

2023 Report to Consumers on Water Quality

CHAIR'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 2022.

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.



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 6:00 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 system, which is available at <http://www.nj.gov/dep/watersupply/swap/index.html>, 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 a 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 contaminants 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.

Note: The table generated (below) by NJDEP in 2004 includes 7 wells; currently we have 6 wells. Well 5 (Source ID 017) became inactive on 07/11/2010. The source water assessment performed on our wells (sources) determined the following:

| | 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-7 | | 2 | 5 | 4 | | 3 | | | 7 | 4 | | 3 | 2 | 2 | 3 | 4 | 1 | 2 | | 3 | 4 | 1 | 5 | 1 |
| GUDI-0 | | | | | | | | | | | | | | | | | | | | | | | | |
| Surface Water intakes THE WMUA DOES NOT USE ANY SURFACE WATER | | | | | | | | | | | | | | | | | | | | | | | | |

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 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, asbestos, copper, lead, and nitrate.

Radionuclides: 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 react 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 and synthetic organic compounds (SOCs). Our system received monitoring waivers for synthetic organic compounds and asbestos granted by the State based on a determination of unlikely vulnerability to such contaminants.

Authority Commissioners

Patricia Lindsay-Harvey, *Chair*

Kevin McIntosh, *Vice-Chair*

Carl Turner, *Commissioner*

Darvis Holley, *Commissioner*

James Boyer, *Commissioner*

William Weston, *Alternate Commissioner*

Dialyo Diggs, *Alternate Commissioner*

Executive Director

James J. Mackie, P.E.

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.

TABLE DEFINITIONS:

AL (Action Level)

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

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.

TT (Treatment Technique)

A required process intended to reduce the level of a contaminant in drinking water.

U (Standard Units) - A unit of measurement.

Mf/L - Million fibers per Liter.

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 contamination.

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.

NA - Not Applicable.

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.

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 \$10,000.00.

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 penny in \$10,000,000.00.

PPT or ng/L (Parts per trillion or nanograms per liter) – One part per trillion. This corresponds to a single penny in \$10,000,000,000.00.

RUL - Recommended Upper Limit.

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 stormwater 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 stormwater 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 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 could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
- ◀ **Trihalomethanes (TTHM):** 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 (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.

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 and home plumbing. WMUA 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 is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>, or at <https://www.state.nj.us/dep/watersupply/dwc-lead-consumer.html>.

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

2023 WATER QUALITY REPORT WILLINGBORO MUA (2022 Results)

PWS ID# 0338001

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).

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 | 0.124 | 0.006 - 0.124 | 2020 | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| Beryllium | ppb | 4 | 4 | 1.33 | ND - 1.33 | 2020 | No | Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries |
| Chromium | ppb | 100 | 100 | 1.53 | ND - 1.53 | 2020 | No | Discharge from steel and pulp mills; Erosion of natural deposits |
| Fluoride | ppm | 4 | 4 | 0.6 | 0.25 - 0.60 | 2020 | No | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| Nickel | ppm | NA | N/R | 0.0151 | 0.00106 - 0.0151 | 2020 | No | Erosion of natural deposits |
| Nitrate | ppm | 10 | 10 | 3.97 | ND - 3.97 | 2022 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |

VOLATILE ORGANIC COMPOUNDS

| | | | | | | | | |
|------------------------------------|-----|----|----|-----|----------|------|----|---|
| Methyl tertiary butyl ether (MTBE) | ppb | 70 | 70 | 0.7 | ND - 0.7 | 2022 | No | Leaking underground gasoline and fuel oil tanks, gasoline and fuel oil spills |
|------------------------------------|-----|----|----|-----|----------|------|----|---|

DISINFECTION (Highest Running Annual Average)

| | | | | | | | | |
|----------|-----|-----------|----------|--------------|-------------|------|----|---|
| Chlorine | ppm | MRDLG = 4 | MRDL = 4 | 0.94 Average | 0.80 - 1.00 | 2022 | No | Water additive used to control microbes |
|----------|-----|-----------|----------|--------------|-------------|------|----|---|

DISINFECTION BYPRODUCTS (Highest Locational Running Annual Average)

| | | | | | | | | |
|-------------------------------|-----|-----|----|-----------|--------------|------|----|---|
| Total Trihalomethanes (TTHM) | ppb | N/A | 80 | 7.74 LRAA | 1.76 - 10.79 | 2022 | No | By-product of drinking water disinfection |
| Total Haloacetic Acids (HAA5) | ppb | N/A | 60 | 1.0 LRAA | ND - 2.21 | 2022 | No | By-product of drinking water disinfection |

PER- AND POLYFLUOROALKYL SUBSTANCES

| | | | | | | | | |
|--------------------------------------|-----|----|----|---------|----------|------|----|---|
| Perfluorooctanoic Acid (PFOA) | ppt | 14 | 14 | 7.8 | ND - 7.8 | 2022 | No | Used in products to make them stain, grease, heat and water resistant |
| Perfluorooctane sulfonic Acid (PFOS) | ppt | 13 | 13 | 8.8 RAA | ND - 11 | 2022 | No | Used in products to make them stain, grease, heat and water resistant |

RADIOLOGICAL CONTAMINANTS

| | | | | | | | | |
|-----------------------------|-------|---|----|------|-----------|------|----|-----------------------------|
| Gross Alpha Incl. Radon & U | pCi/L | 0 | 15 | 3.85 | ND - 3.85 | 2021 | No | Erosion of natural deposits |
|-----------------------------|-------|---|----|------|-----------|------|----|-----------------------------|

LEAD/COPPER ANALYSIS (35 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 | 1.0 | 0 | 2020 | No | Corrosion of household plumbing |
| Copper | ppm | 1.3 | 1.3 | 0.19 | 0 | 2020 | No | Corrosion of household plumbing |

Willingboro MUA (WMUA) had a Perfluorooctane sulfonic acid (PFOS) exceedance in 2021. The MCL for PFOS is 0.013 micrograms per liter (µg/L) and is based on a running annual average (RAA). People who drink water containing PFOS in excess of the MCL over time could experience problems with their immune system, kidney, liver, or endocrine system. For females, drinking water containing PFOS in excess of the MCL over time may cause developmental effects and problems with the immune system, liver, or endocrine system in a fetus and/or an infant. Some of these developmental effects may persist through childhood. The WMUA has temporarily shut down the well that is the source of the violation and is constructing an activated carbon treatment system that will allow the WMUA to bring the well back online.