



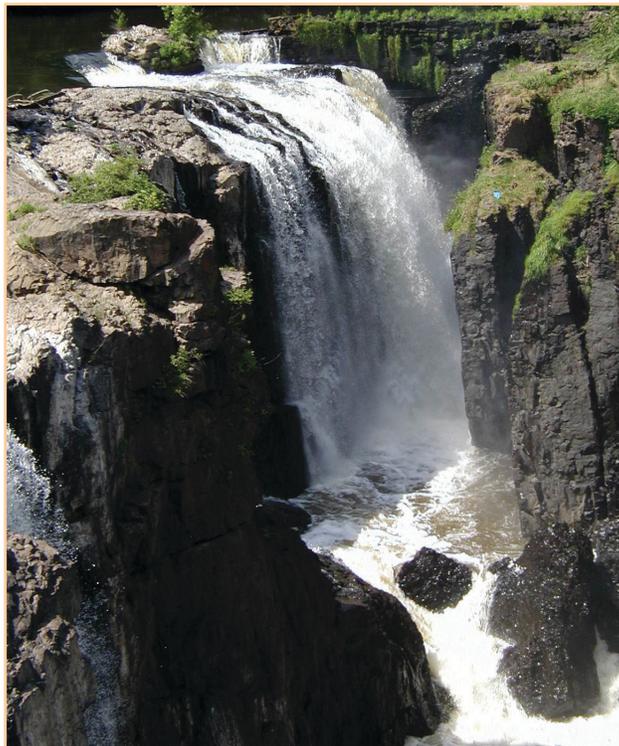
PASSAIC VALLEY WATER COMMISSION

2017 Water Quality Report

Issued April 2018

Passaic Valley Water Commission (PVWC) is pleased to provide our High Crest customers 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 High Crest Public Water System (PWS).

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



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 2017 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 data sets provided for the Butler Water Treatment Plant (WTP) effluent and in the High Crest distribution system. **The High Crest PWS met all primary health-based standards in 2017.**



SOURCE WATER AND TREATMENT

PVWC purchases treated water from the Borough of Butler for distribution to the High Crest Community. Butler obtains their water from the 150-acre Kakeout Reservoir and treats it at the Butler WTP. Butler's treatment includes a conventional 4.0-million gallons per day system with polyaluminum chloride (PACl) and/or alum coagulation, pulsator clarification, and pressure filtration. Following clarification, sodium hydroxide is applied to the water to adjust the pH. Chlorine is then added to the treated water prior to the pressure filters. Orthophosphate is added to the filtered water for corrosion control, followed by chlorine before distribution. PVWC further adds chlorine immediately prior to the High Crest system to maintain a disinfectant residual in the distribution system.

SOURCE WATER ASSESSMENT

NJDEP has prepared Source Water Assessment reports and summaries for all public water systems. The Source Water Assessment for the Butler Water System (PWSID # 1403001) 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 or watersupply@dep.nj.gov. 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 assessment performed on Butler's Kakeout Reservoir intake 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	Inorganics	Radionuclides	Radon	Disinfection Byproduct Precursors
Butler Water System 1 Surface Water	High	Low	Low	Medium	Medium	Low	Low	High

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.

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

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.

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.

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.

Radiological 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.

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.

WATER QUALITY LABORATORY

PVWC operates an 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, and all the PVWC distribution systems in Passaic and Bergen Counties, including the High Crest water system. 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.



INFORMATION ABOUT DRINKING WATER CONTAMINANTS

SOURCE OF CONTAMINANTS FOR TAP AND BOTTLED WATER

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 may 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 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 can also come from gas stations, urban stormwater 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 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).

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 detected contaminants at the effluent of the Butler's Water Treatment Plant, and in the High Crest distribution system, typical sources of various contaminants that may be found in drinking water, the 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).

