

Annual Drinking Water Quality Report

Lower Township Municipal Utilities Authority

For the Year 2018, Results from the Year 2017

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources.

We are committed to ensuring the quality of your water. Our water source is groundwater. Our five wells draw groundwater from the Cohansey Aquifer. 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 **NJDEP Bureau of Safe Drinking Water at (609) 292-5550**. You may also contact your public water system to obtain information regarding your water system's Source Water Assessment. This water system's source water susceptibility ratings and a list of potential contaminant sources is attached.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Test Results

<u>Inorganic Contaminants</u>	Sample Year	Violation Y / N	Level Detected	Units	MCLG	MCL	Likely Source of Contamination
Arsenic	2015	N	Range = 0.09 - 0.4 Highest detect = 0.4	ppb	N/A	5	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2015	N	Range = 0.002 – 0.005 Highest detect = 0.005	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper Result at 90th Percentile	2015	N	0.19 No samples exceeded the Action Level	ppm	1.3	Action Level = 1.3	Corrosion of household plumbing systems; erosion of natural deposits
Cyanide	2015	N	Range = ND – 12 Highest detect = 12	ppb	N/A	200	Discharge of industrial wastes and runoff
Fluoride	2015	N	Range = 0.09 – 0.12 Highest detect = 0.12	ppm	4	4	Erosion of natural deposits.
Lead Result at 90th Percentile	2015	N	4 One sample out of 22 exceeded the Action Level	ppb	0	Action Level = 15	Corrosion of household plumbing systems; erosion of natural deposits
Nickel	2015	N	Range = 0.3 – 1.1 Highest detect = 1.1	ppb	N/A	N/A	Erosion of natural deposits.
Selenium	2015	N	Range = 0.4 – 2.1 Highest detect = 2.1`	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium	2015	N	Range = ND – 0.02 Highest detect = 0.02	ppb	2	2	Erosion of natural deposits.

<u>Secondary Contaminants</u>	Sample Year	Violation Y / N	Level Detected	Units	RUL
Aluminum	2015	N	Range = ND - .0015	ppm	0.2
Chloride	2015	N	Range = 11.4 - 30.6	ppm	20
Hardness (as CaCO3)	2015	N	Range = 56.3 - 86.3	ppm	250
Iron	2015	N	Range = 101 - 356	ppb	300
Manganese	2015	N	Range = 28 - 58	ppb	50
Sodium	2015	N	Range = 12 - 42	ppm	50
Sulfate	2015	N	Range = 2.34 - 8.11	ppm	250
Zinc	2015	N	Range = 0.0003 - 0.012	ppm	5

Disinfection Byproducts

Contaminant	Sample Year	Violation Y / N	Level Detected	Units	MCLG	MCL	Likely Source of Contamination
TTHMs Total Trihalomethanes	2017	N	Range = .008 to .018 Highest detect = .018	ppb	N/A	80	By product of drinking water disinfection.
HAA5s Haloacetic Acids	2017	N	Range = .001 to .003 Highest detect = .003	ppb	N/A	60	By product of drinking water disinfection.

Radioactive Contaminants	Sample Year	Violation Y / N	Level Detected	Units	MCLG	MCL	Likely Source of Contamination
Combined Radium 226 & 228	2015	N	Range = ND - 1.10 Highest detect = 1.10	pCi/l	N/A	5	Erosion of natural deposits.

Regulated Disinfectants	Level Detected	MRDL	MRDLG
Chlorine Test results Yr. 2017	Average = 0.16 ppm	4.0 ppm	4.0 ppm

The Lower Township Municipal Utilities Authority routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2017. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our results, though representative, are more than one year old.

As you can see from the table, we exceeded the secondary Recommended Upper Limit (RUL) for Manganese which is based on staining of laundry. Manganese is an essential nutrient, and toxicity is not expected from levels which would be encountered in drinking water. Manganese is a naturally occurring element in soil, groundwater, and some surface waters. Manganese is considered harmless to health, however, they may give water an off taste or color, cause splotchy yellow stains on laundry, and clog water systems.

As you can see from the table, we exceeded the secondary Recommended Upper Limit (RUL) for Iron based on unpleasant taste of the water and staining of laundry. Iron is an essential nutrient, but some people who drink water with Iron well above the recommended upper limit could develop deposits of Iron in a number of organs of the body. Iron is a naturally occurring element in soil, groundwater, and some surface waters. Iron is considered harmless to health, however, they may give water an off taste or color, cause splotchy yellow stains on laundry, and clog water systems.

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. LTMUA 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 or at <http://www.epa.gov/safewater/lead>.

If you have any questions about this report or concerning your water utility, please call **Craig W. Loper at 609-886-7146 ext 230**. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled MUA meetings at the MUA office, 2900 Bayshore Road. Meetings are held on the first Wednesday of each month at 5:00 p.m.

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 storm water 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, and can, also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants which can be naturally occurring or be the result of oil and gas production and mining activities.

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.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791**.

DEFINITIONS

In the "Test Result" tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

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

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

Maximum Contaminant Level - The "Maximum Allowed" (MCL) 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.

Maximum Contaminant Level Goal -The "Goal"(MCLG) 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.

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 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

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 all of these types of contaminants.

In light of the events of September 11, 2001 and in response to the State's Domestic Security Preparedness Act, we have provided additional security and reviewed operations to include a greater emphasis on security issues.

We at Lower Township Municipal Utilities Authority work hard to provide top quality water to every tap. We ask that all our customers help us protect our water sources. Please call our office 609-886-7146 if you have questions.

Lower Township MUA – PWSID # NJ0505002

Lower Township MUA is a public community water system consisting of six (6) active wells.

This system's source of water comes from the following aquifer: Kirkwood-Cohansey aquifer system.

Susceptibility Ratings for Lower Township MUA 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 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 seven contaminant categories are defined at the bottom of this page. DEP considered all surface water highly susceptible to pathogens; therefore all intakes received a high rating for the pathogen category. For the purpose of the Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclide 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 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. As a result of the assessments, DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclide			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 – 6			6			6			6			6			6			6			6	6		

- **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, and 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 which are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead and nitrate.
- **Radionuclide:** Radioactive substances which 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 (for example, leaves) present in surface water.