JACKSON TOWNSHIP MUNICIPAL UTILITIES AUTHORITY

Public Water System I.D. # 1511001

2020 Annual Drinking Water Quality Report
For water supplied and tested in the year 2019

The Jackson Township Municipal Utilities Authority (Authority) would like to present the 2019 Annual Drinking Water Quality Report. Our goal is to provide you with a safe and dependable supply of water and once again, our water quality met or exceeded the most stringent parameters promulgated by the New Jersey Department of Environmental Protection and the United States Environmental Protection Agency. If you are a landlord in Jackson Township, we would ask that you forward a copy of this report to your tenants.

Source of Water

The water in Jackson Township is drawn entirely from confined aquifers. The primary source of supply is the middle Potomac-Raritan-Magothy (PRM) formation which is approximately 1,400 feet deep. Secondary sources of water are from the Upper PRM (960 feet deep), the Englishtown Aquifer (500 feet deep) and the Vincentown Aquifer (200 feet deep). With proper management, these aquifers will provide Jackson Township with an abundant supply of clean water for many years to come.

System Improvements

The five (5) mile Western Water Main Extension connecting Six Flags and our system has been completed. The Authority is expecting the completion of its booster station on the Western Water Main Extension to be completed by June 2020. The new regional water treatment plant located near Six Flags is scheduled to be completed by the end of the year.

Authority Facts

The Authority serves 12,299 accounts.
The Authority provided an average of 2.79 million gallons of water per day to our customers.
The Authority has 6.85 million gallons of water storage.
The Authority has 191.93 miles of water mains.
The Authority's treatment capacity is 10.39 million gallons per day.
There are a total of 1,564 hydrants in town.

24 - Hour Service

In the event of a water or wastewater emergency, the Authority can be contacted by telephone 24-hours a day. Please call 732-928-2222.

Este Informe contiene informacion importante acerca de su agua potable.
Haga que alguien lo traduzca para usted o hable con alguien que lo entienda.

Definitions

The adjoining table provides representative analytical results of the water samples routinely collected in 2019 from the Authority's system. You may find unfamiliar terms, definitions and abbreviations. To help you better understand these terms, we have provided the following definitions:

(PPM): Parts Per Million**.**

(PPB): Parts Per Billion**.**

(pCi/L): Picocuries per liter **-** Picocuries per liter is a measure of the radioactivity in water.

(P/A): Present or Absent - The measure of bacteriological quality of a water sample taken from a specific location within the water system.

(HAA5): Haloacetic Acids.

(TTHMs): Total Trihalomethanes.

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

(LRAA): Locational Running Annual Averages.

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

(MCLG's): Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

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

(MRDLG): Maximum Residual Disinfectant Level Goal - The level of 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 disinfectants to control microbial contamination.

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

Additional Information

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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 at 800-426-4791.

Our system had no water quality violations in 2019. In addition to the constituents listed herein, the Authority regularly tests for over 80 additional contaminants. We have learned through our monitoring and testing that some constituents have been detected, but the EPA has determined that your water is safe at these levels. We're proud that your drinking water meets or exceeds all Federal and State requirements.

The State allows us to monitor for some contaminants less than once per year because the concentrations of the contaminants do not change frequently.

Unregulated Contaminants

Unregulated Contaminants are those for which the EPA has not established drinking water standards. The purpose of Unregulated Contaminant monitoring is to assist the EPA in determining the occurrence of Unregulated Contaminants in drinking water and whether future regulation is warranted. Please view the table of Unregulated Contaminants on the last page of this report.

If you have any questions about this report or concerning the Authority, please contact David Harpell, Executive Director at 732-928-2222. Additional information is available at www.jacksonmua.com.

WATER QUALITY TEST RESULTS

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 provider. 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 800-426-4791.

TABLE OF DETECTED CONTAMINANTS

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbial Contaminants						
Total Coliform Bacteria	No	0	Present/Absent	0	No more than 5% of total samples	Naturally present in the environment
Radioactive Contaminants						
Gross Alpha, including, Radon & Uranium	No	Less than 3	pCi/l	0	15	Erosion of natural deposits
Combined Radium 226 & 228	No	1.5	pCi/l	0	5	Erosion of natural deposits
Inorganic Contaminants						
Copper	No	0.3 @ 90th percentile	ppm	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead	No	0 @ 90th percentile	ppb	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits
Nitrates	No	Less than 0.1	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Disinfection By-products (DBPs) Stage 2						
Total HAA5	No	Highest Result LRAA: 5.39 Range of Results: 0-7.47	ppb	N/A	60	By-product of drinking water disinfection
Total TTHMs	No	Highest Result LRAA: 8.87 Range of Results: 0-10.9	ppb	N/A	80	By-product of drinking water disinfection
Disinfectant Residuals						
Regulated Disinfectant	**Violation Yes/No**	**Level Detected**	**Unit Measurement**	**MRDL**		**MRDLG**
Sodium Hypochlorite	No	Average: 0.81 Range: 0.70-1.03	ppm	4.0		4.0

Secondary Contaminants * for Compliance Period 2017-2019			
Contaminant	**System Average**	**MCL (ppm)**	**Range**
Chloride	8.68	250	3.2-25.5
Hardness	85.33	50-250	52-120
Iron	0.15	0.3	Less than 0.03-0.3 (at point of entry)
Manganese	0.04	0.05	Less than 0.03-0.04 (at point of entry)
Total Dissolved Solids	90.67	500	72-146
Aluminum	0.02	0.05-0.2	Less than 0.01-0.065
Barium	0.22	2.0	Less than 0.1-0.3
pH	7.84	6.5-8.5	7.4-8.2
Sulfate	7.07	250	4.9-14.3

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 has received an Asbestos Monitoring Waiver for the Nine Year Compliance Cycle 2011-2019. Our system received a monitoring waiver for synthetic organic chemicals for compliance period 2017-2019.

*** Secondary Contaminant** standards are non-mandatory guidelines to assist public water systems in managing their drinking water for aesthetic consideration, such as taste, color and odor. These contaminants are not considered to present a risk to human health.

The New Jersey Department of Environmental Protection (NJDEP) has completed and issued the Source Water Assessment Report and Summary for this public water system, which is available at www.state.nj.us/dep/swap/ or by contacting the NJDEP, Bureau of Safe Drinking Water at 609-292-5550.

Jackson Township MUA-PWSID # 1511001

The Authority is a public community water system consisting of 9 wells, 0 wells under the influence of surface water, 0 surface water intakes, 1 purchased ground water source, and 0 purchased surface water sources.

This system's source water comes from the following aquifers and/or surface water bodies: Potomac-Raritan-Magothy aquifer system, Vincentown aquifer and the Englishtown aquifer system.

This system purchases water from the following water system: NJ American WC-Lakewood System. (None purchased in 2019).

Susceptibility Ratings for Jackson Township MUA Sources

The table below illustrates the susceptibility ratings for the eight-contaminant categories for each source in the system. The table provides the number of wells and intakes 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 this page. The 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 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, the NJDEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

	Pathogens			**Nutrients**			**Pesticides**			**VOC's**			**Inorganics**			**Radio-nuclides**			**Radon**			**DBP's**		
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 - 9			9			9			9			9		6	3		3	6			9	2	7	
GUDI - 0																								
Surface Water Intakes - 0																								

H - High, M - Medium, L - Low

GUDI– Ground water under direct influence of surface water.

- **Pathogens:** Disease-causing organisms such as bacteria and viruses. Common sources are animal and 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:** (VOC's) 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 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.
- **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:** (DBP's) 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.

Source of Contaminants

The source 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 storm 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 storm water runoff, and residential uses.

Organic Chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production. They can also come from gas stations, urban storm runoff, and septic systems.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In the year 2013, the Authority tested for 21 Unregulated Contaminants; Four (4) were detected and are listed in the table below. Minimum Reporting Level is the level at which a laboratory can detect a contaminant. Collecting information about the occurrence of these compounds in water supplies is the first step in the EPA's efforts to determine whether they should be regulated.

Unregulated Contaminants Detected in 2013			
Unregulated Contaminant	**System Average**	**Minimum Reporting Level**	**Range of Results**
Chlorate	252 ppb	20	88 - 410
Chromium, Hexavalent	0.10 ppb	0.03	Less than 0.03 - 0.27
Chromium	0.2 ppb	0.2	Less than 0.2 - 0.2
Strontium	130 ppb	0.3	6.1 - 230

Special Considerations
Regarding Children, Pregnant Women, Nursing Mothers, and Others

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 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 case of lead and nitrate, effects on infants and children are health endpoints upon which the standards are based.

Nitrate: 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 and infant, you should ask for advice from your health care provider.

Lead: 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. Jackson Township Municipal Utilities Authority 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 800-426-4791 or at *http://www.epa.gov/safewater/lead.*

Iron: The recommended 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 upper limit could develop deposits of iron in a number of organs in the body.