

2017 Annual Drinking Water Quality Report



Alpha Municipal Water Works

PWSID# 2102001

We are pleased to present 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.

Where does our water come from?

All water in 2016 was sourced from groundwater via two active wells. The wells draw from the Jacksonburg Limestone and the Kittatinny Supergroup Aquifer System.

How does drinking water become contaminated?

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 radio-active materials, and can pick up substances resulting from human or animal 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, livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which may be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil or 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.

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

Organic chemical contaminants, including synthetic or volatile organic chemicals, which may include pesticides and herbicides. They may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses or by-products of industrial processes, petroleum production, gas stations, or septic systems.

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: 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 Alpha Municipal Water Works 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 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:

www.epa.gov/safewater/lead

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 an infant you should ask advice from your health care provider.

We constantly monitor the water supply for various contaminants. We detected radon in 2006 in the finished water supply at 160 pCi/L. There is no federal regulation for radon levels in drinking water. Exposure to air transmitted radon over a long period of time may cause adverse health effects.

Waived Requirements

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

been granted a monitoring waiver for synthetic organic chemicals.

How is my water treated?

The source water is softened by acid cation exchange, hydroxide is added to adjust pH, and disinfection is handled by chlorine gas.

Where do I direct questions?

If you have any questions about this report or concerning your water utility, please call Laurie Burton at 908-454-0088, ext. 141. We want our valued customers to be informed about their drinking water; if you want to learn more, please attend our

regularly scheduled public meetings.

We at Alpha Municipal Water Works work hard to provide top quality water to every tap. We ask that all our customers help us protect our water sources; they are the heart of our community, our way of life, and our children's future.

Susceptibility Ratings for Alpha Municipal Water Works 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 – 2	1		1	2				2		2				1	1	1			1					2	

- 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.njradon.org/radoinfo.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.

Test Results						
Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
Radioactive Contaminants						
Combined Radium 228 & 226 Test Results Year 2012	N	1.5	pCi/l	0	5	Erosion of natural deposits.
Inorganic Materials						
Antimony Test Results Year 2015	N	Range: ND-0.04 Highest Detect: 0.04	ppb	6	6	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder
Arsenic Test Results Year 2015	N	Range: 0.2-0.4 Highest Detect: 0.4	ppb	n/a	5	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production waste
Barium Test Results Year 2015	N	Range: 0.4 Highest Detect: 0.4	ppm	2	2	Discharge of drilling wastes, metal refineries, and erosion of natural deposits
Chromium Test Results Year 2015	N	Range: ND-1.3 Highest Detect: 1.3	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Copper Test Results Year 2016 Results @ 90 th Percentile	N	0.149 No samples exceeded the action level.	ppm	1.3	AL = 1.3	Corrosion of household plumbing systems and erosion of natural deposits
Lead Test Results Year 2016 Results @ 90 th Percentile	N	2.1 No samples exceeded the action level.	ppb	0	AL = 15	Corrosion of household plumbing systems and erosion of natural deposits
Nickel Test Results Year 2015	N	Range: 1.4 Highest Detect: 1.4	ppm	10	10	Runoff from fertilizer, leaching from septic tanks, sewage, and erosion of natural deposits
Nitrate (as Nitrogen) Test Results Year 2016	N	Range: 1.28-5.16 Highest Detect: 5.16	ppm	10	10	Runoff from fertilizer, leaching from septic tanks, sewage, and erosion of natural deposits
Selenium Test Results Year 2015	N	Range: 1.1-2.9 Highest Detect: 2.9	ppb	50	50	Discharge from petroleum refineries, erosion of natural deposits, and discharge from mines
Thallium Test Results Year 2015	N	Range: ND-0.02 Highest Detect: 0.02	ppb	0.5	2	Leaching from ore-processing sites, and discharge from electronics, glass, and drug factories
Volatile Organic Compounds / Disinfection Byproducts						
HAA5 Haloacetic Acids Test Results Year 2016	N	Range: 0.0-1.2 Highest Detect: 1.2	ppb	n/a	60	Byproduct of drinking water disinfection
THM Total Trihalomethanes Test Results Year 2016	N	Range: 2.2-16.0 Highest Detect: 16.0	ppb	n/a	80	Byproduct of drinking water disinfection
Trichloroethylene Test Results Year 2016	N	Range: ND Highest Detect: ND	ppb	0	1	Discharge from metal degreasing sites and other factories
Regulated Disinfectants		Level Detected		MRDL	MRDLG	
Chlorine Test Results Year 2016		Range: 0.14-0.96 Avg: 0.50		4.0 ppm	4.0 ppm	
Secondary Contaminants		Level Detected		RUL		
Iron Test Results Year 2015		Range: 14-1280		300		
Glossary						
ppm = parts per million One part per billion is equivalent to one penny in ten thousand dollars.		ppb = parts per billion One part per billion is equivalent to one penny in ten million dollars.		ND = non-detects Laboratory analysis indicates the contaminant is not present at a detectable level.		RUL = Recommended Upper Limit Aesthetic qualities such as odor, taste, or appearance. RUL's are recommendations, not mandates as Secondary Contaminants do not have a health impact.
MRDL = Maximum Residual Disinfection Level The highest level of a disinfectant that is allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbial contaminants.		MRDLG = Maximum Residual Disinfection Level Goal The level of drinking water disinfectant below which there is no known or expected health risk. MRDLG's do not reflect the benefits of disinfectant use on controlling microbial contaminants.		MCLG = Maximum Contaminant Level Goal The level of a contaminant below which there is no known or expected health risk. MCLG's include a safety margin.		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.
pCi/L = PicoCuries per Liter A measure of radioactivity.		n/a = not applicable				

Footnotes:

- 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 healthcare 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).
- The New Jersey Department of Environmental Protection (NJDEP) has completed and issued a Source Water Assessment Report and Summary for this public water system, which is available at www.nj.gov/dep/watersupply/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 the Alpha Municipal Water Works Source Water Assessment. The Alpha Municipal Water Works source water susceptibility ratings and a list of potential contaminant sources is included. The Alpha Municipal Water Works routinely monitors for contaminants in your drinking water according to Federal and State laws. The table shows the results of that monitoring for the period January 1 to December 31, 2016. The State allows

the monitoring of some contaminants less than once per year because the concentrations of these contaminants do not change frequently. The latest results are included for these contaminants, even though they may be older than one year.