA	TT = % removal; or removal ratio	<b>Percent (%) Removal</b> 58 - 100 (25 - 50 required)	<b>Removal Ratio</b> 1.1 (RAA) 1.0 - 1.3	Naturally present in the environment.
<b>INORGANIC CONTAMINANTS</b>				<b>Highest Result (Range of Results)</b>	<b>Highest Result</b>	
Barium, ppm	Yes	2	2	Less than 0.10	0.0069	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride, ppm	Yes	4	4	0.050 (ND - 0.050)	ND	Erosion of natural deposits.
Nickel, ppb	NA	NA	NA	2.53 (ND - 2.53)	ND	Erosion of natural deposits.
Nitrate, ppm	Yes	10	10	2.81 (ND - 2.81)	0.155	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

**WAIVER INFORMATION**

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. NJDWSC was granted a monitoring waiver for synthetic organic chemicals for the 2017-2019 monitoring period by NJDEP. PVWC received a monitoring waiver for all of the synthetic organic contaminants except for the contaminant Di(2-Ethylhexyl)Phthalate for the 2017-2019 monitoring period.

**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

## 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.

PVWC conducted special source water *Cryptosporidium* and *Giardia* monitoring in 2019. The data collected in 2019 is presented in the table below.

## SOURCE WATER PATHOGEN MONITORING

Contaminant	PVWC Plant Intake	Typical Source
<i>Cryptosporidium</i> , Oocysts/L	0 - 0.57	Microbial pathogens found in surface waters throughout the United States.
<i>Giardia</i> , Cysts/L	0 - 1.23	

## UNREGULATED CONTAMINANTS FOR WHICH EPA REQUIRES MONITORING

Contaminant	PVWC Intake Average (Range of Results)	PVWC Little Falls WTP Average (Range of Results)
Bromide, ppb	44 (33 - 69)	
Total Organic Carbon, mg/L	6 (4 - 7)	
Manganese (Total), ppb		8 (2 - 14)

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.

## SECONDARY PARAMETERS – TREATMENT PLANT EFFLUENT

Contaminant	N.J. Recommended Upper Limit (RUL)	PVWC Little Falls WTP PWSID NJ1605002		NJWSC Wanaque WTP PWSID NJ1613001	
		Range of Results	RUL Achieved	Result	RUL Achieved
ABS/LAS, ppb	500	ND - 60	Yes	ND	Yes
Alkalinity, ppm	NA	28 - 80	NA	40	NA
Aluminum, ppb	200	20 - 42	Yes	28	Yes
Chloride, ppm	250	48 - 161	Yes	44	Yes
Color, CU	10	Less than 5	Yes	2	Yes
Hardness (as CaCO <sub>3</sub> ), ppm	250	58 - 172	Yes	43	Yes
Hardness (as CaCO <sub>3</sub> ), grains/gallon	15	3 - 10	Yes	3	Yes
Iron, ppb	300	Less than 100	Yes	17	Yes
Manganese, ppb	50	ND - 211	No	18	Yes
Odor, TON	3	2 - 9	No	ND	Yes
pH	6.5 to 8.5 (optimum range)	8.1 - 8.4	Yes	8.09	Yes
Sodium, ppm	50	28 - 115	No*	23	Yes
Sulfate, ppm	250	9 - 82	Yes	6	Yes
Total Dissolved Solids, ppm	500	190 - 561	No	118	Yes
Zinc, ppb	5,000	Less than 40	Yes	10	Yes

At times during 2019 the level of manganese leaving the LFWTP was higher than the 50 ppb Recommended Upper Limit. **The Recommended Upper Limit (RUL) for manganese is based on staining of laundry. Manganese is an essential nutrient, and toxicity is not expected from high levels which would be encountered in drinking water.**

### \* PVWC FINISHED WATER EXCEEDS SODIUM RUL

PVWC's finished water was above New Jersey's Recommended Upper Limit (RUL) of 50 ppm for sodium in 2019. Possible sources of sodium include natural soil runoff, roadway salt runoff, upstream wastewater treatment plants, and a contribution coming from chemicals used in the water treatment process. 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. If you have any concerns please contact your health care provider.

