

# Annual Drinking Water Quality Report Fayson Lake Water Company

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).

**Our water source:** Our water source is wells. Our four wells draw groundwater from glacial deposits, over 500 feet deep. The wells are located by the treatment plant on Boonton Avenue. We also purchase water from the Borough of Kinnelon on an as-needed basis. Kinnelon water is purchased from the Borough of Butler, and originates at the Kakeout reservoir on Bubbling Brook Road in the Borough of Kinnelon. The New Jersey Department of Environmental Protection (NJDEP) has completed and issued Source Water Assessment Reports and Summaries for these public water systems, which are available 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 at 973-838-6226 to obtain information regarding Fayson Lake Water Company's Source Water Assessment. Fayson Lake Water Company's source water susceptibility ratings and a list of potential contaminant sources is included.

<b>Fayson Lake Water Company Test Results</b> <b>PWS ID# NJ1415001</b>						
Contaminant:	Violation Y/N	Level Detected	Units of Measurement	MCLG	MCL	Likely Source of Contamination
<b>Inorganic Contaminants:</b>						
Barium Test results Yr. 2015	N	0.04	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper Test results Yr. 2015 Result at 90 <sup>th</sup> Percentile	N	0.23 No samples exceeded the action level.	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead Test results Yr. 2015 Result at 90 <sup>th</sup> Percentile	N	5.3 No samples exceeded the action level	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen) Test results Yr. 2015	N	0.9	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Thallium Test results Yr. 2015	N	1.1	ppb	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
<b>Disinfection Byproducts:</b>						
TTHM Total Trihalomethanes Test results Yr. 2015	N	Range = 10 - 21 Highest detect = 21	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids Test results Yr. 2015	N	Range = 3 - 6 Highest detect = 6	ppb	N/A	60	By-product of drinking water disinfection
<b>Radioactive Contaminants:</b>						
Gross Alpha Test results Yr. 2012	N	2.2	pCi/l	0	15	Erosion of natural deposits
Combined Radium 228 & 226 Test results Yr. 2012	N	2.5	pCi/l	0	5	Erosion of natural deposits
<b>Microbiological Contaminants:</b>						
Total Coliform Bacteria	N	1 positive routine sample in October 2015		0	1 positive monthly sample	Naturally present in the environment
<b>Regulated Disinfectants:</b>			<b>Level detected</b>	<b>MRDL</b>		<b>MRDLG</b>
Chlorine			Average = 0.6 ppm	4 ppm		4 ppm

We had a positive routine Total Coliform Bacteria sample in October 2015. We immediately resampled and all test results were negative. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

**In November 2015 we were required to take five (5) routine Total Coliform Bacteria samples. We inadvertently took only three (3). Those samples had negative test results. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.**

The Fayson Lake Water Company, the Butler Water Department and the Kinnelon Water Department routinely monitor for over 80 contaminants in your drinking water according to Federal and State laws. This table lists only detected contaminants, and shows the results of our monitoring from January 1<sup>st</sup> to December 31<sup>st</sup>, 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.

**For additional information:** If you have any questions about this report or concerning your water utility, please contact Fayson Lake Water Company at 973-838-6226. We want our residents to be informed about their water utility. If you want to learn more, please attend our stockholders meeting.

**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 Fayson Lake Water Company, the Butler Water Department and the Kinnelon Water Department are 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 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>.

**Quality:** To ensure the continued quality of our drinking water we use sodium hypo-chloride for disinfection and potassium permanganate for iron and manganese removal. Butler's water is treated in several ways. Alum and lime are added to promote clarity and control pH, and we add a small amount of chlorine to disinfect, as a precautionary measure. We use polyphosphate to protect residential plumbing.

**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 asbestos and synthetic organic chemicals.

#### **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.

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.

Total Organic Carbon - Total Organic Carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. The *Treatment Technique* for TOC requires that 35% - 45% of the TOC in the raw water is removed through the treatment processes.

