

Annual Drinking Water Quality Report

Borough of Farmingdale Water Department

For the Year 2019, Results from the Year 2018

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. We have two wells and we purchase water from New Jersey American Water (NJAW) – Coastal North (Monmouth - Howell System). Our wells draw their water from the Englishtown Aquifer System. The NJWA system's water comes from a blend of sources that may include: groundwater from the Potomac-Raritan-Magothy Aquifer System (PRM) and surface water from the Glendola Reservoir, the Manasquan River / Reservoir, the Shark River and the Swimming River / Reservoir.

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 or by contacting NJDEP's Bureau of Safe Drinking Water at (609) 292-5550. The Borough of Farmingdale Water Department's and NJAW's Source Water Assessment Reports and Summaries are included.

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).

Borough of Farmingdale Test Results						
PWS ID# NJ1314001						
Contaminant	Violation Y/N	Level Detected	Units of Measure- ment	MC LG	MCL	Likely Source of Contamination
Radioactive Contaminants:						
Combined Radium 228 & 226 Test results Yr. 2015	N	1.5	pCi/l	0	N/A	Erosion of natural deposits
Inorganic Contaminants:						
Barium Test results Yr. 2017	N	0.4	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper Test results Yr. 2018 Result at 90 th Percentile	N	0.2 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. 2018 Result at 90 th Percentile	N	ND No samples exceeded the action level.	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Disinfection Byproducts:						
TTHM Total Trihalomethanes Test results Yr. 2018	N	Range = 9 - 25 Highest detect = 25	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids Test results Yr. 2018	N	Range = 5 - 7 Highest detect = 7	ppb	N/A	60	By-product of drinking water disinfection
Regulated Disinfectants		Level Detected		MRDL		MRDLG
Chlorine Test results Yr. 2018		Average = 0.6 ppm		4.0 ppm		4.0 ppm

The Borough of Farmingdale Water Department and New Jersey American Water routinely monitor for contaminants in your drinking water according to Federal and State laws. The tables show the results of that monitoring for the period of January 1st to December 31st, 2018. 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 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: 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 Borough of Farmingdale Water Department and New Jersey American Water 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 seconds 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 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.

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

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 for 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.

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 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

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.

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 and the NJAW System received monitoring waivers for asbestos and synthetic organic chemicals.

If you have any questions about this report or concerning your drinking water, please call the Farmingdale Borough Hall at 732-938-4077. We want our valued customers to be informed about their drinking water. If you want to learn more, please attend any of our regularly scheduled Borough Council meetings at the Community Center, 13 Asbury Avenue. Meetings are held on the first and third Tuesday of each month at 7:00 pm.

New Jersey American Water – Monmouth - Howell System 2018 Test Results						
PWSID # NJ1345001						
Contaminant	Violati on Y/N	Level Detected	Units of Measur ement	MC LG	MCL	Likely Source of Contamination
Microbiological Contaminants:						
Turbidity	N	Range = 0.01 – 0.27 100% < 0.3 NTU	NTU	N/A	TT 95% of monthly samples < 0.3 NTU	Soil runoff
Total Organ Carbon (TOC)	N	Range = 0.72 – 2.84 Highest removal = 2.84	ppm	N/A	TT % of removal	Soil runoff
Inorganic Contaminants:						
Copper Result at 90 th 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	N	Range = ND – 0.9 Highest detect = 0.9	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead Result at 90 th Percentile	N	5 2 samples out of 51 exceeded the action level.	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	N	Range = 0.09 – 0.36 Highest detect = 0.36	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Disinfection Byproducts:						
TTHM Total Trihalomethanes	N	Range = 35 - 110 Highest LRAA = 78	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids	N	Range = 6 - 75 Highest LRAA = 29	ppb	N/A	60	By-product of drinking water disinfection
Regulated Disinfectants		Level Detected		MRDL		MRDLG
Chlorine / Chloramines		Range = 0.06 – 2.75 Average = 1.37		4.0 ppm		4.0 ppm
Secondary Contaminant		Level Detected		Units of Measurement		RUL
Sodium		Range = 28 - 63		ppm		50

New Jersey American Water exceeded the Recommended Upper Limit 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 Recommended Upper Limit (RUL) may be of concern to individuals on a sodium restricted diet.

HAA5 and TTHM 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.

Our Water Research Efforts

Cryptosporidium is a protozoan found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, people with severely weakened immune systems have a risk of developing a life-threatening illness. We encourage such people to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease. It can also be spread through means other than drinking water. For additional information regarding cryptosporidiosis and how it may impact those with weakened immune systems, please contact your personal health care provider

The U.S. EPA issued a rule in January 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. To comply with this rule, New Jersey American Water once again began conducting 24 consecutive months of monitoring for *Cryptosporidium* in our raw water sources starting in 2015. The monitoring to date indicates the presence of these organisms in the source water. The samples were collected from the source before the water was processed through our treatment plants. We continued monitoring until April 2017. The data collected is presented in the Source Water Monitoring table below.

