

Birch Hill Park (PWSID#: NJ1615001)
Moore Road, West Milford, NJ 07480

Year 2016 Annual Water Quality Report

What's The Quality of Your Water?

West Milford Township MUA is proud to supply you with this year's Water Quality Report required by the State of New Jersey Department of Environmental Protection (NJDEP) and the U.S. Environmental Protection Agency (EPA). The tables in this report show the results of our water quality analysis in the year **2016**. Every regulated contaminant detected in the water, even in the minutest traces, is listed. The table contains the name of each highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), usual sources of such contamination, definitions that explain what was tested, and a key to the units of measurement. *The data tables in this report show only the substances **detected** in your water; other substances may have been tested and not detected.*

Birch Hill Park received no violations in 2016 for MCL Exceedances and all test results were below the levels allowed by the EPA in public drinking water. The EPA requires monitoring for over 80 drinking water contaminants. The contaminants listed in the table on the next page reflect only the contaminants detected in your water for the monitoring period January 1 to December 31, **2016**. We routinely monitor for contaminants in your drinking water according to federal and state laws. The state allows us to monitor for some contaminants less than once per year because the concentrations of those contaminants do not change frequently. Some of our data, though representative, may be more than one year old. Violations were noted for late reporting of results for Chlorine, Combined Radium & Nitrate in 2016. A Notice of Violation was issued (2016-6873) for Volatile Organics Not being collected during the 1/1/16 to 12/31/16 period.

Sources of Supply

Birch Hill Park draws its water from 4 groundwater wells. These wells utilize corrosion control, Radionuclides removal, and disinfection in the treatment process. It has 52 service connections and serves approximately 180 people per day.

GENERAL DRINKING WATER INFORMATION:

Water Sources

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:

Biological - may come from human, agricultural, or wildlife sources.

Inorganic - can be natural, from storm run-off, or from industrial or domestic wastewater discharges.

Pesticides and herbicides - may come from agricultural, storm run-off or residential use.

Organic chemicals - may come from industrial or domestic processes, storm run-off, and septic systems.

Radioactive materials - can be naturally occurring or the result of mining or other human activities.

Presence of Contaminants

The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA’s Safe Drinking Water Hotline (1-800-426-4791). In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems.

Immuno-Compromised Persons

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 microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

BIRCH HILL PARK WATER QUALITY TABLE

| Contaminant | MCL Violation Y/N | Level Detected via # of Samples | Unit of Measurement | MCL (Highest Level Allowed) | MCLG (Goal) | Potential Source |
|--|-------------------|--|---------------------|-----------------------------|-------------|--|
| Lead Test Results Year: 2015 | N | 0.5 (90 th Percentile) 10 Samples) | ppb | 15 | 0 | Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits |
| Copper Test Results Year: 2015 | N | 0.281 (90 th Percentile) 10 Samples | ppm | 1.3 (Action Limit) | 1.3 | Corrosion of household plumbing |
| Fluoride Test Results Year: 2015 | N | <0.09 1 Sample | ppm | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| THM Stage 2 Test Results Year: 2016 | N | Site #1 40.60 LRAA 41.0 1 Sample | ppb | 80 | N/A | Disinfectant Byproducts |
| HAA5 Stage 2 Test Results Year: 2016 | N | Site #2 0.00 LRAA 0.00 1 Sample | ppb | 60 | N/A | Disinfectant Byproducts |
| Chlorine Residual Test Results Year: 2016 | N | Average: 0.235 Range: 0 – 0.65 | ppm | MRDL 4 | MRDLG 4 | Water additive used to control |

| | | | | | | |
|--|---|-------------------|-----|----|----|----------------------------|
| Methyl Tert Butyl Ether Test Results Year: 2015 | N | 0.335 1 sample | ppb | 70 | 70 | Additive added to gasoline |
|--|---|-------------------|-----|----|----|----------------------------|

Nitrates & Coliform Bacteria

| Contaminant | MCL Violation Y/N | Average Detected Level via # of Samples | Unit of Measurement | MCL | MCLG | Potential Source |
|--|-------------------|---|---------------------|------|------|-----------------------------|
| Total Coliform Test Results Year: 2016 | N | Absent 12 Samples | Colonies / 100ML | 0 | 0 | Erosion of natural deposits |
| Nitrate Test Results Year: 2016 | N | < 0.5 1 Sample | Mg/L (PPM) | 10.0 | 0 | Erosion of natural deposits |

Radiologicals

| Contaminant | MCL Violation Y/N | Average Detected Level via # of Samples | Unit of Measurement | MCL | MCLG | Potential Source |
|---|-------------------|---|---------------------|-----|------|-----------------------------|
| Gross Alpha Test Results Year: 2016 | N | < 3.0 4 Samples | pCi/L | 15 | 0 | Erosion of natural deposits |
| Combined Radium Test Results Year: 2016 | N | < 1.0 3 Samples | pCi/L | 5 | 0 | Erosion of natural deposits |

Secondary Contaminants

| Contaminant | Average Level Detected | Range of Detections | Unit of Measurement | RUL | Potential Source |
|------------------|------------------------|---------------------|---------------------|------|---------------------|
| Aluminum | 0.0002 | N/A | ppm | 0.2 | Naturally Occurring |
| Chloride (2015) | 210 | N/A | ppm | 250 | Naturally Occurring |
| Hardness (2015) | 340 | N/A | ppm | 250 | Naturally Occurring |
| Iron (2012) | <0.1 | N/A | ppm | 0.30 | Naturally Occurring |
| Manganese (2015) | 0.0008 | N/A | ppm | 0.05 | Naturally Occurring |
| Sodium (2015) | 50.6 | N/A | ppm | 50 | Naturally Occurring |
| Sulfate (2015) | 7.5 | N/A | ppm | 250 | Naturally Occurring |
| TDS (2015) | 710 | N/A | ppm | 500 | Naturally Occurring |

