



# PASSAIC VALLEY WATER COMMISSION

## 2013 Water Quality Report

Issued May 2014

Passaic Valley Water Commission (PVWC) is pleased to provide our customers in Paterson, Clifton, Passaic, Prospect Park and Woodland Park with this annual Water Quality Report. PVWC is a public drinking water supplier owned by the cities of Paterson, Clifton and Passaic, and also owns and operates the Alan C. Levine Little Falls Water Treatment Plant (WTP). For a majority of PVWC customers finished water from the Little Falls WTP is blended with finished water obtained from North Jersey District Water Supply Commission's (NJDWSC) Wanaque WTP. After treatment the finished water is then pumped through underground pipes to the cities of Paterson, Clifton, Passaic, Prospect Park, Lodi, North Arlington, a section of Woodland Park and to over 22 wholesale customers in Passaic, Bergen, Essex, Hudson and Morris Counties. Emergency interconnections with other water purveyors exist throughout the distribution system.

PVWC holds monthly open public meetings. For dates, times and locations of these meetings, or for additional copies of this report call our Customer Service Department at 973-340-4300.



## ANNUAL WATER QUALITY REPORT

PVWC is required to distribute an annual Water Quality Report, or Consumer Confidence Report, to each customer as a result of amendments made in 1996 to the Safe Drinking Water Act. This report provides a summary of information collected during the calendar year 2013 regarding compliance monitoring required by both the United States Environmental Protection Agency (EPA) and the New Jersey Department of Environmental Protection (NJDEP), as well as additional water quality monitoring data.

The quality of the water delivered to your service area is represented by the combined data sets provided for PVWC's Little Falls WTP, NJDWSC's Wanaque WTP, and the Jersey City WTP and in the combined distribution system in the cities of Paterson, Clifton, Passaic, Prospect Park and a section of Woodland Park. Jersey City's water was used to supplement the supply in parts of our system during March through April 2013. **PVWC's water met all primary health-based standards in 2013, with one exception which is discussed later in this report within the Table of Detected Contaminants.**



## SOURCE WATER

PVWC withdraws water from the Passaic River in Totowa, New Jersey and treats it at the Little Falls WTP. In the event of water quality issues in the Passaic River, PVWC can also withdraw water from either the Pompton River or the Point View Reservoir (which is filled from the Ramapo River). A water quality monitoring station is operated by the U.S. Geological Survey on the Passaic River shortly upstream of the Little Falls WTP intake and just downstream of the Passaic River's confluence with the Pompton River. This monitoring station provides continuous data for important water quality parameters, and helps provide advanced warning of adverse changes in water quality. PVWC also conducts a surface water monitoring program at various stream and river locations throughout the Passaic River watershed.

## 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), NJDWSC system (PWS ID 1613001), and Jersey City system (PWS ID 0906001) can be obtained by accessing NJDEP's source water assessment web site at <http://www.state.nj.us/dep/swap> 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 lists 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
Jersey City 1 Surface Water	High	Medium	Low	Medium	Medium	Low	Low	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. Monitoring has indicated the occasional 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 completed a source water monitoring program in accordance with the requirements of EPA's Long Term 2 Enhanced Surface Water Treatment Rule. The data collected in 2008 are presented in the table below. Another round of sampling will begin in 2015.

## SOURCE WATER PATHOGEN MONITORING – 2008 DATA

Contaminant	PVWC Sourcewater		Description and Typical Sources
	Pompton River	Passaic River	
<i>Cryptosporidium</i> , Oocysts/L	0 – 0.4	0 – 0.2	Microbial pathogens found in surface waters throughout the United States resulting from human and animal fecal waste.
<i>Giardia</i> , Cysts/L	0 – 0.9	0 – 0.6	
MPN <i>E. coli</i> per 100 ml	16.1 – greater than 2419.6	25.6 – 1553.1	

## WATER TREATMENT

The Little Falls WTP is a multiple-stage high-tech treatment system designed and operated to provide a high degree of disinfection (for pathogenic microorganisms that can cause disease), removal of a variety of potential chemical contaminants, and treatment for aesthetic concerns such as taste, odor, and color. The treatment system uses four primary means for dealing with these contaminants, including two particle removal systems (high-rate sand-ballasted coagulation/flocculation/sedimentation, and filtration with granular activated carbon and sand) and two chemical disinfection systems (primary disinfection with ozone, and residual disinfection with chlorine).



