

2019 Report to Consumers on Water Quality

CHAIRMAN'S MESSAGE

The Willingboro Municipal Utilities Authority is pleased to present the Annual Water Quality Report to you, our customers. This Report tells you about your water: where it comes from, how it is treated, and what it contains. Except as otherwise indicated, this report covers analyses taken in 2017.

Substances such as sodium, iron, manganese, copper, calcium and chlorides are commonly found in drinking water. They occur naturally and at trace levels are not harmful. This report is designed to inform you about the quality water that we have delivered to you over the past year.

Our experienced staff works diligently to provide this water to nearly 35,000 consumers in the Willingboro area. This Authority vigilantly safeguards its water supply and distribution systems.

If you have any questions about this Report or the quality of your water, please call our Laboratory at (609) 877-4583 or visit our web site www.wmua.info.

Authority Commissioners

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Executive Director

Andrew Weber

A Safe Drinking Water Source

The Willingboro Municipal Utilities Authority (WMUA) provides water to its customers from six ground water wells located throughout Willingboro. In some mandatory language throughout this Report references are made to surface water such as lakes, rivers, streams and reservoirs. Our sole source of supply is from these wells that can provide up to 10 million gallons per day (mgd) of water. This provides all the water our consumers can use and allows us to provide water to Mount Laurel and Evesham Twps.

Ground water wells use the natural filtering capability of the aquifer to remove harmful bacteria and other substances from the water. These wells are all located in the Potomac-Raritan-Magothy aquifer. An aquifer is water collected in soil formations deep in the ground. Although under stress from over pumping in some areas, (the Critical Area) it remains a safe and dependable source of water for much of the South Jersey area. Water samples are analyzed in our own NJ Certified Lab and other NJ Certified Laboratories. Thousands of tests are conducted each year. Regular testing helps to ensure high water quality.

The WMUA has four (4) treatment plants that use the best available technology to ensure that we are providing water that exceeds all Federal and State water quality standards. This treatment chlorinates the water supply for disinfection, lime addition for pH control, and fluoridation.

Willingboro Municipal Utilities Authority

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Willingboro, NJ 08046-2119 (609) 877-2900

Office Hours Monday through Friday 9:00 am until 4:30 pm.

Public Meetings are held on the third Wednesday of each month. Meetings begin at 4:30 PM.

Source Water Assessment Reports

The NJ Dept. of Environmental Protection has completed and issued the Source Water Assessment Report and Summary for our public water systems, which is available at www.state.nj.us/dep/swap or by contacting NJDEP's Bureau of Safe Drinking Water at (609) 292-5550.

A public water system's susceptibility rating (L for Low, M for Medium or H for High is a combination of two factors. H, M, and L ratings are based on the potential for contaminant to be at or above 50% of the drinking water standard or MCL (H), between 10 and 50% of the standard (M) and less than 10% of the standard (L).

If a system is rated highly susceptible for a contamination 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 contaminant and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels.

NJDEP found potential contaminant sources within the source water assessment area for our sources.

The source water assessment performed on our 7 wells (sources) determined the following:

	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radio-Nuclides			Radon			Disinfection By Product 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-7		2	5	4		3			7	4		3	2	2	3	4	1	2		3	4	1	5	1
GUDD-0																								

Surface Water intakes THE WMUA DOES NOT USE ANY SURFACE WATER

Pathogen: 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 manmade. Examples include nitrogen and phosphorus.

Volatile Organic Compounds: Man-made chemicals such 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. 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, copper, lead, asbestos, and nitrate.

Radionuclide: Radioactive substances that 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 reacts with dissolved organic material present in surface water.

Waivers

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. Our system received monitoring waivers for synthetic organic compounds (SOC's). SOC's include substances like pesticides, herbicides and plasticizers. This waiver was given after extensive analyses of the aquifer.

Radioactive Advisory

Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer. The 1/31/12 Well 5A test results indicated a slightly elevated level of gross alpha. Well 5A was subsequently removed from service. WMUA has secured an NJ Environmental Infrastructure Trust loan to construct a Radium Treatment Facility at Well 5A at a construction cost of approximately \$4 Million. After Well 5A's approval for the return of service, the Authority was required to test for radiologicals. The Authority was required to test once during 10/2017 - 12/2017. The result for gross alpha was < 3 PCI/L. The sample was collected on 11/28/18. Testing is required for all radiologicals (including gross alpha) quarterly at 5A. The Authority is closely monitoring gross alpha levels at this location and testing for alpha emitter on a quarterly basis.

TABLE DEFINITIONS:

AL (Action Level) – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Mf/L - Million fibers per Liter

ND (Non-Detects) - laboratory analysis indicates that the constituent is not present at a detectable level.

N/R (Not Regulated) - no MCL has been identified because these substances are unregulated

MCL (Maximum contaminant level)

the “maximum allowed” is 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

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 the disinfectants to control microbial contamination.

pCi/L (Pico curies per liter) - a measure of radioactivity

PPM or mg/L (Parts per million or milligrams per liter) – One part per million. This corresponds to one minute in two years or a single penny in \$10,000.

MCLG (Maximum contaminant level goal)

the “Goal” 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.

NA - Not Applicable

PPB or µg/L (Parts per billion or micrograms per liter) – one part per billion. This corresponds to 1 minute in 2000 years, or a single

Educational Information

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).

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.
- ◆ **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- ◆ **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- ◆ **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 storm water runoff, and septic systems.
- ◆ **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

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.

