2017 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 2016

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

Clayton Sills, *Chairman*
Carl Turner, *Vice-Chairman*
Christopher P. Walker, *Commissioner*
Jacqueline Jennings, *Commissioner*
T. Wayne Scott, *Commissioner*
Webster L. Evans, *Alternate Commissioner*
Charles L. Green, III, *Alternate Commissioner*

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

433 John F. Kennedy Way.
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 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																							

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). SOCs 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. Well 5A will to return to service in late 2017.

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 "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

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.

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. MRDLG's do not reflect the benefits of the use of the disinfectants to control microbial contamination.

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.

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 projection, 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 from 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.gove/safewater/lead*

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

2016 WATER QUALITY REPORT WILLINGBORO MUA
(2016 Results)

PWS ID# 0338001

Contaminant	Units	MCLG	MCL	Highest Level	Range	Year Sampled	Violation Y/N	Major Sources in Drinking Water
REGULATED - INORGANIC CONTAMINANTS								
Nitrate	ppm	10	10	3.68	ND - 3.68	2016	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Arsenic	ppb	0	5	0.82	0.19-0.82	2014	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes electronics production wastes
Barium	ppm	2	2	0.0963	0.0673-0.0963	2014	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beryllium	ppb	4	4	1.1	ND - 1.1	2014	No	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries
Chromium	ppb	100	100	2.5	ND - 2.5	2014	No	Discharge from steel and pulp mills; Erosion of natural deposits
Copper	ppm	1.3	A.L = 1.3	0.0113	0.002 - 0.0113	2014	No	Corrosion of household plumbing systems; Erosion of natural deposits
Fluoride	ppm	4	4	1.03	0.658-1.03	2016	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nickel	ppm	NA	N/R	0.0133	0.00043 - 0.0133	2014	No	Erosion of natural deposits.
Selenium	ppb	50	50	3.4	0.7 - 3.4	2014	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Thallium	ppb	0.5	2	0.04	ND - 0.04	2014	No	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories
REGULATED - VOLATILE ORGANIC CONTAMINANTS								
Tetrachloroethene	ppb	0	1	0.53	0.1 - 0.53	2016	No	Discharge from factories & dry cleaners
Xylenes (Total)	ppb	1,000	1,000	1.44	ND - 1.44	2016	No	Discharge from petroleum factories; Discharge from chemical factories
DISINFECTION (Highest Running Annual Average)								
Chlorine	ppm	MRDLG = 4	MRDL = 4	0.83 Average	0.30 - 1.80	2016	No	Water additive used to control microbes
DISINFECTION BYPRODUCTS (Highest Locational Running Annual Average)								
Total Trihalomethanes(THMS)	ppb	N/A	80	9.1 Average	1.9 - 14.9	2016	No	By-product of drinking water chlorination
Total Haloacetic Acids (HAA5)	ppb	N/A	60	3.30 Average	ND - 3.17	2016	No	By-product of drinking water chlorination
RADIOLOGICAL CONTAMINANTS								
Radium 226 -228 Combined	pCi/L	0	5	2.3	2.3	2014	No	Erosion of natural deposits
Gross Alpha	pCi/L	0	15	9.73	9.73	2014	No	Erosion of natural deposits
LEAD/COPPER ANALYSIS (every 3 years Distribution Tap Samplings)								
Lead	ppb	AL=15	90th%= 2.00	0	0.06 - 13.30	2014	No	Corrosion of household plumbing
Copper	ppm	AL=1.3	90th%= 0.34	0	0.03 - 0.65	2014	No	Corrosion of household plumbing
Microbiological Contaminants								
Total Coliform Bacteria	N/A	0	5.00%	2.50%	ND - 2.50%	4/26/2016	No	Naturally present in the environment.