The treatment system is designed and operated to handle the various different types of water quality contaminants that may be present in a highly-developed watershed such as the Passaic River basin. The system underwent an \$80 million upgrade during the past decade, including addition of the high-rate sedimentation process and ozone disinfection. Fluoride is not added to the water, but there are low levels present naturally (fluoride is a natural mineral).

The NJDWSC's Wanaque WTP draws its water from the Wanaque Reservoir in Wanaque, New Jersey. The water treatment plant uses conventional treatment comprised of coagulation/flocculation/sedimentation, gravity filtration through sand and anthracite, and chlorine disinfection.

## WATER QUALITY LABORATORY

PVWC operates an onsite advanced water quality laboratory. The laboratory is staffed with highly-trained, degreed professionals and is certified by the NJDEP to conduct a wide variety of microbiological and chemical analyses. The laboratory provides sampling, monitoring and analytical testing services for the Little Falls WTP, PVWC drinking water reservoirs, PVWC's watershed monitoring program, and all the PVWC distribution systems in Passaic and Bergen Counties. Its mission is to help ensure that our customers' water quality is consistently high and that compliance with all Federal and State regulations for drinking water is met. Of particular concern is ensuring the bacteriological and chemical quality of the water is maintained while it is delivered to the customers. The laboratory also provides sampling and testing services to other water systems, many of whom purchase PVWC water for distribution to their communities.

## UNCOVERED DRINKING WATER STORAGE RESERVOIRS

PVWC operates three open drinking water reservoirs in Woodland Park and Paterson to provide storage capacity (the Great Notch Reservoir, New Street Reservoir, and Stanley Levine Reservoir). The treated water from the Little Falls WTP is pumped to these reservoirs, and that water is then withdrawn for distribution to PVWC's customers. Unfortunately, since these reservoirs are uncovered, they are subject to bacteriological and chemical contamination from wildlife and other natural and man-made causes, and thus the high quality of this already-treated water from the Little Falls WTP may be compromised. While the water withdrawn from the reservoirs is rechlorinated onsite to provide further disinfection, chlorine is not considered very effective against all pathogenic microorganisms such as *Giardia* and *Cryptosporidium*.

Federal law requires that all uncovered drinking water reservoirs in the U.S. must either be covered or treatment applied beyond chlorination to ensure adequate disinfection (as of 2014 there were approximately 17 open drinking water reservoirs in the United States, of which three are owned by PVWC). PVWC has entered into an Administrative Consent Order (ACO) with the NJDEP for closing these reservoirs and constructing covered storage systems. Those plans when implemented will help maintain the high quality of water that is provided by the Little Falls WTP and thus provide appropriate protection of public health.

Administrative Consent Order (ACO) Compliance Requirement	Explanation	Length	Steps Taken to Meet the Compliance Requirement	Health Effects
Uncovered finished water reservoirs.	Three of our finished water reservoirs are not covered. Their discharge is disinfected, but not filtered. A feasibility study to identify the best practical solution to address the uncovered finished water reservoirs was completed and approved by the NJDEP. The first phase of the three-phase project is presently being designed.	Determined by the State as per the ACO.	Water systems with uncovered finished water reservoirs are required to eliminate or cover these reservoirs, treat the discharge from these reservoirs, or be in compliance with a state-approved schedule to eliminate or cover the reservoirs or provide treatment by April 1, 2009. We have executed an Administrative Consent Order with the NJDEP wherein PVWC was required to develop a plan and implementation schedule to eliminate, cover or provide treatment for our uncovered reservoirs. A three-phase plan was developed and approved by the NJDEP and the design of the first phase of the recommended plan has begun.	Inadequately protected or inadequately treated water may contain disease causing organisms. These organisms can cause symptoms such as diarrhea.

Many public drinking water supplies contain a phosphate-based corrosion inhibitor to minimize leaching of lead into the drinking water from household plumbing systems and lead service lines. **However, the phosphate can promote algal growth when exposed to sunlight, and thus PVWC cannot add corrosion inhibitor to the water supply that goes into the uncovered drinking water reservoirs.** PVWC is currently in compliance with the Federal and State requirements for lead (see notice elsewhere in this CCR regarding lead). However, the water supply is still susceptible to leaching lead from plumbing and lead service lines. As a result, PVWC has implemented a phased approach for adding corrosion inhibitor to the water leaving the reservoirs. The first of four satellite corrosion control chemical feed systems was brought on-line in December 2013. The second satellite station is scheduled to be completed and in service before the end of 2014. Once the covered reservoirs are constructed, PVWC will be able to add corrosion inhibitor to the full water supply, thus providing further protection of public health.

