

Borough of Butler Water Department
Annual Drinking Water Quality Report
 (For the Year 2016, Results from the Year 2015)

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 constant goal is to provide you with a safe and dependable supply of drinking water.

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).

We draw our water from the Kakeout reservoir on Bubbling Brook Road in the Borough of Kinnelon, Morris County. 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's 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 included. A summary of this information is included at the end of this report.

TEST RESULTS (Data for 2015)							
Contaminant	Violation? Y/N	Date of Sample	Level Detected	Units of Measure ment	MCLG	MCL	Possible Source
Microbiological Contaminants:							
Turbidity	N	continuous	99.9% < 0.3 NTU Highest Detect = 5.60 NTU	NTU	N/A	TT = % of samples < 0.3 NTU	Soil runoff
Total Organic Carbon	N	1/month	Running Annual Average = 1.06	ppm	N/A	TT = % of removal	Naturally present in the environment
Total Coliform Bacteria	N	10/month	no positive routine samples in 2015		0	1 positive	Naturally present in the environment; found in the intestines of mammals.
Radiological Contaminants:							
Gross Alpha	N	7/23/2014	1.15	piCu/L	0	15	Erosion of natural deposits

Combined Radium	N	7/23/2014	0.52	piCu/L	0	5	Erosion of natural deposits
Inorganic Contaminants:		Note: RUL is the Recommended Upper Limit					
Arsenic	N	7/27/2015	0.44	ppb	5	5	Erosion of natural deposits
Barium	N	7/27/2015	302	ppb	2000	2000	Discharge of drilling wastes or metal refineries
Beryllium	N	7/27/2015	0.029	ppb	4		
Chloride	N	7/27/2015	69	ppm	N/A	RUL = 250	Agricultural runoff; road salting
Nitrate	N	7/27/2015	0.941	ppm	10	10	Erosion of mineral deposits
Sodium	N	7/27/2015	39.3	ppm	N/A	RUL = 50	Erosion of natural deposits
Sulfate	N	7/27/2015	8.85	ppm	N/A	RUL = 250	Erosion of natural deposits
Lead Result at 90th Percentile	N	8/14/2014	8.81 1 sample of 20 exceeded AL	ppb	0	AL = 15	Corrosion of household plumbing systems, erosion of natural deposits
Copper Result at 90th Percentile	N	8/14/2014	0.173 1 sample of 20 exceeded AL	ppm	0	AL = 1.3	
Disinfection Byproducts:							
TTHM	N	quarterly	Range = 26.0 to 54.5	ppb	N/A	80	Byproduct of drinking water disinfection
HAA5	N	quarterly	Range = 8.55 to 38.2	ppb	N/A	60	
Regulated Disinfectants:		Note: Chlorine is measured as free residual in distribution system; reported as monthly average					
Chlorine	N	monthly	Range = 0.5 to 0.7	ppm	4	4	Water treatment additive

The Butler Water Department routinely monitors for over 80 contaminants in your drinking water according to Federal and State laws. This table lists only those contaminants detected, and shows the results of our monitoring from January 1st to December 31st, 2015. 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.

The first compliance calculations required by the Stage II Disinfection Byproduct Rule have been completed and are reflected in the table above. Stage II HAA5 and TTHM compliance is based on the locational running annual average (LRAA) calculated at each monitoring location.

Potential sources of contamination:

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.

Lead: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The Butler Water Department is responsible for providing high quality drinking water, but can't control the variety of materials used in plumbing components. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. 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 tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High levels in drinking water can cause blue baby syndrome. 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.

Arsenic: EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Sodium: For healthy individuals, the sodium intake from water is not important because a much greater intake of sodium takes place salt in the diet. However, sodium levels above the MCL may be of concern to individuals on a sodium restricted diet.

Definitions:

In the following table 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.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

Total Organic Carbon (TOC) - We are required to remove a certain percentage of (TOC) from our drinking water on a monthly basis. Total Organic Carbon has no adverse health effects. However, TOC provides a medium for the formation of disinfection byproducts.

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

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 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.

Treatment description:

We treat our water in several ways. We add a coagulant and provide filtration to promote clarity, and sodium hydroxide to control pH levels. We also add chlorine to disinfect (as a DEP required precautionary measure) and add a polyphosphate to protect distribution system piping and residential plumbing. All chemical additives are NSF approved.

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 a monitoring waiver for synthetic organic chemicals.

We at the Butler Water Department work hard to provide top quality water to every tap. We ask that all our residents help us protect our water sources, which are the heart of our community, our way of life and our children's future. Please call our office if you have questions.

For additional information:

If you have any questions about this report or concerning your water utility, please contact Keith Smith, Licensed Water Treatment Plant Operator at 973-838-7200 x. 413. If you want to learn more about the Butler Water Department, please attend any of our regularly scheduled meetings. Meetings are held at Borough Hall, 1 Ace Road, on the third Tuesday of each month at 7:00 p.m.

Butler Water Department- Source Water Assessment Information

Butler Water Department is a public community water system consisting of 0 well(s), 0 wells under the influence of surface water, 1 surface water intake(s), 0 purchased ground water source(s), and 1 purchased surface water source(s).

This system's source water comes from the following aquifer(s) and/or surface water body(s) (if applicable): Kakeout Reservoir

This system purchases water from the following water system(s) (if applicable): PVWC

Susceptibility Ratings for Butler 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 - 0																											
GUDI - 0																											
Surface water intakes - 1	1					1			1			1			1			1			1	1					

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.