How to read this report:

| Word, Acronym, Symbol or Note | Definition |
|--------------------------------------|---|
| Y/N | Yes/No |
| AL | Action Level. The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirements, which a water system must follow. |
| CDC | Centers for Disease Control |
| EPA | United States Environmental Protection Agency. |
| LRAA | Locational Running Annual Average |
| MCL | Maximum Contaminant Level. 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. |
| MCLG | Maximum Contaminant Level Goal. 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. |
| MRDL | Maximum Residual Disinfectant Level – The highest level of a disinfectant allowed in drinking water. |
| MRDLG | Maximum Residual Disinfectant Level Goal – 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 contaminants. |
| N/A | Not applicable |
| NJDEP | New Jersey Department of Environmental Protection |
| ND | Not detected |
| pCi/L | The curie is a unit of radioactivity. This is measured as Picocuries Per Liter. |
| ppb | Parts per billion. Means 1 part per 1,000,000,000 (same as micrograms per liter) and correspond to 1 penny in \$10 million. |
| ppm | Parts per million. Means 1 part per 1,000,000 parts (same as milligrams per liter) and corresponds to 1 penny in \$10,000. |
| RUL | Recommended Upper Limit |

Health Effects of Detected Contaminants:

Aluminum: Large aluminum intake may be connected with nerve damage. Particularly people with kidney damage are susceptible to aluminum toxicity and there is a risk of allergies. A correlation between aluminum uptake and an increased number of Alzheimer cases is suspected. Increased aluminum intake may also cause osteomalacia.

Chloride: Chloride occurs naturally in water and is monitored as a secondary contaminant. Secondary contaminants are aesthetic (taste and odor) rather than health risks; however, in high concentrations sulfate can cause Diarrhea in some people.

Chlorine: Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

Copper: Copper is an essential nutrient, but some people who drink water that contains copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water that contains copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Gross Alpha (48 hour): Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Fluoride: Infants and children: Delays in physical or mental development; children could show slight deficits in attention span and learning abilities. Adults: Kidney problems; high blood pressure.

HAA5 (Haloacetic Acids): Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Hardness: Water hardness is the traditional measure of the capacity of water to react with soap and producing lather. Hard water often produces a noticeable deposit of precipitate (e.g. insoluble metals, soaps or salts) in containers, including "bathtub ring".

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. This water system is responsible for providing high water quality, 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 or cooking.

Manganese: The recommended upper limit for manganese is based on staining of laundry. Manganese is an essential nutrient, and toxicity is not expected from levels which would be encountered in drinking water.

Nitrate: Nitrate in drinking water a 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 for advice from your health care provider.

Radium: Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Sodium (Na): Naturally occurring mineral. Sodium is essential for good health. Certain medical conditions however, require sodium intake monitoring. Excessive sodium can adversely affect high blood pressure, heart disease or diabetes. Contact your physician for further information.

Sulfate: Sulfate occurs naturally in water and is monitored as a secondary contaminant. Secondary contaminants are aesthetic (taste and odor) rather than health risks; however, in high concentrations sulfate can cause Diarrhea in some people.

THMs (Trihalomethanes): Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Total Dissolved Solids: (TDS) in drinking water is not a health hazard. The recommended upper limit has been established based on the aesthetic properties of water. Water high in TDS may taste salty or brackish. High TDS may also indicate that other ions naturally present in water may be above established regulatory levels.

Uranium: Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

Source Water Assessment

The New Jersey Department of Environmental Protection (NJDEP) has completed and issued the Source Water Protection Report and Summary for this public water system, which is available at www.nj.gov/dep/watersupply/swap/creport.htm or by contacting the NJDEP, Bureau of Safe Drinking Water at 609-292-5550.

The table below illustrates the susceptibility rating for each individual source for each of the contaminant categories at this water system. For susceptibility ratings of purchased water, refer to the specific water system’s source water assessment report.

NJDEP considered all surface water highly susceptible to pathogens. For the purpose of the Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. If the system is rated highly susceptible for a contaminant category, it does not mean that 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, NJDEP may customize (change existing) monitoring schedules based on the susceptibility ratings. If you have questions regarding the source water assessment report or summary, please contact the Bureau of Safe Drinking Water at 609-252-5550.

| Source Name | Pathogens | Nutrients | Pesticides | VOCs | Inorganics | Radionuclides | Radon | DBPs |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | <i>Ratings</i> | <i>Ratings</i> | <i>Ratings</i> | <i>Ratings</i> | <i>Ratings</i> | <i>Ratings</i> | <i>Ratings</i> | <i>Ratings</i> |
| | L M H | L M H | L M H | L M H | L M H | L M H | L M H | L M H |
| 4 wells | 4 | 3 1 | 4 | 4 | 4 | 4 | 2 2 | 4 |

Susceptibility ratings for a public water system are based on the potential for a contaminant to be:
 At or above 50% of the Drinking Water Standard (MCL) = **(H) High**
 Between 10 and 50% of the Drinking Water Standard (MCL) = **(M) Medium**
 Less than 10% of the Drinking Water Standard (MCL) = **(L) Low**

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, and are both naturally occurring and man-made. Examples include nitrogen and phosphorus.

Volatile Organic Compounds (VOCs): 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.

(DBPs) Disinfectant Byproduct Precursors: A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when other disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.