**The following are the potential health effects on children, pregnant women, nursing mothers, and others of the found contaminants listed in the table.*

- ◀ **Alpha emitters:** Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing these alpha emitters in excess of the MCL, 15 (PCi/L) over many years may have an increased risk of getting cancer.
- ◀ **Combined Radium:** Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
- ◀ **Nitrate:** Infants below the age of six months who drink water containing nitrate in excess of the MCL 10 ppm could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
- ◀ **Trihalomethanes (TTHMs):** 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.
- ◀ **Haloacetic Acids (HAA):** Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

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 (1-800-426-4791).

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.

About Nitrate and Lead

Water provided by Willingboro MUA complies with US EPA and NJ DEP standards for lead and nitrates. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider. 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 in home plumbing. WMUA is responsible for providing high quality drinking water but cannot control the 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 is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>

If you have any questions, please contact the Willingboro MUA at wmualab@wmua.info or call 609-877-4583.

2019 WATER QUALITY REPORT WILLINGBORO MUA (2018 Results)

PWS ID# 0338001

Regulated Substances

Contaminant	Units	MCLG	MCL	Highest Level	Range	Year Sampled	Violation Y/N	Major Sources in Drinking Water
INORGANIC CONTAMINANTS								
Barium	ppm	2	2	0.117	0.005 - 0.117	2017	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beryllium	ppb	4	4	0.0013	ND - 0.0013	2017	No	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries
Chromium	ppb	100	100	1	ND - 1	2017	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride	ppm	4	4	0.75	ND - 0.75	2017	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Mercury	ppb	2	2	0.11	ND - 0.11	2017	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Run off from cropland
Nickel	ppm	NA	N/R	0.0161	ND - 0.0161	2017	No	Erosion of natural deposits.
Nitrate	ppm	10	10	4.34	ND-4.34	2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium	ppb	50	50	1.6	ND - 1.6	2017	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
VOLATILE ORGANIC CONTAMINANTS								
1,1 Dichloroethane	ppb	50	50	0.5	ND-0.5	2018	No	Discharge from metal degreasing sites and other factories
Methyl tertiary butyl ether (MTBE)	ppb	70	70	1.4	ND - 1.4	2018	No	Leaking underground gasoline and fuel oil tanks, gasoline and fuel oil spills
DISINFECTION (Highest Running Annual Average)								
Chlorine	ppm	MRDLG = 4	MRDL = 4	0.96 Average	0.23-2.20	2018	No	Water additive used to control microbes
DISINFECTION BYPRODUCTS (Highest Locational Running Annual Average)								
Total Trihalomethanes (THMS)	ppb	N/A	80	11.85 Average	0.6-23	2018	No	By-product of drinking water chlorination
Total Haloacetic Acids (HAA5)	ppb	N/A	60	4.64 Average	ND-10.7	2018	No	By-product of drinking water chlorination
RADIOLOGICAL CONTAMINANTS (Highest Locational Running Annual Average)								
Combined Radium (226/228)	pCi/L	0	5	1.11 Average	ND-1.8	2018	No	Erosion of natural deposits
LEAD/COPPER ANALYSIS (39 Tap water samples were collected for lead and copper analyses from sample sites throughout the community)								
Contaminant	Units	MCLG	AL	90th Percentile	Sites above AL	Year Sampled	Violation Y/N	Major Sources in Drinking Water
Lead	ppb	0	15	0.00%	0	2017	No	Corrosion of household plumbing
Copper	ppm	1.3	1.3	0.26%	0	2017	No	Corrosion of household plumbing

Secondary Substances

Contaminant	Units	MCLG	RUL	Highest Level	Range	Year Sampled	Violation Y/N	Major Sources in Drinking Water
SECONDARY CONTAMINANTS- (RUL) Recommended Upper Limit								
Aluminum	ppm	NA	0.20	0.232	ND - 0.232	2017	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloride	ppm	NA	250	58.5	14.2 - 58.5	2017	No	Erosion of natural deposits
Hardness (Total)	ppm	NA	250	135	25.5 - 135	2017	No	Erosion of natural deposits
Iron	ppm	NA	0.30	0.191	ND - 0.191	2017	No	Leaching from natural deposits; Industrial wastes
Manganese	ppm	NA	0.05	0.0161	ND - 0.0161	2017	No	Erosion of natural deposits
Sodium	ppm	NA	50	43.6	13.4 - 43.6	2017	No	Erosion of natural deposits
Sulfate	ppm	NA	250	35.7	28.3 - 35.7	2017	No	Runoff/leaching from natural deposits
Total Dissolved Solids	ppm	NA	500	258	10 - 258	2017	No	Runoff/leaching from natural deposits
Zinc	ppm	NA	5	0.0267	ND - 0.0267	2017	No	Runoff/leaching from natural deposits; Industrial wastes.

THE FOURTH UNREGULATED CONTAMINANT MONITORING RULE (UCMR 4) 2018

Contaminant	Units	MCLG	MCL	Highest Level	Range	Year Sampled	Violation Y/N	Major Sources in Drinking Water
METALS								
Manganese	µg/L	NA	NA	75	0.448-75	2018	No	Naturally occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater treatment chemical; essential nutrient.

During the monitoring period of 6/1/2017-9/30/2017, an incomplete Consumer Notice of Tap Water Results was received by the NJDEP, which created a Lead Consumer Notice (LCR) violation. Once, Willingboro MUA was informed of the violation, the Consumer Notice of Tap Water Results was immediately corrected and resubmitted to the NJDEP and we returned to compliance.