



Eric E. Jackson, Mayor
Trenton Water Works

And we are continuing to make the necessary investments to keep it that way.
It's high quality. It's reliable.
Your drinking water!



Quality drinking water is an essential resource. The good news is tap water is top quality.

2018 CONSUMER CONFIDENCE REPORT

TRENTON WATER WORKS

The City of Trenton is pleased to present the

The Water Source Used by Trenton Water Works

Trenton Water Works is a public community water system serving approximately 205,000 customers. This system's source water is drawn from Delaware River through an intake north of the Calhoun St. Bridge. The water is treated at the TWW Filtration plant on Route 29 S, and piped to the distribution system. Trenton Water Works also has arrangements to purchase ground water from an adjacent system as needed.

Susceptibility Ratings for Trenton Water Works Sources

The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells (0) and intakes (1) that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report.

The eight contaminant categories are defined at the bottom of the opposite page. NJDEP considered all surface water highly susceptible to pathogens, therefore all intakes received a high rating for the pathogen category.

For the purpose of Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination.

Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, NJDEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

Source Water Assessment for Trenton Water Works

Sources	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection Byproduct Precursors		
	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells - 0																								
GUDI - 0																								
Surface water intakes - 1	1						1			1									1			1		

Pathogens: Disease causing organisms such as bacteria and viruses. Common examples are animal and human fecal waste.

Nutrients: Compounds, minerals and elements that aid growth, and are both naturally occurring and man-made. Examples include nitrogen and phosphorous.

Volatile Organic Compounds: Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.

Pesticides: Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.

Inorganics: Mineral-based compounds which are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.

Radionuclides: Radioactive substances which are both naturally occurring and man-made. Examples include radium and uranium.

Radon: Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information, go to <http://www.nj.gov/dep/rpp/radon/index.htm> or call (800) 648-0394.

Disinfection Byproduct Precursors: A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens, react with dissolved organic material (for example leaves) present in surface water.

The assessment of the source water determined the following: (continued)

Notice to Landlords
You are required by law to make this report available to all water consumers. Please post in a visible location or distribute to all tenants. Additional copies are available by calling 609-989-3208



Trenton Water Works Lead Service Replacement & Corrosion Control Treatment Program



TWW has developed a program to reduce exposure to lead for their customers in the drinking water Lead Action Level in the lead and Copper Rule in the first half of 2017. A project to replace approximately 2,500 lead service lines in the service area by 2020 with assistance from State funding. The program may continue afterwards to replace all lead services. Even when a lead service line is replaced, home plumbing installed prior to the mid-1980's may contain lead solder and plumbing fixtures that may contain lead.

In parallel with the lead service line replacement program, TWW will be upgrading treatment at the Filtration Plant to make it less corrosive in order to minimize lead dissolving into the drinking water from lead service lines, lead solder and plumbing fixtures. The new treatment process is anticipated to be in place by the end of 2019. TWW continues to improve your drinking water every day based on State and Federal regulations.

TWW has entered into an Administrative Consent Order (ACO) dated Feb. 2018 with the New Jersey Department of Environmental Protection to cover the finished water Reservoir. Under the ACO, the construction of the cover is scheduled to be completed by July 31, 2023. The ACO also addresses additional requirements for TWW's system operation, emergency response plan and system staffing. In 2017, TWW received violation notices from New Jersey Department of Environmental Protection for several water quality issues and appropriate actions were taken, are being taken to correct the system deficiencies. On June 20, 2017, for failure to maintain a disinfectant residual concentration such that the total treatment process of the system achieved at least 99% inactivation of Giardia Lamblia cysts or viruses. The incident led to boiled water advisory to all customers. Lead action level (15 parts per billion) was exceeded during the monitoring period 1/1/2017 to 6/30/2017 for the samples collected from the distribution system. Public Notices were sent to customers. TWW did not have lead action level exceedance during the second half of 2017. TWW is initiating the process to replace 7% of all lead services and taking the initiative to improve the Corrosion Control treatment process.

