

# Annual Drinking Water Quality Report

## Monroe Township Utility Department

### For the Year 2015, Results from the Year 2014

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. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We currently operate eight groundwater wells and one interconnection (pumping station) with New Jersey American Water. Three of our groundwater wells are located in the Old Bridge Sands aquifer and five are in the Farrington Sands aquifer. About 90% of the water that is delivered to our consumers is derived from wells deep within aquifers, and the remaining 10% of our water is purchased from New Jersey American 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).

| Monroe Township Utility Department Test Results                          |               |                                                                   |                      |             |        |                                                                                                        |
|--------------------------------------------------------------------------|---------------|-------------------------------------------------------------------|----------------------|-------------|--------|--------------------------------------------------------------------------------------------------------|
| PWS ID# NJ1213002                                                        |               |                                                                   |                      |             |        |                                                                                                        |
| Contaminant                                                              | Violation Y/N | Level Detected                                                    | Units of Measurement | MCL G       | MCL    | Likely Source of Contamination                                                                         |
| <b>Inorganic Contaminants:</b>                                           |               |                                                                   |                      |             |        |                                                                                                        |
| Arsenic<br>Test results Yr. 2014                                         | N             | Range = ND – 2.5<br>Highest detect = 2.5                          | ppb                  | N/A         | 5      | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes |
| Barium<br>Test results Yr. 2014                                          | N             | Range = ND – 0.01<br>Highest detect = 0.01                        | ppm                  | 2           | 2      | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits             |
| Chromium<br>Test results Yr. 2014                                        | N             | Range = ND – 9.4<br>Highest detect = 9.4                          | ppb                  | 100         | 100    | Discharge from steel and pulp mills; erosion of natural deposits                                       |
| Copper<br>Test results Yr. 2013<br>Result at 90 <sup>th</sup> Percentile | N             | 0.17<br>No samples exceeded the action level                      | ppm                  | 1.3         | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits                                   |
| Lead<br>Test results Yr. 2013<br>Result at 90 <sup>th</sup> Percentile   | N             | < 2<br>1 sample out of 32 exceeded the action level               | ppb                  | 0           | AL=15  | Corrosion of household plumbing systems, erosion of natural deposits                                   |
| Nickel<br>Test results Yr. 2014                                          | N             | Range = ND – 9.1<br>Highest detect = 9.1                          | ppb                  | N/A         | N/A    | Erosion of natural deposits                                                                            |
| Nitrate (as Nitrogen)<br>Test results Yr. 2014                           | N             | Range = ND – 3.8<br>Highest detect = 3.8                          | ppm                  | 10          | 10     | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits            |
| Selenium<br>Test results Yr. 2014                                        | N             | Range = ND – 9.8<br>Highest detect = 9.8                          | ppb                  | 50          | 50     | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines       |
| <b>Disinfection Byproducts:</b>                                          |               |                                                                   |                      |             |        |                                                                                                        |
| TTHM<br>Total Trihalomethanes<br>Test results Yr. 2014                   | N             | Range = 1 - 55<br>Highest LRAA = 35                               | ppb                  | N/A         | 80     | By-product of drinking water disinfection                                                              |
| HAA5<br>Haloacetic Acids<br>Test results Yr. 2014                        | N             | Range = ND – 44<br>Highest LRAA = 20                              | ppb                  | N/A         | 60     | By-product of drinking water disinfection                                                              |
| <b>Radioactive Contaminants:</b>                                         |               |                                                                   |                      |             |        |                                                                                                        |
| Combined Radium<br>228 & 226<br>Test results Yr. 2014                    | N             | Range = ND – 1.2<br>Highest detect = 1.2<br>Highest average = 0.4 | pCi/L                | 0           | 5      | Erosion of natural deposits                                                                            |
| Gross Alpha<br>Test results Yr. 2014                                     | N             | Range = ND – 9.6<br>Highest detect = 9.6<br>Highest average = 1.6 | pCi/l                | 0           | 15     | Erosion of natural deposits                                                                            |
| <b>Regulated Disinfectants</b>                                           |               | <b>Level Detected</b>                                             |                      | <b>MRDL</b> |        | <b>MRDLG</b>                                                                                           |
| Chlorine                                                                 |               | Average = 0.7 ppm                                                 |                      | 4.0 ppm     |        | 4.0 ppm                                                                                                |