Contaminant	Units	MCLG	RUL	Highest Level	Range	Year Sampled	Violation Y/N	Major Sources in Drinking Water
SECONDARY CONTAMINANTS- (RUL) Recommended Upper Limit								

MBAS (ABS/L.A.S) detergents	ppm	NA	0.50	0.036	0.027 - 0.036	2014	No	Industrial or domestic waste
Aluminum	ppm	NA	0.20	0.076	0.000287 - 0.076	2014	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloride	ppm	NA	250	38.4	15.2 - 38.4	2014	No	Erosion of natural deposits
Fluoride	ppm	NA	2	1.03	0.0648 - 1.03	2016	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Hardness (Total)	ppm	NA	250	122	64.7 - 122	2014	No	Erosion of natural deposits
Iron	ppm	NA	0.30	0.38	0.03 - 0.38	2016	YES [1]	Leaching from natural deposits; Industrial wastes
Manganese	ppm	NA	0.05	0.0058	0.0058	2016	No	Erosion of natural deposits
Sodium	ppm	NA	50	19.9	14.7 - 19.9	2014	No	Erosion of natural deposits
Sulfate	ppm	NA	250	35.6	23.8 - 35.6	2014	No	Runoff/leaching from natural deposits
Total Dissolved Solids	ppm	NA	500	186	154 - 186	2014	No	Runoff/leaching from natural deposits
Zinc	ppm	NA	5	0.0307	0.0104 - 0.0307	2014	No	Runoff/leaching from natural deposits; Industrial wastes.

[1] FOR IRON: The recommended upper limit for iron is based on umpleasent taste of the water and stainig of laundry. Iron is an essential nutrient, but some people who drink water with iron levels well above the recommended upper limit could develop deposits of iron in a number of organs of the body.

THE THIRD UNREGULATED CONTAMINANT MONITORING RULE (UCMR 3) 2014								
Contaminant	**Units**	**MCLG**	**MCL**	**Highest Level**	**Range**	**Year Sampled**	**Violation Y/N**	**Major Sources in Drinking Water**
VOLATILE ORGANIC COMPOUNDS								
1,1 dichloroethane	ppb	50	50	0.57	ND - 0.57	2014	No	Halogenated alkane; used as a solvent.
SYNTHETIC ORGANIC COMPOUNDS								
1,4 - dioxane	ppb	NA	NA	0.24	ND - 0.24	2014	No	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos.
METALS								
Cobalt	ppb	NA	NA	4.4	ND - 4.4	2014	No	Naturally-occurring element found in the earth's crust and at low concentrations in seawater, and in some surface and ground water; cobaltous chloride was formerly used in medicine and as a germicide
Chromium (Total)	ppb	100	100	0.89	ND - 0.89	2014	No	Naturally occurring element; used in making steel and other alloys. The amount measured when analyzing for "total chromium" is the sum of chromium in all of its valence states.
Strontium	ppb	NA	NA	560	150 - 560	2014	No	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Vanadium	ppb	NA	NA	6.4	ND - 6.4	2014	No	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.
Chromium - 6	ppb	NA	NA	0.77	ND - 0.77	2014	No	Naturally occurring element; used in making steel and other alloys. Used for chrome plating, dyes and pigments, leather tanning, and wood preservation
OXYHALIDE ANION								
Chlorate	ppb	NA	NA	5,800	180 - 5,800	2014	No	Agricultural defoliant or desiccant; disinfection byproduct; and used in the production of chlorine dioxide

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Recommended Upper Limit (RUL) Violation for Iron

The Willingboro M.U.A. water system routinely monitors for Iron. During 11/24/16, a sample was collected and analyzed that exceeded the recommended upper limit for Iron. The sample was found to have an iron level of 0.38 mg/l. The recommended upper limit for iron is 0.3 mg/l.

What Should I do?

- **You do not need to boil your water or take other corrective actions.**
  However, if you have specific health concerns, consult your doctor.

- You do not need to use an alternate (e.g., bottled) water supply.

- People with severely compromised immune systems, infants, pregnant women, and some elderly may be at increased risk. These people should seek advice about drinking water from their health care providers. General guidelines are available from EPA's Safe Drinking Water Hotline at 1-800-426-4791.

What does this mean?

This is not an emergency. If it had been, you would have been notified immediately. The recommended upper limit for iron is based on unpleasant taste of the water and staining of laundry. Iron is an essential nutrient, but some people who drink water with iron levels well above the recommended upper limit could develop deposits of iron in a number of organs of the body.

What was done?

When the iron level was detected over the recommended upper limit of 0.3 mg/l, the operator cleaned the filters that were used to trap the iron. Additional samples were then taken and tested for iron, and these results were below the recommended upper limit of 0.3 mg/l. The situation is now resolved.

For more information, or to learn more about protecting your drinking water please contact Vincent Buckley at (609) 877-3875.

Please share this information with all the 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 is being sent by the Willingboro M.U.A. water system.

State Water System ID: NJ0338001. Date Distributed: