

# Annual Drinking Water Quality Report

## Burlington Township Water Department

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 water and services we deliver to you every day. Our 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.

The Burlington Township Water Department 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 1<sup>st</sup> to December 31<sup>st</sup> 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 data, though representative, are more than one year old.

**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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).**

<b>TEST RESULTS</b>						
Contaminant	Violat ion Y/N	Level Detected	Unit Measur ement	MCLG	MCL	Likely Source of Contamination
<b>Inorganic Contaminants:</b>						
Arsenic Test results Yrs. 2016 & 2017	N	Range: ND – 0.7 Highest detect = 0.7	ppb	N/A	5	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium Test results Yrs. 2016 & 2017	N	Range: 0.004 – 0.07 Highest detect = 0.07	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium Test results Yrs. 2016 & 2017	N	Range: ND – 0.3 Highest detect = 0.3	ppb	4	4	Discharge from metal refineries and coal burning factories; discharge from electrical, aerospace and defense industries
Chromium Test results Yrs. 2016 & 2017	N	Range: ND – 0.9 Highest detect = 0.9	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Copper Test results Yr. 2015 Result at 90 <sup>th</sup> Percentile	N	0.13 No samples exceeded the action level	ppm	1.3	AL= 1.3	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride Test results Yrs. 2016 & 2017	N	Range = ND – 0.1 Highest detect = 0.1	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead Test results Yr. 2015 Result at 90 <sup>th</sup> Percentile	N	4.4 3 samples out of 30 exceeded the action level	ppb	0	AL= 15	Corrosion of household plumbing systems, erosion of natural deposits
Nickel Test results Yrs. 2016 & 2017	N	Range: ND – 4.3 Highest detect = 4.3	ppb	N/A	N/A	Erosion of natural deposits.
Nitrate (as Nitrogen) Test results Yr. 2017	N	Range = ND – 3.8 Highest detect = 3.8	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Selenium Test results Yrs. 2016 & 2017	N	Range: ND – 2.9 Highest detect = 2.9	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
<b>Disinfection Byproducts:</b>						
TTHM Total Trihalomethanes Test results Yr. 2017	N	Range = 1 - 44 Highest LRAA = 25	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids Test results Yr. 2017	N	Range = ND - 3 Highest LRAA = 2	ppb	N/A	60	By-product of drinking water disinfection
<b>Radioactive Contaminants:</b>						
Alpha emitters Test results Yrs. 2015 & 2017	N	Range = ND – 11 Highest detect = 11	PCi/l	0	15	Erosion of natural deposits
Combined Radium 228 & 226 Test results Yrs. 2015 & 2017	N	Range = ND – 2.8 Highest detect = 2.8	PCi/l	0	5	Erosion of natural deposits

**For Total Haloacetic Acids (HAA5s) and Total Trihalomethanes (TTHMs), which are disinfection byproducts, compliance is based on a Locational Running Annual Average (LRAA), calculated at each monitoring location. The LRAA calculation is based on four completed quarters of monitoring results.**

Regulated Disinfectants	Level Detected	MRDL	MRDLG
Chlorine Test results Yr. 2017	Average = 0.8 ppm	4.0 ppm	4.0 ppm

Secondary Contaminant	Level Detected	Units of Measurement	RUL
Sodium Test results Yr. 2017	Range: 19 -78	ppm	50

### **Sodium**

We exceeded the Secondary Recommended Upper Limit (RUL) for sodium. For healthy individuals, the sodium intake from water is not important, because a much greater intake of sodium takes place from salt in the diet. However, sodium levels above the (RUL) may be of concern to individuals on a sodium restricted diet.

Our Drinking Water source is wells. Our eight wells draw groundwater from the Potomac-Raritan-Magothy Aquifer System. The New Jersey Department of Environmental Protection (NJDEP) has prepared Source Water Assessment Reports and Summaries for all public water systems. Further information on the Source Water Assessment Program can be obtained by logging onto NJDEP's source water assessment web site at [WWW.state.nj.us/dep/swap](http://WWW.state.nj.us/dep/swap) or by contacting NJDEP's Bureau of Safe Drinking Water at (609) 292-5550. You may also contact your public water system. Burlington Township's Source Water Assessment Summary is included. The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos and synthetic organic chemicals. Our system received monitoring waivers for two of these types of contaminants, asbestos and synthetic organic chemicals.

**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. The Burlington Township Water Department is responsible for providing high quality drinking water, but can not 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 second to 2 minutes before using water for drinking and cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water hotline or at <http://www.epa.gov/safewater/lead>.

### **DEFINITIONS:**

In the "Test Results" tables you may find some 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 contaminant 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 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.

**Secondary Contaminant**- Substances that do not have an impact on health. Secondary Contaminants affect aesthetic qualities such as odor, taste or appearance.

Secondary standards are recommendations, not mandates.

**Recommended Upper Limit (RUL)** – Recommended maximum concentration of secondary contaminants. These reflect aesthetic qualities such as odor, taste or appearance. RUL's are recommendations, not mandates.

**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 Level 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

### **Drinking Water Sources:**

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 the 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 stormwater 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 stormwater runoff, and septic systems, 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 stormwater 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.

**If you have questions about this report or concerning your water utility, please contact Bruce Smith at 609-239-5909. 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 Township meetings.**

**Unregulated Contaminant Monitoring Rule (UCMR)**

The Burlington Township Water Department participated in the UCMR. 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 regulation is warranted.

Contaminant	Level Detected	Units of Measurement	Likely source
1,4-Dioxane	Range = ND – 0.3	ppb	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacturing and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos
Chlorate	Range = 63 - 100	ppb	Agricultural defoliant of desiccant; disinfection byproduct; used in the production of chloride dioxide
Chromium	Range = ND – 0.4	ppb	Naturally-occurring element; used in the making of steel and other alloys; chromium -3 or -6 are used for chrome plating, dyes and pigments, leather tanning, and other wood preservation
Chromium (VI)	Range = ND – 0.4	ppb	Naturally-occurring element; used in the making of steel and other alloys; chromium -3 or -6 are used for chrome plating, dyes and pigments, leather tanning, and other wood preservation
Strontium	Range = 13 - 110	ppb	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	Range = ND – 1.3	ppb	Naturally-occurring element metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst

**Burlington Township Water Department - PWSID # NJ0306001**

Burlington Township Water Department is a public community water system consisting of 8 active wells.

This system’s source water comes from the following aquifer: Upper Potomac-Raritan-Magothy Aquifer System, Middle Potomac-Raritan-Magothy Aquifer System.

This system can purchase water from the following water system: Burlington City Water Department

**Susceptibility Ratings for Burlington Township Water Department 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 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 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.

Sources	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection Byproduct Precursors		
	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 - 8			8	2		6		1	7	1		7	2	2	4	2	3	3		2	6		8	

**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 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 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 (for example leaves) present in surface water.