



# 2016 Annual Water-Quality Report

Dear Customer:

We are pleased to present a summary of the quality of the water provided to you during the past year. The Safe Drinking Water Act (SDWA) requires that Utilities issue an annual report to customers. This report details where our water comes from, what it contains, and the risks that our water testing and treatment are designed to prevent. **The Hackettstown Municipal Utilities Authority is committed to providing the community with safe, clean drinking water.**

We encourage public interest and participation in the decisions affecting drinking water. Regular monthly meetings are normally held on the second Tuesday of each month at 7:00 PM, at the HMUA Administration Building, 424 Hurley Drive in Hackettstown. The public is always welcome to attend.

We hope that the information supplied in this Report provides you with an understanding of the requirements and processes involved in delivering safe, clean drinking water to your home or business. Additional information is available on the HMUA website at [www.hmua.com](http://www.hmua.com).

Thank you for allowing us the opportunity to serve your water needs.

## Customers with Compromised Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk of infections. Immuno-compromised 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). Information is also available on the USEPA Web Site at [www.epa.gov/ground-water-and-drinking-water](http://www.epa.gov/ground-water-and-drinking-water).

## What is the source of HMUA's water supply?

During 2016, the HMUA distributed 832 million gallons of drinking water to customers.

**Ground Water** – Water passes through layers of soil and gravel which act as a natural filter. Chlorine is added to the well water to destroy any harmful bacteria. The HMUA Water System had six ground water supply wells operational during 2016. Information on all wells is indicated below:

**Well # 4 - Seber** – This well is a sand and gravel well located in Hackettstown at the end of Seber Road. The well has a pump capacity of 300 gallons per minute (GPM). During 2016, this well did not provide any water to the distribution system.

**Well #5 - Seber** – This well was completed in the Kittatinny Limestone formation and is located in Hackettstown at the end of Seber Road. The well has a pump capacity of 1,000 GPM. During 2016, this well provided 19 percent of the water supplied to the water distribution system.

**Well #6 - Heath** – This well was completed in the Kittatinny Limestone formation and is located in Washington Township along Schooley's Mountain Road in front of Heath Village. The well has a pump capacity of 700 GPM. During 2016, this well provided 2 percent of the water supplied to the water distribution system.

**Well #7 - Seber** - This well was completed in the Kittatinny Limestone formation and is located in Hackettstown at the end of Seber Road. The well has a pump capacity of 1,500 GPM. During 2016 this well provided 31 percent of the water supplied to the water distribution system.

**Well #8 - Claremont** – This well was completed in the Kittatinny Limestone formation and is located in Mansfield Township along Claremont Road. The well has a pump capacity of 800 GPM. During 2016, this well provided 11 percent of the water supplied to the water distribution system.

**Well #9 - Schooley's Mountain** – This well was completed in the Kittatinny Limestone formation and is located in Washington Township along Schooley's Mountain Road. This well has a capacity of 800 GPM. During 2016, this well provided 37 percent of the water supplied to the water distribution system.

## Why are there Contaminants in Water?

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 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 (800-426-4791). Information is also available on the USEPA Web Site at [www.epa.gov/ground-water-and-drinking-water](http://www.epa.gov/ground-water-and-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:

- (A) **Microbial contaminants**, such as viruses and bacteria, which may come from septic systems, agricultural livestock operations, wildlife and sewage treatment plants.
- (B) **Inorganic contaminants**, such as salts and metals, which can occur naturally or result from urban stormwater runoff, farming, mining or industrial or domestic wastewater discharges.
- (C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes, and can also come from gas stations, urban stormwater runoff and septic systems.
- (E) **Radioactive contaminants**, which can occur naturally or be the result of mining activities.

In order to ensure that tap water is safe to drink, the 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.

