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.

	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radio-nuclides			Radon			Disinfection Byproduct Precursors		
Sources	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			1			1			1	

Source Water Assessment for Trenton Water Works

Pathogens: Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.

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

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 that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.

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

- 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 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.

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:

The susceptibility of the Delaware River to eight contaminant categories was evaluated. The DelawareRiver 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.

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 Watch.

Public Service Announcement: How To Minimize Your Family's Exposure To Lead.

Concerns about lead have been a national topic in the media. Trenton Water Works wants to help provide information about the nature of lead exposure in your home and how to reduce the potential risks.

Lead is a natural occurring element. In the past the use of leaded gasoline, lead paint, and products such as plumbing materials, ceramics, and even cosmetics were sources which added to lead levels in our environment.

One of the most common sources of exposure in the home is through lead paint. If your home was built before 1978, there is a potential that lead paint was used in your home. If lead- containing paint begins to chip or creates dust, it can become a significant source of lead exposure. To learn more about making your home safer from lead exposure from lead paint and lead dust see the US Environmental Protection Agency's (USEPA) Lead website at https://www.epa.gov/sites/production/files/2014-02/documents/lead_in_your_home_brochure_land_b_w_508_easy_print_0.pdf

Another source of potential lead exposure is from your drinking water. Typically, there is no lead in water when it leaves your system's treatment plant. Lead leaches or dissolves into water from lead pipes, lead solder joints or lead service pipes within the plumbing of your home. If the water is "aggressive", there is a potential for lead from solder or pipes, to dissolve into the water. This process is also known as corrosion of your pipes. If your home was built prior to 1983, there is a great possibility that there was lead solder used in your home for the water pipes.

The New Jersey Department of Environmental Protection (NJDEP) Requires lead and copper testing as directed by the Safe Drinking Water Act. (SDWA). The SDWA requires tests for lead and copper at regular intervals. Lead has an action level, at which a drinking water system must begin to remediate the issue, before it becomes a health risk.

What does this mean for your health? Lead exposure can cause a variety of health issues from neurological, heart, liver and cognitive issues. For more information on the health effects of lead, you can go to the USEPA'sLead website or the NJ Department of Environmental Protection's lead pages at: http://www.nj.gov/dep/watersupply/dwc-lead-consumer.html

If you are concerned about lead in drinking water there are measures you can take.

The only way to know if you have lead in your drinking water is to have your water tested by a certified laboratory which has certification to analyze lead in drinking water through the NJDEP.

There are several easy steps you can take to minimize your exposure to lead in water which include:

1. Always run your cold water in the morning before drinking it. The water should run for two minutes or until you can feel a consistent temperature change. This means the water that has been sitting in your pipes overnight has been cleared and your water is now drawing from the water system main.

2. Always use cold water for cooking. Hot water can increase corrosion in pipes and increase the lead level if there is lead present.

3. You can use Filters in your home. Filters should be NSF certified to remove lead to be effective. You can contact NSF at 800-NSF-8010 or www.nsf.org

(continued)

Public Service Announcement on How to minimize your family's exposure to Lead.

(continued)

4. You can replace fixtures which may contain lead components or alloys containing lead. Be sure to use lead free replacement parts. Under the SDWA, in January of 2014, the law requires that no more than 0.25 percent lead content is allowed in pipes, pipe fittings, plumbing fixtures or fittings. Make sure that the plumbing and fixtures installed in your home meet these standards.

For more information about lead standards and plumbing, you can review the EPA website: https://www.epa.gov/dwstandardsregulations/use-lead-free-pipes-fittings-fixtures-solder-and-flux-drinking-water.

5. You can also monitor your Drinking Water Systems Lead test results, as well as many other properties of your water through your systems annual Consumer Confidence Report. The table attached to this report shows the current monitoring data which met the SDWA requirements for all parameters including lead.

By following these steps, you can greatly reduce your family's potential exposure to lead in your home.

If you want to learn more about lead risk reduction or other ways to make your home safer, you can visit the USEPA, Center for Disease Control or NJDEP websites.

https://www.epa.gov/
https://www.cdc.gov/
www.state.nj.us/dep

For More Information:

The City of Trenton values our water customers and works hard to ensure their satisfaction.

If you have questions or comments,about this report, please contact our Water Quality Office at 609-989-3216 between 8:00 AM and 3:00 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 Watch at: https://www9.state.nj.us/DEP WaterWatch public/index.jsp

United States Environmental Protection Agency

1-800-426-4791 or www.epa.gov/safewater.

Este inform contiene infomacion muy importante sobre su aqua beber.