HAA5 and TTHM compliance is based on the Locational Running Annual Average (LRAA), calculated at each monitoring location. The LRAA calculation is based on four completed quarters of monitoring results.

| Secondary Contaminant           | Level Detected  | Units of Measurement | RUL |
|---------------------------------|-----------------|----------------------|-----|
| Sodium<br>Test results Yr. 2014 | Range = 15 - 51 | ppm                  | 50  |

### Sodium

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

The New Jersey Department of Environmental Protection (NJDEP) has completed 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 to obtain information regarding these water systems Source Water Assessments. The Monroe Township Utility Department's source water susceptibility ratings and a list of potential contaminant sources is included.

The Monroe Township Utility 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 1<sup>st</sup> to December 31<sup>st</sup>, 2014. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

| New Jersey American Water Company (Raritan System)                       |               |                                                   |                      |         |                                   |                                                                                                                           |
|--------------------------------------------------------------------------|---------------|---------------------------------------------------|----------------------|---------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| PWS ID# NJ2004002                                                        |               |                                                   |                      |         |                                   |                                                                                                                           |
| Year 2014 Test Results                                                   |               |                                                   |                      |         |                                   |                                                                                                                           |
| Contaminant                                                              | Violation Y/N | Level Detected                                    | Units of Measurement | MCLG    | MCL                               | Likely Source of Contamination                                                                                            |
| Inorganic Contaminants:                                                  |               |                                                   |                      |         |                                   |                                                                                                                           |
| Copper<br>Result at 90 <sup>th</sup> Percentile<br>Test results Yr. 2013 | N             | 0.4<br>No samples out 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<br>Highest detect = 0.9          | ppm                  | 4       | 4                                 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Lead<br>Result at 90 <sup>th</sup> Percentile<br>Test results Yr. 2013   | N             | 3<br>1 sample 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 = 0.6 – 2.0<br>Highest detect = 2.0         | ppm                  | 10      | 10                                | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits                               |
| Disinfection Byproducts:                                                 |               |                                                   |                      |         |                                   |                                                                                                                           |
| TTHM<br>Total Trihalomethanes                                            | N             | Highest LRAA = 47                                 | ppb                  | N/A     | 80                                | By-product of drinking water disinfection                                                                                 |
| HAA5<br>Haloacetic Acids                                                 | N             | Highest LRAA = 32                                 | ppb                  | N/A     | 60                                | By-product of drinking water disinfection                                                                                 |
| Bromate                                                                  | N             | Range = ND – 6<br>Highest detect = 6              | ppb<br>ppb           | 0       | 10                                | By-product of drinking water disinfection                                                                                 |
| Microbiological Contaminants                                             |               |                                                   |                      |         |                                   |                                                                                                                           |
| Total coliform Bacteria                                                  | N             | Highest Percentage = 0.7                          |                      | 0       | 5% of monthly samples             | Naturally present in the environment                                                                                      |
| Turbidity                                                                | N             | 100% < 0.3<br>Highest detect = 0.2                | NTU                  | N/A     | TT <0.3 in 98% of monthly samples | Soil runoff                                                                                                               |
| Total Organic Carbon (%)                                                 | N             | Range = 1.0 – 3.2<br>Highest detect = 3.2         | ppm                  | NA      | TT = % removal                    | Naturally present in the environment                                                                                      |
| Regulated Disinfectants                                                  |               | Level Detected                                    |                      | MRDL    |                                   | MRDLG                                                                                                                     |
| Chloramines                                                              |               | Range = 0.5 – 1.3 ppm                             |                      | 4.0 ppm |                                   | 4.0 ppm                                                                                                                   |
| Secondary Contaminant                                                    |               | Level Detected                                    | Units of Measurement |         |                                   | RUL                                                                                                                       |
| Sodium                                                                   |               | Range = 28 - 97                                   | ppm                  |         |                                   | 50                                                                                                                        |