## INFORMATION ABOUT DRINKING WATER CONTAMINANTS

### SOURCE OF CONTAMINANTS FOR TAP AND BOTTLED WATER

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 800-426-4791. 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. 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 as the EPA regulations.

### 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.

### TECHNICAL DATA TABLES

The data presented in the tables in this Water Quality Report are from the most recent testing conducted in accordance with the regulations. The data tables present concentrations of contaminants detected at the effluent of the treatment plants and in the pipes within the distribution system, typical sources of various contaminants that may be found in drinking water, status of compliance with primary and secondary drinking water standards, and related health information if compliance was not achieved. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. As such, some of the data, though representative, are more than one year old.

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 microbial contaminants are available from the Safe Drinking Water Hotline 800-426-4791.

**Water Quality Results - Table of Detected Contaminants** **PVWC PWS ID NJ1605002**

**WATER TREATMENT PLANT EFFLUENT RESULTS**

PRIMARY CONTAMINANTS	Compliance Achieved	MCLG	MCL	PVWC Little Falls-WTP PWS ID NJ1605002	NJDWSC Wanaque-WTP PWS ID NJ1613001	JERSEY CITY WTP PWS ID NJ0906001	TYPICAL SOURCE
<b>TURBIDITY AND TOTAL ORGANIC CARBON</b>				Highest Result and Range of Results			
Turbidity, NTU	Yes	NA	TT = 1	0.69 (0.03 - 0.69)	0.59 (0.07 average)	0.25 (0.03 - 0.25)	Soil runoff
	Yes	NA	TT = percentage of samples <0.3 NTU (min 95% required)	99.9%	99.9%	100%	
Total Organic Carbon, %	Yes	NA	TT = % removal or Removal Ratio	Percent (%) Removal		Removal Ratio and Range of Results	Naturally present in the environment
				58% (lowest) (25-50% required) (Range 58 - 73%)	35% (average) (35% required) (Range 28 - 41%)	1.1 (lowest) (Range 1.00 - 1.3)	
<b>INORGANIC CONTAMINANTS</b>				Highest Result and Range of Results			
Arsenic, ppb	Yes	0	5	0.98 (ND - 0.98)	ND	ND	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium, ppm	Yes	2	2	0.025 (0.015 - 0.025)	0.01	0.01	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (Total), ppb	Yes	100	100	0.24 (ND - 0.24)	ND	3.6	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride, ppm	Yes	4	4	0.096 (0.076 - 0.096)	ND	ND	Erosion of natural deposits
Nickel, ppb	NA	NA	NA	2.4 (1.9 - 2.4)	ND	ND	Erosion of natural deposits
Nitrate, ppm	Yes	10	10	4.4 (0.83 - 4.4)	0.21	0.34 (0.08 - 0.34)	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>ORGANIC CONTAMINANTS</b>				Highest Result and Range of Results			
Toluene, ppb	Yes	1,000	1,000	ND	ND	0.7 (ND - 0.7)	Discharge from petroleum factories

**DISTRIBUTION SYSTEM RESULTS**

PRIMARY CONTAMINANTS	Compliance Achieved	MCLG	MCL	PVWC PWS ID NJ1605002		TYPICAL SOURCE
<b>MICROBIOLOGICAL CONTAMINANTS</b>				Highest Monthly Result		
Total Coliform Bacteria, %	No*	0	5% of monthly samples are positive	7% (17 out of 256 samples Total Coliform positive)		Naturally present in the environment
<b>DISINFECTION BYPRODUCTS - STAGE 2</b>			LRAA	Highest LRAA and Range of Results		
Haloacetic Acids (HAA5), ppb	Yes	NA	60	32 (10 - 42)		By-product of drinking water disinfection
Total Trihalomethanes (TTHM), ppb	Yes	NA	80	54 (13 - 77)		By-product of drinking water disinfection

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.

<b>DISINFECTANTS</b>		MRDLG	MRDL	Highest RAA and Range of Results		
Chlorine, ppm	Yes	4	4	1.04 (0.02 - 3.2)		Water additive used to control microbes
<b>LEAD AND COPPER</b>		MCLG	Action Level	90th Percentile		
Copper, ppm	Yes	1.3	1.3	0.10 (0 out of 109 samples exceeded the Action Level in Jan-Jun)		Corrosion of household plumbing systems
				0.11 (0 out of 106 samples exceeded the Action Level in Jul-Dec)		
Lead, ppb	Yes	0	15	9.8 (5 out of 109 samples exceeded the Action Level in Jan-Jun)		Corrosion of household plumbing systems
				14.2 (9 out of 106 samples exceeded the Action Level in Jul-Dec)		

**\*PVWC Incurred a Non-Acute Monthly Total Coliform Bacteria Maximum Contaminant Level Violation in July 2013.**

This event was limited to customers in Clifton, Passaic, and Woodland Park. Public notification was completed within 30 days as required. Coliforms are generally not harmful themselves, and are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. It is likely the source of the coliform bacteria was one of our open drinking water reservoirs. Unplanned treatment plant shutdowns during July 2013 mandated that water from the uncovered Great Notch Reservoir enter the distribution system piping serving the cities of Clifton, Passaic and Woodland Park at a rate much higher than routinely occurs. Coliforms were found in more samples than allowed and this was a warning of potential problems. Subsequent testing for coliform bacteria was conducted and no additional coliform bacteria were found to be present. Whenever we detect coliform bacteria in any sample, we are required to continue the analytical testing procedure to see if other bacteria of greater concern, such as *E.coli*, are present. We did not find any *E. coli* bacteria in our subsequent testing.

PVWC received monitoring waivers for asbestos and synthetic organic chemical (SOCs).

## UNREGULATED CONTAMINANTS FOR WHICH EPA REQUIRES MONITORING

Contaminant	Little Falls WTP Effluent Average (Range of Results)	NJDWSC's Wanaque WTP Effluent Average (Range of Results)	Distribution System Average (Range of Results)	Unregulated contaminants are those for which EPA 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.
1,4 -Dioxane, ppb	0.0675 (ND - 0.135)	ND	NA	
Chlorate, ppb	375 (320 - 430)	68.1 (36.3 - 95.1)	270 (250 - 290)	
Chromium (Total), ppb	0.12 (ND - 0.24)	0.148 (ND - 0.36)	0.16 (ND - 0.32)	
Chromium-6, ppb	0.0835 (0.047 - 0.12)	0.0088 (ND - 0.035)	0.0625 (0.047 - 0.078)	
Strontium, ppb	145 (140 - 150)	41.9 (39.6 - 46)	93 (86 - 100)	
Testosterone, ppb	0.000485 (ND - 0.00097)	ND	NA	
Vanadium, ppb	0.155 (ND - 0.31)	ND	0.125 (ND - 0.25)	

## ADDITIONAL PVWC TREATMENT PLANT MONITORING RESULTS

Contaminant	Little Falls WTP Intake	Little Falls WTP Effluent	The data presented in this table were 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 drinking water supply.
Perchlorate, ppb	ND	0.12	

## SECONDARY PARAMETERS – TREATMENT PLANT EFFLUENT

Contaminant	N.J. Recommended Upper Limit (RUL)	PVWC-Little Falls WTP PWSID NJ1605002		NJDWSC-Wanaque WTP PWSID NJ1613001		Jersey City WTP PWSID NJ0906001	
		Range of Results	RUL Achieved	Result	RUL Achieved	Range of Results	RUL Achieved
Alkalinity, ppm	NA	54 - 81	NA	36	NA	32 - 68	NA
Aluminum, ppb	200	16 - 29	Yes	40	Yes	ND - 110	Yes
Chloride, ppm	250	70 - 130	Yes	40	Yes	64 - 98	Yes
Color, CU	10	ND	Yes	3	Yes	ND - 10	Yes
Corrosivity	Non-Corrosive	Non-Corrosive	Yes	-	NA	Non-Corrosive	Yes
Hardness (as CaCO <sub>3</sub> ), ppm	250	84 - 192	Yes	57	Yes	62 - 106	Yes
Hardness (as CaCO <sub>3</sub> ), grains/gallon	14.6	5 - 11	Yes	3	Yes	4 - 6	Yes
Iron, ppb	300	ND	Yes	ND	Yes	ND - 89	Yes
Manganese, ppb	50	5 - 10	Yes	ND	Yes	ND - 24	Yes
Odor, TON	3	3 - 5	No	-	NA	1	Yes
pH (optimum range)	6.5 to 8.5	7.9 - 8.3	Yes	7.9	Yes	6.3 - 8.1	Yes
Sodium, ppm	50	32 - 121	No*	22	Yes	33	Yes
Sulfate, ppm	250	56 - 105	Yes	9	Yes	10	Yes
Total Dissolved Solids, ppm	500	282 - 483	Yes	152	Yes	152 - 247	Yes
Zinc, ppb	5,000	2 - 5	Yes	15	Yes	ND - 50	Yes

### \* PVWC's FINISHED WATER EXCEEDS SODIUM RUL

PVWC's finished water was above NJDEP's Recommended Upper Limit (RUL) of 50 ppm for sodium in 2013. 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.

## DISTRIBUTION SYSTEM RESULTS – SECONDARY CONTAMINANTS

Contaminant	RUL	Annual Average	Range	RUL Achieved
Iron, ppb	300	43	ND - 210	Yes
Manganese, ppb	50	6	2 - 13	Yes

## MONITORED CONTAMINANTS NOT DETECTED IN 2013

Little Falls WTP Effluent	Asbestos, Antimony, Beryllium, Bromate, Cadmium, Cyanide, Iron, Mercury, Selenium, Silver, Surfactants, Thallium, and Volatile Organic Compounds
PVWC Distribution System	<i>E. coli</i> bacteria

## UPDATE ON LEAD

**PVWC is pleased to announce that our water supply in 2013 met the regulatory requirements for lead.** Specifically, monitoring results for the January 1 – June 30, and July 1 – December 31, 2013 monitoring periods did not exceed the EPA's lead action level. Under the authority of the Safe Drinking Water Act, the EPA set the action level for lead in drinking water at 15 parts per billion (ppb), or 0.015 milligrams of lead per liter of water (mg/L). This means utilities must ensure that water from the customer's tap does not exceed this level in at least 90 percent of the homes sampled (90<sup>th</sup> percentile value). The action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. If water from the tap does exceed this limit, then the utility must take certain steps to correct the problem. Because lead may pose serious health risks, the EPA set a Maximum Contaminant Level Goal (MCLG) of zero for lead. The 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.

Lead can cause serious health problems, especially for pregnant women and young children, if too much enters your body from drinking water or other sources. While drinking water is one possible source of lead, the major sources include lead-based paint, lead-contaminated dust or soil and plumbing materials. Lead is not present in the water supplied to you, but may dissolve into water from your home or building's plumbing materials or service lines.

As part of PVWC's continuing program to reduce our customers' potential exposure to lead, in December 2013 we installed a corrosion control system at one of our pumping booster stations to treat that part of the water supply. A second such system will be installed by the end of 2014. Additional corrosion control systems will be installed as part of the reservoir improvement project as each of the first two uncovered drinking water reservoirs are replaced by the new storage tanks. Once the reservoir improvement project is completed and use of the third and final uncovered drinking water reservoir is replaced by covered storage, the entire service area will receive corrosion control treatment. In addition, PVWC continues implementing a multi-faceted lead public awareness and education program.

Please also see the full-page section in this report that provides additional information about lead in drinking water.

# DEFINITIONS of TERMS and ACRONYMS

**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

**CDC:** United States Centers for Disease Control and Prevention

**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

**HAA5:** Haloacetic Acids (sum of five compounds)

**Inorganic Contaminants:** Contaminants such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. These contaminants may be present in source water.

**LRAA:** Locational running annual average

**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.

**MPN:** Most Probable Number

**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

**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.

**Organic Contaminants/Volatile Organic Compounds:** Compounds containing carbon, including synthetic and volatile organic chemicals, which are products or by-products of industrial processes or petroleum production. They are typically used as solvents, degreasers, and gasoline components. These compounds may be present in source water as a result of releases from gas stations, fuel storage tanks, industrial facilities, stormwater runoff, and other sources. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.

**Pesticides (Herbicides, Insecticides, Fungicides, and Rodenticides):** Man-made chemicals used to control pests, weeds, and fungus. Common sources include manufacturing centers of pesticides, and where they are used in agricultural, industrial, commercial, and residential environments. Examples include herbicides such as atrazine, and insecticides such as chlordane.

**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

**Radioactive Contaminants/Radionuclides:** Radioactive substances that are both naturally occurring and man-made; may be present in source water naturally or as a result of oil and gas production and mining activities. Examples include radium, radon and uranium.

**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.

**TTHM:** Total Trihalomethanes (sum of four compounds)

**Turbidity:** 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.

## ADDITIONAL INFORMATIONAL RESOURCES

PVWC website: [www.pvwc.com](http://www.pvwc.com)

EPA Drinking Water website: [www.epa.gov/drink](http://www.epa.gov/drink)

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)

PVWC Customer Service Department: 973-340-4300

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)

# IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER

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. Passaic Valley Water Commission 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 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 at 800-426-4791 or at <http://water.epa.gov/safewater/lead>.

## HEALTH EFFECTS OF LEAD

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones and can be released from them later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

## SOURCES OF LEAD

Lead is a common metal found in the environment. Drinking water is one possible source of lead exposure. The main sources of lead

exposure are lead-based paint and lead-contaminated dust or soil, and some plumbing materials. In addition, lead can be found in certain types of pottery, pewter, brass plumbing fixtures, food, and cosmetics. Other sources include exposure in the work place and exposure from certain hobbies (lead can be carried on clothing or shoes). Lead is found in some toys, some playground equipment, and some children's metal jewelry.

Lead is not present in the water supplied to you. When water has been in contact, for several hours or more, with premise plumbing or service lines that contain lead, the lead may dissolve into the drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon after returning from work or school, can contain fairly high levels of lead. Homes built before 1988 are more likely to have plumbing containing lead. New homes may also have lead; even "lead-free" plumbing may contain some lead. Brass faucets, fittings, and valves, including those advertised as "lead-free," may contribute lead to drinking water. The Reduction of Lead in Drinking Water Act of 2011, which went into effect on January 4, 2014, changed the definition of "lead-free" from not more than 8% to a weighted average of not more than 0.25% lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. Visit the NSF website at [www.nsf.org](http://www.nsf.org) to learn more about lead-containing plumbing fixtures.

EPA estimates that 10 to 20 percent of a person's potential exposure to lead may come from drinking water. Infants who consume mostly formula mixed with lead-containing water can receive 40 to 60 percent of their exposure to lead from drinking water. Don't forget about other sources of lead such as lead paint, lead dust, and lead in soil. Wash your children's hands and toys often as they can come into contact with dirt and dust containing lead.

# STEPS YOU CAN TAKE TO REDUCE YOUR EXPOSURE TO LEAD IN YOUR WATER

**1. Run your water to flush out lead.** Run your cold water for 30 seconds to 2 minutes or until it becomes cold or reaches a steady temperature before using it for drinking or cooking, if it hasn't been used for several hours. This flushes lead-containing water from the pipes. Flushing usually uses less than one or two gallons of water and costs less than 30 cents per month.

**2. Use cold water for cooking and preparing baby formula.** Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water. Do not use water from the hot water tap to make baby formula.

**3. Do not boil water to remove lead.** Boiling water will not reduce lead.

**4. Look for alternative sources or treatment of water.** You may want to consider purchasing bottled water or a water filter. If purchasing a water filter, read the package to be sure the filter is approved to reduce lead. You can also contact NSF International at 800-NSF-8010 or visit their website at [www.nsf.org](http://www.nsf.org) for information on performance standards for water filters. Be sure to maintain and replace a filter device in accordance with the manufacturer's instructions to protect water quality.

**5. Test your water for lead.** Call PVWC at 973-340-4300 to find out how to get your water tested for lead, or for a list of local laboratories that have been certified for testing lead.

**6. Get your child's blood tested.** Contact your local health department or healthcare provider to find out how you can get your child tested for lead if you are concerned about exposure. Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead.

**7. Identify and replace plumbing fixtures containing lead.** A licensed plumber can check to see if your home's plumbing contains lead solder, lead pipes, or pipe fittings that contain lead. Your local building/code department can provide you with information about building permit records that should contain the names of plumbing contractors who plumbed your home.

**8. Find out whether your service line is made of lead.** PVWC maintains records of the materials, such as the water mains, located in the distribution system. Contact our Customer Service Department at 973-340-4300 for service line materials records.

You should also determine whether or not the service line that connects your home or apartment to the water main is made of lead. The best way to determine if your service line is made of lead is by either hiring a licensed plumber to inspect the line or by contacting the plumbing contractor who installed the line. You can identify the plumbing contractor by checking the city's record of building permits which should be maintained in the files at your local building department.

## FOR MORE INFORMATION

For more information on reducing lead exposure around your home/building and the health effects of lead visit EPA's resources or contact your health care provider.