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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

The City of Trenton is pleased to present the

TRENTON WATER WORKS

2017 WATER QUALITY REPORT

Quality drinking water is an essential resource. The good news is your tap water is top quality. Our water meets all federal and state standards.

Your drinking water:

It's high quality. It's reliable.

And we are continuing to make the necessary investments to keep it that way.

Eric E. Jackson, Mayor
Trenton Water Works

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. Trenton Water Works was granted a reduction in sampling frequency in accordance with 40 CFR 141.86(d)(4). Data presented is from 52 samples collected and analyzed in 2014. Beginning in 2017, Trenton Warter Works is 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 2016.
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 e ach sample site location.
5. Data presented is derived from quarterly sample site results.
6. Turbidity is a measure of the cloudiness of the water. 99.7% of the turbidity readings in 2016 were below the treatment technique requirement of 0.3 NTU. 4159 samples of 1,207,9585 were >0.3 ntu.
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. Inoganic compounds were tested in August of 2016.
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.
12. Cryptosporidium is a microbial pathogen found in durface water throughout the United States. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are viable or capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threateneing illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautionsto take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may spread through means other than 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 1,813 (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	2014 Samples Exceeding Action Level	90% of samples were less than or equal to in 2014	MCL	MCLG	Violation (Y/N)	Potential Source
Lead (1st Draw)	ppb	3 out of 52	12	15 (90% Action Limit)	0	N	Corrosion of household plumbing
Copper (1st Draw)	ppm	0 out of 52	< 0.05	1.3 (90% Action Limit)	1.3	N	Corrosion of household plumbing

DISINFECTANT BYPRODUCTS (DBP) – STAGE 2 [3]

Sampling Sites (8 Sites)	Units	2016 Highest LRAA[4]	2016 Range of Values[5]	MCL (Annual Average)	MCLG	Violation (Y/N)	Potential Source
Total Trihalomethanes (TTHM)							
TTHM's	ppb	70.3 (TTHM – 2)	23.8 – 91.9	80	N/A	N	Disinfectant Byproducts
Haloacetic Acids (HAA5)							
HAA5's	ppb	55.2 (HAA5 – 4)	3.6 – 59.7	60	N/A	N	Disinfectant Byproducts

CLARITY CHARACTERISTICS – TESTED AT WATER TREATMENT PLANT [6]

	Units	MCL	MCLG	2016 Highest Reported Level	2016 Range of Values	2016 Average Value	Violation (Y/N)	Potential Source
Turbidity	NTU	TT = 1 NTU 95% of monthly samples must be at or below 0.3 NTU	0	0.77 ntu	N/A	0.11 ntu 99.7%	N	Soil runoff; river sediment

FREE CHLORINE RESIDUAL[7]

	Units	MRDL	MRDLG	2016 Annual Average	2016 Highest Monthly Average Result	Violation (Y/N)	Potential Source
Chlorine Residual	ppm	4	4	0.76	1.05	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	2.0	N/A	15	0	N	Erosion of natural deposits
Combined Radium	pCi/L	0.05	N/A	5	0	N	Erosion of natural deposits

INORGANIC COMPOUNDS

	Units	2016 Constituent Level	MCL	MCLG	Violation (Y/N)	Potential Source
Arsenic	ppb	0.70	10		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	0.3	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride[10]	ppm	43.2	250 (SMCL)	NLE	N	Naturally present in the environment and road salt.
Chromium	ppb	3	100	100	N	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	ppm	0.89	4	4	N	Erosion of natural deposits; water additive which Promotes strong teeth; discharge for fertilizer and aluminum Factories.
Hardness[10]	ppm	94	250 (SMCL)	NLE	N	Naturally Occurring
Nickel	ppb	1.72	100	100	N	Erosion of natural deposits; found in the earth's crust
Nitrate (as Nitrogen)	ppm	0.70	10	10	N	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits
Sodium[10]	ppm	14.3	50	NLE	N	Naturally Occurring
Sulfate[10]	ppm	14.1	250	NLE	N	Naturally Occurring

UCMR3 SUBSTANCES: Unregulated Compounds [11]

	Units	MCL	MCLG	Average Level Detected	Range of Values
Chlorate	ug/L	NLE	NLE	87	N/A
Chromium	ug/L	NLE	NLE	0.5	0.4 – 0.6
Hexavalent Chromium	ug/L	NLE	NLE	0.3	0.2 – 0.4
Strontium	ug/L	NLE	NLE	82	68 – 96

Source Water Pathogen Monitoring [12]

Contaminant	TWW Source Waters	Typical Source
Cryptosproidium, Oocysts/L	0 – .18	Microbial pathogens found in surface waters throughout the United States
Giardia, Cysts/L	0 – 0.67	

Other Notes:

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 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.