For More Information:

The City of Trenton values our water customers and works hard to ensure their satisfaction. For more information to our customers, we welcome you to attend a City Council meeting, held twice a month on Tues/Thurs at 5:30 PM, located at 319 East State Street, 2nd Fl, Trenton NJ. For more specific dates, please visit the City Council Meetings, Agendas & Minutes tab on our website, www.trentonnj.org. If you have questions or comments about this report, please contact tact 609-989-3055 between 8:30 AM and 4:00 PM, or contact the following for more information:

New Jersey Department of Environmental Protection
Bureau of Safe Drinking Water, 609-292-5550 or www.state.nj.us/dep/watersupply/ or Drinking Water Water at: <https://www9.state.nj.us/DEP/WaterWatch/public/index.jsf>

United States Environmental Protection Agency
1-800-426-4791 or www.epa.gov/safewater

Este informacion contiene informacion muy importante sobre su agua beber.

Monitoring Requirements Not Met for Trenton Water Works:

Our water system violated drinking water requirements over the past year. Even though these were not emergencies, as our customers, you have the right to know what happened and what we are doing to correct these situations.

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 our drinking water meets health standards. During 1/1/17-12/31/17 (lead) and 9/1/17-11/30/17 (turbidity), we did not complete all monitoring or testing for lead & turbidity and therefore cannot be sure of the quality of drinking water during that time.

TWW experienced a failure of the combined filter effluent (CFE) on 9/25/17 that went undetected until 11/2/17, resulting in the failure to provide necessary turbidity data for the above mentioned compliance period.

What should you do?

There is nothing you need to do at this time. You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

The table below lists contaminants TWW did not properly test for/report during 2017, how often we were supposed to sample for these contaminants, how many samples we took, when samples should have been reported, and when samples were not reported.

Contaminant	Required Sampling Frequency	Number of Samples Taken	When Samples Should Have Been Reported	When Samples Were Not Reported
WQP (i.e. pH & Alkalinity)	Biweekly (104 Samples Each)	pH = 174 Alkalinity = 157	January – December, Biweekly	May 2017, Nov 2017
Turbidity	Every 4 Hours	702,139	January – December Every 4 Hours	9/1/17-11/30/17

What is being done?

Trenton Water Works has recommended installing Corrosion Control Treatment and will commence to replace at least 7% of lead service piping. The damaged turbidimeter has been repaired. TWW has developed a more stringent sampling schedule to avoid future M&R violations. For more information, please contact the Water Filtration plant Laboratory at 609-989-3208 or Trenton Water Works, 333 Courtland Street, PO Box 528, Trenton NJ, 08604-0528.

Potential Adverse Health Effects from the Violations:

Lead: Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

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

Turbidity: 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.

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

THM: 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 system, and may have an increased risk of getting cancer.

Please share this information with all other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by Trenton Water Works. State Water System ID#: NJ1111001. Date Distributed: June 29, 2018.

The susceptibility of the Delaware River to eight contaminant categories was evaluated. The Delaware River received a high susceptibility rating for pathogens, nutrients, inorganics, and disinfection byproducts (DBP's), a medium susceptibility rating for pesticides and volatile compounds (VOCs), and a low susceptibility rating for radionuclides and radon. All surface water sources in New Jersey are considered to be highly susceptible to pathogens and have a low susceptibility to radionuclides and radon.

The NJDEP found the following potential contaminant sources within the source water assessment area for the systems source:

- Agriculture, residential, urban, and commercial and industrial land use.
- Sewer treatment plants
- Solid Waste landfills, solid waste resource recovery facilities, solid waste transfer facilities, compost facilities, Class B recycling facilities
- NJPDES permitted Facilities
- Underground storage tanks.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban 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 byproducts 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.

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 (1-800-426-4791).

In order to ensure that tap water is safe to drink, EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Important Information About Your Drinking Water Trenton Water Works Violations - Descriptions of Noncompliance:

1. Failure to perform corrosion control studies and/or submit a recommendation regarding optimal corrosion control treatment after exceeding the lead or copper action level (AL).
2. Failure to perform source water studies and/or submit a recommendation regarding source water treatment after exceeding the lead or copper AL.
3. Failure to submit written documentation to the State identifying the initial number of lead service lines in the distribution system, and failure to provide a schedule for annually replacing a minimum of 7% of the initial number of lead service lines in the distribution system.
4. Failure to maintain disinfectant byproduct concentrations below the maximum contaminant level for HAA5. The levels of HAA5 averaged at two of our system's locations on Nov. 14, 2017 were 62 and 62 µg/L, hence the duration of this violation lasted for one quarter (Oct-Dec '17). TWW has initiated several improvements and upgrades to the water treatment process: Mechanical Dewatering Facility, Super Pulsators, Chlorine Contact Tanks and optimization of Permanganate dose. TWW also conducted a full unidirectional flushing of hydrants (Apr-May '18).