Turbidity - Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium microbial growth. Turbidity is measured as an indication of the effectiveness of the filtration process. The *Treatment Technique* for turbidity requires that no individual sample exceeds 1 NTU and 95% of the samples collected during the month must be less than 0.3 NTU.

**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.

<b>Butler Water Department Test Results</b> <b>PWS ID# 1403001</b>						
Contaminant:	Violation Y/N	Level Detected	Units of Measurement	MC LG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants:</b>						
Turbidity Test results Yr. 2015	N	99.9 % < 0.3 NTU Highest detect = 5.6	NTU	N/A	TT=% of samples <0.3NTU	Soil runoff
Total Organic Carbon Test results Yr. 2015	N	Running Annual Average = 1.06	Mg/l	N/A	TT % of removal	Naturally present in the environment
Total coliform Bacteria	N	No positive routine samples in 2015		0	1 positive	Naturally present in the environment
<b>Inorganic Contaminants:</b>						
Lead Test results Yr. 2014 Results at 90 <sup>th</sup> Percentile	N	8.8 1 sample out of 20 exceeded the action level.	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Copper Test results Yr. 2014 Results at 90 <sup>th</sup> Percentile	N	0.17 1 sample out of 20 exceeded the action level.	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Arsenic Test results Yr. 2015	N	0.44	ppb	N/A	5	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium Test results Yr. 2015	N	0.3	ppb	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium Test results Yr. 2015	N	0.03	ppb	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
<b>Disinfection Byproducts:</b>						
TTHM Total Trihalomethanes Test results Yr. 2015	N	Range = 26 - 55 Highest LRAA = 37	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids Test results Yr. 2015	N	Range = 9 - 38 Highest LRAA = 34	ppb	N/A	60	By-product of drinking water disinfection
<b>Regulated Disinfectants</b>		<b>Level detected</b>	<b>MRDL</b>	<b>MRDLG</b>		
Chlorine – Test results Yr. 2015		Range = 0.5 – 0.7	4 ppm	4 ppm		

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.

<b>Kinnelon Water Department Test Results</b> <b>PWS ID# NJ1415002</b>						
Contaminant	Violation Y/N	Level Detected	Units of Measurement	MCLG	MCL	Likely Source of Contamination
<b>Inorganic Contaminants:</b>						
Copper Test results Yr. 2014 Result at 90 <sup>th</sup> Percentile	N	0.12 No samples exceeded the action level	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead Test results Yr. 2014 Result at 90 <sup>th</sup> Percentile	N	ND No samples exceeded the action level	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
<b>Disinfection Byproducts:</b>						
TTHM Total Trihalomethanes Test results Yr. 2015	N	Range = 35 - 74 Highest LRAA = 63	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids Test results Yr. 2015	N	Range = ND - 43 Highest LRAA = 23	ppb	N/A	60	By-product of drinking water disinfection
<b>Microbiological Contaminants:</b>						
Total Coliform Bacteria	N	1 positive routine sample in September 2015		0	1 positive monthly sample	Naturally present in the environment
<b>Regulated Disinfectants</b>		<b>Level detected</b>	<b>MRDL</b>	<b>MRDLG</b>		
Chlorine Test results Yr. 2015		Average = 0.4 ppm	4 ppm	4 ppm		

Kinnelon Water Department had a positive routine Total Coliform Bacteria sample in September 2015. They immediately resampled and all test results were negative. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

**Fayson Lakes Water Company - PWSID # NJ1415001**

Fayson Lakes Water Company is a public community water system consisting of 4 wells and 1 purchased surface water source.

This system’s source water comes from the following aquifer: glacial sand and gravel

This system purchases water from the following water system: Kinnelon Boro.

**Susceptibility Ratings for Fayson Lakes Water Company 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 - 4		4		4				1	3			4		2	2		4		1	3			4	

**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.

*We at Fayson Lake Water Company work hard to provide top quality water to every tap. We ask that all our customers 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.*