2017 Water Quality Results - Table of Detected Contaminants

HIGH CREST PWS ID NJ1615003

BUTLER WATER TREATMENT PLANT EFFLUENT RESULTS

PRIMARY CONTAMINANTS	Compliance Achieved	MCLG	MCL	Butler WTP PWS ID NJ1403001	TYPICAL SOURCE
Turbidity, NTU*	Yes	NA	TT = 1	0.97	Soil runoff.
	Yes	NA	TT = percentage of samples <0.3 NTU (min 95% required)	99.91%	
	*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	41% = Lowest Monthly % TOC Removal Achieved (35 to 45% required) (Range 41 to 58%)	Naturally present in the environment.

RADIOLOGICAL CONTAMINANTS - 2014 Data

Gross Alpha, pCi/L	Yes	0	15	1.15	Erosion of natural deposits.
Combined Radium, pCi/L	Yes	0	5	0.52	Erosion of natural deposits.

INORGANIC CONTAMINANTS

Barium, ppm	Yes	2	2	0.05	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Nickel, ppb	NA	NA	NA	1.3	Erosion of natural deposits.

HIGH CREST DISTRIBUTION SYSTEM RESULTS

PRIMARY CONTAMINANTS	Compliance Achieved	MCLG	MCL	High Crest PWS ID NJ1615003	TYPICAL SOURCE
DISINFECTION BYPRODUCTS				Highest LRAA (Range of Results)	
Haloacetic Acids (HAA5), ppb	Yes	NA	60	38 (29 - 42)	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM), ppb	Yes	NA	80	76 (50 - 84)	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.

DISINFECTANTS		MRDLG	MRDL	Highest RAA (Range of Results)	
Chlorine, ppm	Yes	4	4	0.68 (0.15 - 1.05)	Water additive used to control microbes.
LEAD AND COPPER		MCLG	Action Level	90th Percentile (2015 Data)	
Copper, ppm	Yes	1.3	1.3	0.112 (0 of 10 samples exceeded the Action Level)	Corrosion of household plumbing systems.
Lead, ppb	Yes	0	15	3.46 (1 of 10 samples exceeded the Action Level)	Corrosion of household plumbing systems.

MONITORING 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. NJDEP granted the High Crest water system a waiver for asbestos monitoring for the 2011-2019 compliance cycle. A waiver for synthetic organic chemicals for the Butler water system for the 2017-2019 monitoring period is currently under review by NJDEP.

High Crest Water System Incurs Chlorine Reporting Violation in 2017

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. Chlorine residual levels are required to be measured within the distribution system every month. These results must be reported to NJDEP by the tenth of the following month or the system incurs a violation. Chlorine residual measurements were conducted in July but the results were reported late during the switchover from hard copy to electronic reporting. There was no issue with the chlorine residual measurements; the violation was issued because the results were received after the reporting deadline. The system returned to compliance following receipt of the chlorine residual results by NJDEP.

BUTLER WTP EFFLUENT – SECONDARY PARAMETERS

Contaminant	Recommended Upper Limit	Butler WTP Results	Recommended Upper Limit Achieved
Alkalinity, ppm	NA	34	NA
Chloride, ppm	250	67	Yes
Color, CU	10	7	Yes
Corrosivity	Non-Corrosive	Corrosive	No
Hardness (as CaCO ₃), ppm	250	56	Yes
Hardness (as CaCO ₃), grains per gallon	15	3	Yes
Odor, TON	3	3	Yes
pH (optimum range)	6.5 to 8.5	6.61	Yes
Sodium, ppm	50	36	Yes
Sulfate, ppm	250	7	Yes
Total Dissolved Solids, ppm	500	145	Yes

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.

CDC: United States Centers for Disease Control and Prevention

EPA: United States Environmental Protection Agency

HAA5: Haloacetic Acids (sum of five compounds)

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.

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 above the minimum reporting level.

NJDEP: New Jersey Department of Environmental Protection

NTU: Nephelometric Turbidity Unit

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

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

PVWC: Passaic Valley Water Commission

PWS ID: Public Water System Identification

RAA: Running annual average

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)

ADDITIONAL INFORMATIONAL RESOURCES

PVWC website: www.pvwc.com

EPA Drinking Water website: www.epa.gov/safewater

NJDEP Water Supply website: www.nj.gov/dep/watersupply

American Water Works Association (AWWA) website: 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

For water saving tips and water conservation ideas please visit our website www.pvwc.com and select Water Saving Tips and Education from the Water Quality pull down menu.