## ADDITIONAL PVWC TREATMENT PLANT MONITORING RESULTS

Detected Contaminants, ppb	Little Falls WTP Effluent Range of Results	
Chlorate	(35 - 413)	Test results presented in this table were collected in 2019 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.
1,4-Dioxane	(ND - 0.09)	
Perfluorobutanesulfonic acid (PFBS)	(ND - 0.0021)	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.
Perfluoroheptanoic acid (PFHpA)	(ND - 0.0027)	
Perfluorohexanesulfonic acid (PFHxS)	(ND - 0.0029)	EPA has published Health Advisory levels for Perfluorooctanoic acid, (PFOA) and Perfluorooctanesulfonic acid, (PFOS), of 0.070 parts per billion (ppb) combined.
Perfluorohexanoic acid (PFHxA)	(ND - 0.0054)	
Perfluorooctanesulfonic acid (PFOS)	(ND - 0.0086)	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.
Perfluorooctanoic acid (PFOA)	(0.0039 - 0.010)	

## DEFINITIONS of TERMS and ACRONYMS

**ABS/LAS:** Alkylbenzene Sulfonate and Linear Alkylbenzene Sulfonate (surfactants)

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

**CU:** Color unit

**Disinfection By-product Precursors:** A common source is naturally-occurring organic material in surface water. Disinfection by-products are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (DBP precursors) present in surface water.

**EPA:** United States Environmental Protection Agency

**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.

**Microbial Contaminants/Pathogens:** Disease-causing organisms such as bacteria, protozoa, and viruses, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Common sources are animal and human fecal wastes. These contaminants may be present in source water.

**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. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

**NA:** Not applicable

**ND:** Not detected above the minimum reporting level.

**NJDEP:** New Jersey Department of Environmental Protection

**NJDWSC:** North Jersey District Water Supply Commission

**NTU:** Nephelometric Turbidity Unit

**Nutrients:** Compounds, minerals and elements that aid growth, which can be either naturally occurring or man-made. Examples include nitrogen and phosphorus.

**ppb:** parts per billion (approximately equal to micrograms per liter)

**ppm:** parts per million (approximately equal to milligrams per liter)

**PWS ID:** Public Water System Identification

**PVWC:** Passaic Valley Water Commission

**RAA:** Running Annual Average

**Radon:** Colorless, odorless, cancer-causing gas that occurs naturally in the environment.

**RUL:** Recommended Upper Limit; the highest level of a constituent of drinking water that is recommended in order to protect aesthetic quality.

**RUL Achieved:** A "YES" entry indicates the State-recommended upper limit was not exceeded. A "NO" entry indicates the State-recommended upper limit was exceeded.

**TON:** Threshold Odor Number

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

**WTP:** Water Treatment Plant

## ADDITIONAL INFORMATIONAL RESOURCES

EPA Drinking Water website: [www.epa.gov/safewater](http://www.epa.gov/safewater)  
 NJDEP Water Supply website: [www.nj.gov/dep/watersupply](http://www.nj.gov/dep/watersupply)  
 American Water Works Association (AWWA) website: [www.awwa.org](http://www.awwa.org)

EPA Safe Drinking Water Hotline: 800-426-4791  
 NJDEP Bureau of Safe Drinking Water: 609-292-5550  
 AWWA New Jersey Section website: [www.njawwa.org](http://www.njawwa.org)

				DISTRIBUTION SYSTEM RESULTS	
PRIMARY CONTAMINANTS	Compliance Achieved	MCLG	MCL	TYPICAL SOURCE	
<b>MICROBIOLOGICAL CONTAMINANTS</b>				<b>Highest Monthly Result</b>	
Total Coliform Bacteria, %	N/A	N/A	5% of monthly samples are positive	0%	Naturally present in the environment.
<b>DISINFECTION BYPRODUCTS</b>				<b>Highest LRAA and Range of Results</b>	
Haloacetic Acids (HAA5), ppb	Yes	N/A	60	.030MG/L .002MG/L--0.14MG/L	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM), ppb	Yes	N/A	80	.050MG/L .023MG/L--.042MG/L	By-product of drinking water disinfection.
<b>DISINFECTANTS</b>				<b>Highest RAA and Range of Results</b>	
Chlorine,ppm	Yes	4	4	1.10MG/L 0.70MG/L--0.90MG/L	Water additive used to control microbes.
<b>COPPER &amp; LEAD</b>				<b>90TH PERCENTILE</b>	
Lead (ppm)	Yes	N/A	N/A	Will test again in 2021	Corrosion of household plumbing systems
Copper (ppm)	Yes	N/A	N/A	Will test again in 2021	Corrosion of household plumbing systems