**EPA's Safe Drinking Water Hotline:**  
**800-426-4791**

**National Lead Information Center:**  
**800-424-LEAD (5323)**

**EPA Websites:** [www.epa.gov/lead](http://www.epa.gov/lead)  
<http://water.epa.gov/drink/info/lead>

If you need additional information regarding lead testing of your water, or would like additional copies of this brochure please contact PVWC at 973-340-4300, [customerservice@pvwc.com](mailto:customerservice@pvwc.com) or visit our website [www.pvwc.com](http://www.pvwc.com).



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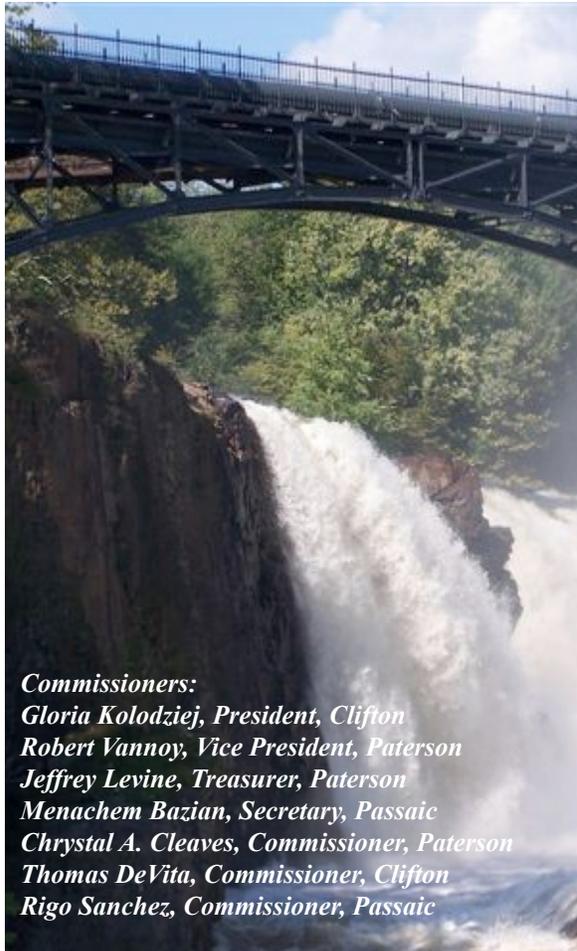
This report contains information about your drinking water. If you do not understand it, please have someone translate it for you.

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.

આ અહેવાલ માં તમારા પીવાના પાણી વિષે  
અગત્ય ની જાણકારી આપવા માં આવી છે.  
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المعلومات في هذا التقرير تحتوي على  
معلومات مهمة عن مياه الشرب التي  
تشربها. من فضلك اذا لم تفهم هذه  
المعلومات اطلب من يترجمها لك.

PV



**Commissioners:**

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**Dear Passaic Valley Water Commission Consumer,**

In demonstration of our commitment to you, our consumer, Passaic Valley Water Commission (PVWC) is pleased to present our Annual Water Quality Report. This report provides an overview of the high-quality drinking water provided to you during 2013.

Since our inception in 1927, PVWC has been, and continues to be, committed to providing drinking water to the citizens, businesses and industries of northeast New Jersey, at the highest quality, service and reliability, all at a competitive price. PVWC maintains a 50-year strategic capital improvement program that is used to identify necessary investments to our above-ground infrastructure including treatment facilities, pumping and storage systems, as well as for our buried infrastructure such as transmission mains, piping and valves. Strategic capital improvements are key to maintaining the financial viability and long-term sustainability of our system for the ultimate protection of public health and public safety.

If you have any questions related to this report, water quality, water pressure, billing, construction projects or other inquiries, please contact our Customer Service Department at 973-340-4300. Our hours of operation, including the walk-up payment window, are Monday through Friday, excluding State holidays, from 7:30 a.m. to 6:00 p.m.; our phone lines are open an extra half hour until 6:30 p.m. Or contact us via email at [customerservice@pvwc.com](mailto:customerservice@pvwc.com). Additional information about PVWC, including important news and alerts, can be found on our website at [www.pvwc.com](http://www.pvwc.com). For emergencies, call 973-340-4300, 24 hours per day/7 days per week.

**Sincerely,**

**Gloria Kolodziej, Clifton**  
**President, PVWC Board of Commissioners**