New Jersey American Water participated in the Unregulated Contaminant Monitoring Rule. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

### Unregulated Contaminant Monitoring

| Contaminant                   | Level Detected      | Units of Measurement | Likely source                                                      |
|-------------------------------|---------------------|----------------------|--------------------------------------------------------------------|
| Perfluorooctanoic Acid (PFOA) | Range = ND – 0.018  | ppb                  | Man-made chemical used in the manufacture of fluoropolymers        |
| Hexavalent Chromium           | Range = ND – 0.1    | ppb                  | Erosion of natural deposits. Discharges from steel and pulp mills. |
| N-nitrosopyrrolidine (NPYR)   | Range = ND – 0.0033 | ppb                  | Byproducts in chemical synthesis.                                  |

**Perfluorooctanoic Acid (PFOA)** is a man-made chemical used in the manufacture of fluoropolymers. With non-stick and stain-resistant properties, fluoropolymers have a wide application in common household products such as cookware, carpet and all-weather clothing. There is currently no regulatory limit established for PFOA in drinking water. However, in February 2007 the NJ Department of Environmental Protection (NJDEP) issued a preliminary guidance level of 0.04 ppb. In order to assist the NJDEP in assessing the occurrence of this substance in New Jersey, New Jersey American Water began to monitor for PFOA in some of its systems. We are sharing the results in this report because we want to educate our customers about the quality of their drinking water. The proactive approach reinforces our continuing commitment to protect public health and provide quality drinking water and reliable service. For more information on PFOA, contact NJDEP at 609-292-5550.

**Hexavalent Chromium** 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 the USEPA. For more information on Hexavalent Chromium (Chromium6), please visit NJ American website.

**N-nitrosopyrrolidine (NPYR)** Nitrosamines can form as intermediates and byproducts in chemical synthesis and manufacture of rubber, leather and plastics; can form spontaneously by reaction of precursor amines with nitrosating agents (nitrate and related compounds), or by action of nitrate-reducing bacteria. Foods such as bacon and malt beverages can contain nitrosamines; there is also evidence that they form in the upper GI tract.

New Jersey American Water exceeded the secondary 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.

**Cryptosporidium** is a microbial pathogen found in surface water throughout the United States. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100% removal. New Jersey American Water monitoring indicates the presence of these organisms in their source water. Current test methods do not allow them to determine if the organisms are dead or if they are capable of causing disease. 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, immuno-compromised people, infants and small children, and the elderly are at a greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

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.

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 contaminants.

**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 Monroe Township Utility 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 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>.

If you have questions about your water please call us at 732-521-1700 or 609-655-1050. Additional information is also available on our website at [www.monroetud.com](http://www.monroetud.com) Monthly Council meetings are generally held on the first Monday of each month at 7:00 P.M. Visit <http://www.monroetwp.com> to see the schedule for upcoming meetings.

**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.**

**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.

**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 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 (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.

**Turbidity** - A measure of the particulate matter or "cloudiness" of the water. High turbidity can hinder the effectiveness of disinfectants.

### **Monroe Township Utility Department - PWSID NJ1213002**

Monroe Township MUA is a public community water system consisting of 8 wells and 1 purchased surface water source.

This system's source water comes from the following aquifer: Old Bridge Sand Aquifer and the Farrington Sands Aquifer.

This system purchases water from the following water system: New Jersey American Water

### **Susceptibility Ratings for Monroe Township Utility 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.

|           | Pathogens |   |   | Nutrients |   |   | Pesticides |   |   | Volatile Organic Compounds |   |   | Inorganics |   |   | Radionuclides |   |   | Radon |   |   | Disinfection Byproduct Precursors |   |   |
|-----------|-----------|---|---|-----------|---|---|------------|---|---|----------------------------|---|---|------------|---|---|---------------|---|---|-------|---|---|-----------------------------------|---|---|
| Sources   | 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 |           | 1 | 7 | 7         |   | 1 |            | 6 | 2 | 5                          |   | 3 | 3          | 3 | 2 | 5             | 2 | 1 |       | 6 | 2 |                                   | 7 | 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.