(continued)

Acronyms and Definitions

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): 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.

Secondary Maximum Contaminant Level (SMCL): Any contaminant in drinking water which may adversely affect the taste, color, odor, or appearance of such water, or which may adversely affect the public welfare.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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

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

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

Variances and Exceptions: State or EPA permission not to meet a MCL or a treatment technique under certain conditions.

ppm: Concentration in parts per million or milligrams per liter (mg/L); this is equivalent to \$0.01 of \$10,000.

ppb: Concentration in parts per billion or micrograms per liter (µg/L); this is equivalent to \$0.01 of \$10,000,000.

pCi/L: Picocuries per liter; a measure of radioactivity.

NLE: No Level Established

NTU: Nephelometric turbidity units (units describing how cloudy a water sample appears).

MFL: million fibers per liter.

<: When seen in the table, it usually refers to below detectable levels.

≤: Less than or equal to; when seen in the table, it usually refers to below or equal to detectable levels.

Contaminant: Anything found in water (including microorganisms, minerals, chemicals, radionuclides, etc.) that may be harmful to human health.

Raw Water: Water in its natural state prior to any treatment for drinking.

Source Water: Water in its natural state originating from the watershed that supplies a water system with its raw water.

Watershed: The land area from which water drains into a stream, river, or reservoir.

Treated Water: Water to be used by a public water system that has received the application of approved water treatment chemicals.

Drinking Water: Water that has been treated to comply with EPA regulations and is pumped to the water customer for use.

Turbidity: Turbidity is a measure of the cloudiness of the water, which is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

FOOTNOTES

1. TWW averages 151 samples per month. The requirement is 120 samples monthly. An MCL violation would be triggered if, > 5% of the samples had TC detected or any detection of E-coli.
2. Beginning in 2017, Trenton Water Works was required to sample 100 sites every six months as are all large systems in the state.
3. Stage 2 DBPR monitoring began April 1, 2012. Data presented was sampled quarterly in 2017.
4. The highest Locational Running Annual Average (LRAA) for TTHM and HAA5 is reported per regulation. All LRAAs which exceed the MCL shall be included. A LRAA is the average of the current and three previous quarterly results for each sample site location.
5. Data presented is derived from quarterly sample site results.
6. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. TWW incurred a TT violation in October 2017 due to failure of the Combined Filter Effluent. Therefore, TWW could not guarantee 95% of samples were below 0.3 NTU during that time.
7. Chlorine residuals are taken during Coliform (bacteria) sampling in the distribution system.
8. Sampling is required every 9 years. The current compliance period is 2011-2019. Only detected results are reported.
9. Inorganic compounds were tested in September of 2017.
10. NJDEP standards.
11. Unregulated Contaminant Rule sampling assesses the potential risks associated with certain contaminants. The EPA will use this to determine if regulation is warranted. Results are presented from samples taken in the years 2014 and 2015.
12. 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, immunocompromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate pre-cautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may spread through means other than drinking water.

Other Notes:

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 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 at 1-800-426-4791.

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. Trenton Water Works 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 or at www.epa.gov/safewater/lead.

Trenton Water Works also has access to purchased groundwater as emergency water source from an adjacent water system. For further source water information, contact NJDEP Drinking Water

Drinking Water Quality Results

BACTERIA ¹					
	2016 Positive Bacteria Results	MCL	MCLG	Violation (Y/N)	Potential Source
Total Coliform (TC)	0 positive samples out of 1,812 (0.00%)	Presence of coliform bacteria > 5% of monthly samples.	0	N	Naturally present in the environment; their presence indicates potential contamination
E. Coli (EC)	0	A routine sample and repeat sample if total coliform positive MCL = 0	0	N	Animal or Human Fecal Waste