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://www.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 it can be released 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 with pipes or plumbing that contains lead for several hours, the lead may enter 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 1985 are more likely to have plumbing containing lead or lead solder. New homes may also have lead. Even brass faucets, fittings, and valves, including those advertised as "lead-free," may contain some lead.

The Reduction of Lead in Drinking Water Act of 2011, 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 wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. Visit the National Sanitation Foundation (NSF) website at www.nsf.org to learn more about lead-containing plumbing fixtures.

The 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 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 are 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 PVWC-owned materials, such as service lines (water main to curb box), 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 comes from the curb box to your home is made of lead. The best way to determine if the service line to your home 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 may be able to 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

Contact us at **973-340-4300**, customerservice@pvwc.com or visit our website at www.pvwc.com. For more information on reducing lead exposure around your home/building and the health effects of lead, visit EPA's resources below, or contact your health care provider.

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

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

EPA Website:
www.epa.gov/lead

For additional copies of this notice please contact PVWC at 973-340-4300, customerservice@pvwc.com or visit our website.



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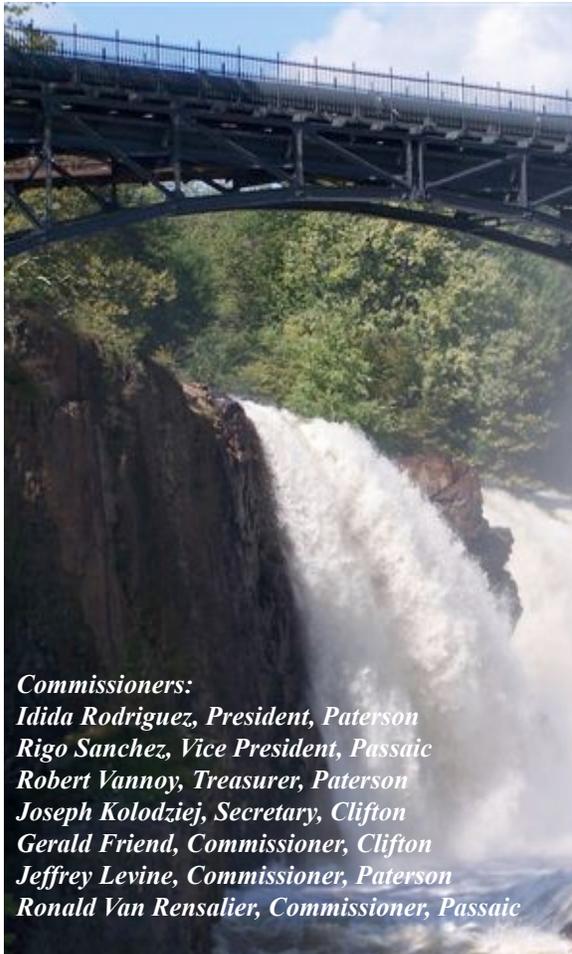
This report contains information about your drinking water. If you do not understand it, please have someone translate it for you.

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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દોષ તેની સાથે યાત્ર કરો

للعلومات في هذا التقرير تحتوي على
معلومات مهمة عن مياه الشرب التي
تتربها. من فضلك اذا لم تفهم هذه
للعلومات اطلب من يترجمها لك.

HC



Commissioners:

Idida Rodriguez, President, Paterson
Rigo Sanchez, Vice President, Passaic
Robert Vannoy, Treasurer, Paterson
Joseph Kolodziej, Secretary, Clifton
Gerald Friend, Commissioner, Clifton
Jeffrey Levine, Commissioner, Paterson
Ronald Van Rensalier, Commissioner, Passaic

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 2017.

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. System improvements in 2017 included the installation of a new emergency back-up generator to provide continuous power to the High Crest water storage tanks.

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. Additional information about PVWC, including important news and alerts, can be found on our website at www.pvwc.com. For emergencies, call 973-340-4300, 24 hours per day/7 days per week.

Sincerely,
Idida Rodriguez
President, PVWC Board of Commissioners