Source Water Monitoring

Contaminant	Swimming River source water	Jumping Brook source water	Oak Glen source Water	
<i>Cryptosporidium</i> , Oocysts/L	ND – 0.100	ND	ND	Microbial pathogens found in surface waters throughout the United States.
<i>Giardia</i> , Cysts/L	0 – 0.558	0 – 0.089	0 – 0.558	

Unregulated Contaminant Monitoring

Contaminant	Units	NJDEP Guidance Level	Range Detected	Highest Level Detected	Use or Environmental Source
Chlorate	ppb	NA	ND to 760	760	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide.
Hexavalent Chromium	ppb	NA	ND to 0.53	0.53	Major sources of Hexavalent Chromium (Chromium-6) in drinking water are discharges from steel and pulp mills, and erosion of natural deposits of chromium-3. Hexavalent Chromium is not currently regulated as an individual substance. NJ American Water voluntarily performed this monitoring based on recommendations from USEPA. For more information on Hexavalent Chromium (Chromium-6), please visit our web site.
Strontium	ppb	NA	37.6 to 508.5	508.5	Naturally occurring element; commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
1,4-Dioxane	ppb	NA	ND to 0.50	0.50	Used as a solvent in manufacturing and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos.

Unregulated Contaminant Monitoring Rule

New Jersey American Water participated in the Unregulated Contaminant Monitoring Rule. 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. For testing conducted in the Coastal North System, the following substances were found.

Contaminant	Unit	MRL	Highest Level Detected	Range Detected	Use or Environmental Source
Metals - List AM1					
Manganese	ppb	0.4	9.7	ND to 9.7	Naturally present in the environment; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater treatment chemical
Brominated Haloacetic Acid (HAA) Group – List AM 2					
HAA6Br Group				By-product of drinking water disinfection	
Bromochloroacetic Acid	ppb	N/A	2.6	0.68 to 2.6	
Bromodichloroacetic Acid	ppb	N/A	1.7	ND to 1.7	
Dibromoacetic Acid	ppb	N/A	0.85	ND to 0.85	
Monobromoacetic Acid	ppb	N/A	0.52	ND to 0.52	
Tribromoacetic Acid	ppb	N/A	ND	ND	
Chlorodibromoacetic Acid	ppb	N/A	2.5	ND to 2.5	
HAA9 Group				By-product of drinking water disinfection	
Bromochloroacetic Acid	ppb	N/A	2.6	0.68 to 2.6	
Bromodichloroacetic Acid	ppb	N/A	1.7	ND to 1.7	
Dibromoacetic Acid	ppb	N/A	0.85	ND to 0.85	
Monobromoacetic Acid	ppb	N/A	0.52	ND to 0.52	
Tribromoacetic Acid	ppb	N/A	ND	ND	
Chlorodibromoacetic Acid	ppb	N/A	2.5	ND to 2.5	
Dichloroacetic Acid	ppb	N/A	8.8	2.9 to 8.8	
Monochloroacetic Acid	ppb	N/A	ND	ND	
Trichloroacetic Acid	ppb	N/A	6.2	2.6 to 6.2	

Farmingdale Water Department- PWSID # 1314001

Farmingdale Water Department is a public community water system consisting of 2 wells and purchased surface water.

This system’s source water comes from the Englishtown Aquifer System.

This system purchases water from the New Jersey American Water (NJAW) Coastal North (Monmouth – Howell) System.

Susceptibility Ratings for Farmingdale 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 - 2			2			2			2			2		2			2			2			2		

NJ American Water Coastal North – (Monmouth-Howell) - System - PWSID # NJ1345001

NJ American Water Coastal North System is a public community water system consisting of 30 wells, 5 surface water intakes, and 4 purchased ground water sources.

This system’s source water comes from the following aquifers and surface water bodies: Upper Potomac-Raritan-Magothy Aquifer System, Swimming River Reservoir, Shark River, Middle Potomac-Raritan-Magothy Aquifer System, Jumping Brook, Glendola Reservoir (NJWSA Manasquan System), Glendola Reservoir (Shark River)

This system can purchase water from the following water systems: Red Bank Water Department, Allenhurst water Department and Aberdeen Township Water Department

Susceptibility Ratings for NJ American Water Coastal North – (Monmouth – Howell) System 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 - 30			30			30			30			30		18	12		19	11			30			18	12
Surface water intakes - 5	5			1	4			2	3		5		3	2				5			5	5			

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.