METALS							
Lead and Copper Rule ²	Units	2017 Samples Exceeding Action Level	90% of samples were less than or equal to in 2017	AL (90% Action Limit)	MCLG	Violation (Y/N)	Potential Source
Lead (1st Draw)	Jan-Jun	ppb	14 out of 119	17.6	15	0	Corrosion of household plumbing
	Jul-Dec		7 out of 103	10.0			
Copper (1st Draw)	Jan-Jun	ppm	0 out of 119	0.082	1.3	1.3	Corrosion of household plumbing
	Jul-Dec		0 out of 103	0.078			

DISINFECTANT BYPRODUCTS (DBP) – STAGE 2 ³							
Sampling Sites (8 Sites)	Units	2017 Highest LRAA ⁴	2017 Range of Values ⁵	MCL (Annual Average)	MCLG	Violation (Y/N)	Potential Source
Total Trihalomethanes (TTHM)							
TTHM's	ppb	75.5 (TTHM – 2)	24.4 – 94.2	80	N/A	N	Disinfectant Byproducts
Haloacetic Acids (HAA5)							
HAA5's	ppb	62.4 (HAA5 – 4)	3.44 – 88.0	60	N/A	Y	Disinfectant Byproducts

CLARITY CHARACTERISTICS – TESTED AT WATER TREATMENT PLANT ⁶								
	Units	MCL	MCLG	2017 Highest Reported Level	2017 Range of Values	2017 Average Value	Violation (Y/N)	Potential Source
Turbidity	NTU	TT = 1 NTU	0	1.33	0.01-1.33	0.06	Y	Soil runoff; river sediment
		95% of monthly samples must be at or below 0.3 NTU				99.5%		

FREE CHLORINE RESIDUAL ⁷								
	Units	MRDL	MRDLG	2017 Annual Average	2017 Range of Values	2017 Highest Monthly Average Result	Violation (Y/N)	Potential Source
Chlorine Residual	ppm	4	4	0.88	0.00 – 1.98	1.16	N	Chemical added to control microbes

RADIOACTIVE CONTAMINANTS IN TAP WATER ⁸								
	Units	2014 Highest Result	2014 Range of Values	MCL	MCLG	Violation (Y/N)	Potential Source	
Alpha Emitters	pCi/L	< 3.0	N/A	15	0	N	Erosion of natural deposits	
Combined Radium	pCi/L	< 1.0	N/A	5	0	N	Erosion of natural deposits	

INORGANIC COMPOUNDS							
	Units	2017 Constituent Level	MCL	MCLG	Violation (Y/N)	Potential Source	
Arsenic ¹⁰	ppb	< 1.0	5	0	N	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes	
Asbestos	MFL	< 0.09	7	7	N	Decay of asbestos cement water mains; erosion of natural deposits	
Barium	ppm	0.06	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	
Chromium	ppb	< 0.77	100	100	N	Discharge from steel and pulp mills; erosion of natural deposits	
Fluoride	ppm	0.94	4	4	N	Erosion of natural deposits; water additive which Promotes strong teeth; discharge for fertilizer and aluminum Factories.	
Nickel	ppb	1.84	NLE	NLE	N	Erosion of natural deposits; found in the earth's crust	
Nitrate (as Nitrogen)	ppm	0.90	10	10	N	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits	
Selenium	ppb	2.12	50	50	N	Naturally present in soils and ground & surface waters	

SECONDARY CONTAMINANTS							
	Units	2017 Constituent Level	MCL	MCLG	Violation (Y/N)	Potential Source	
Chloride ¹⁰	ppb	45.8	250	NLE	N	Naturally present in the environment and road salt	
Hardness	ppm	87	250	NLE	N	Naturally occurring	
Sodium ¹⁰	ppm	16.2	50	NLE	N	Naturally occurring	
Sulfate	ppm	12.2	250	NLE	N	Naturally occurring	

UCMR3 SUBSTANCES: Unregulated Compounds ¹¹					
	Units	MCL	MCLG	Average Level Detected	Range of Values
Chlorate	ug/L	NLE	NLE	60.8	< 20 - 210
Chromium	ug/L	NLE	NLE	.57	.41 - .74
Hexavalent Chromium	ug/L	NLE	NLE	.40	.22 - .59
Strontium	ug/L	NLE	NLE	76	66 - 96

Source Water Pathogen Monitoring ¹²		
Contaminant	TWW Source Waters	Typical Source
Cryptosporidium, Oocysts/L	0 – .28	Microbial pathogens found in surface waters throughout the United States
Giardia, Cysts/L	0 – 0.39	