# Water Quality Table – HMUA Water System (PWS ID#2108001)

Contaminant	Unit	MCL	MCLG	Detected Level	Range	Sources
<b>Microbiological Contaminants</b>						
<b>Total Coliform Bacteria ++</b>		1 Positive Monthly Sample	0	1	ND - 1	Naturally present in the environment.
One routine coliform sample tested positive in the months of July and December 2016. All repeat distribution system samples and water supply samples were negative for Total Coliform and E. coli.						
<b>Inorganic Contaminants</b>						
<b>Arsenic (2015)</b>	ppb	5	0	0.53	0.53	Erosion of natural deposits; Runoff from orchards; Runoff from glass & electronics production wastes.
<b>Barium (2015)</b>	ppm	2	2	0.0262	0.0262	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries.
<b>Mercury (2015)</b>	ppb	2	2	0.0780	0.0780	Erosion of natural deposits; Discharge from refineries and factories; runoff from landfills or cropland.
<b>Selenium (2015)</b>	ppb	50	50	2.5	2.5	Erosion of natural deposits; Discharge from petroleum and metal refineries; Discharge from mines.
<b>Copper</b>	ppm	AL=1.3	1.3	0.325	0.205 – 90 <sup>th</sup> Percentile; 0 sites exceeded Action Level	Corrosion of household plumbing systems; Erosion of natural deposits.
<b>Lead</b>	ppm	AL=0.015	0	0.0203	0.0063 – 90 <sup>th</sup> Percentile; 1 site exceeded Action Level	Corrosion of household plumbing systems; Erosion of natural deposits.
<b>Nitrate</b>	ppm	10	10	2.63	0.462 – 2.63	Runoff from fertilizer use; Leachate from septic tanks, sewage; Erosion of natural deposits.
<b>Nitrite</b>	ppm	1	1	0.0007	ND – 0.0007	Runoff from fertilizer use; leaking from septic tanks, sewage; Erosion of natural deposits.
<b>Volatile Organic Contaminants</b>						
<b>Chlorine</b>	ppm	MRDL=4	MRDLG=4	0.50	0.30 – 0.70	Water additive used to control microbes.
<b>Haloacetic Acids (HAA5)</b>	ppb	60	N/A	3.17	ND – 8.3	Byproduct of drinking water disinfection.
<b>TTHM's (Total Trihalomethanes)</b>	ppb	80	N/A	12.15	0.70 – 41.00	Byproduct of drinking water disinfection.
<b>Radiologicals</b>						
<b>Radium 228</b>	pCi/L	5	0	2.2	ND – 2.2	Erosion of natural deposits.

NOTE: The USEPA and the NJDEP require monitoring of over 80 drinking water contaminants. The parameters listed above are the only contaminants detected.

## Additional Contaminants Regulated by NJ\*

Contaminant	Unit	MCL	MCLG	Detected Level	Range	Sources
<b>Meta-Dichlorobenzene</b>	ppb	600	-	ND	ND	Discharge from industrial chemical factories.
<b>1,1-Dichloroethane</b>	ppb	50	-	ND	ND	Discharge from metal degreasing sites and other factories.
<b>Methyl tertiary butyl ether (MTBE)</b>	ppb	70	-	ND	ND	Leaking underground gasoline and fuel oil tanks and fuel oil spills.
<b>Naphthalene</b>	ppb	300	-	ND	ND	Discharge from industrial chemical factories, exposure to mothballs.
<b>1,1,2,2-Tetrachloroethane</b>	ppb	1	-	ND	ND	Discharge from industrial chemical factories.

\* Contaminants regulated in New Jersey, but not regulated by the National Regulations.

## An Explanation of the Water-Quality Data Table

The table shows the results of our water-quality analyses. Every regulated contaminant that we detected in the water, even in the most minute traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement. Definitions of MCL and MCLG are important.

**Maximum Contaminant Level or MCL:** 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.

**Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known

or expected risk to health. MCLG's allow for a margin of safety.

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirement that a water system must follow.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**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. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

*The data presented in this report is from the most recent testing done in accordance with regulations. All the sampling was conducted in 2016, except as noted.*

### Key To Table

AL = Action Level  
MCL = Maximum Contaminant Level  
MCLG = Maximum Contaminant Level Goal  
MRDL = Maximum Residual Disinfectant Level  
MRDLG = Maximum Residual Disinfectant Level Goal  
NTU = Nephelometric Turbidity Units  
pci/l = picocuries per liter (a measure of radioactivity)  
ppm = parts per million, or milligrams per liter (mg/l)  
ppb = parts per billion, or micrograms per liter (µg/l)  
TT = Treatment Technique  
ND = Not Detected  
N/A = Not Applicable

**++NOTICE OF NON-COMPLIANCE** - HMUA received a Notice of Non-Compliance from NJDEP in September 2016 due to loss of a coliform sample by the laboratory in August 2016. The HMUA is required to collect 25 coliform samples every month for testing by a NJDEP certified laboratory. After the laboratory picked up the 25 samples, one sample container broke and was therefore not processed. Unfortunately, the laboratory did not notify HMUA of the broken sample until September 2016, so another sample could not be obtained from the original site for August 2016. Therefore, a Letter of Non-Compliance was issued by NJDEP. The laboratory provided a letter to NJDEP explaining the reasons for the missing coliform sample and resulting non-compliance.

## Health Effects

**Total Coliform Bacteria** - Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

**Arsenic** - Although the level of arsenic is consistently below the health effect level, the EPA requires that the following information be included in this report: “Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.”

**Barium** - The level of barium is consistently below the health effect level. Some people who drink water containing barium in excess of the MCL over many years can experience an increase in their blood pressure.

**Mercury** - The level of mercury is consistently below the health effect level. Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

**Selenium** - The level of selenium is consistently below the health effect level. Selenium is an essential nutrient; however, some people who drink water containing selenium in excess of the MCL over many years could experience hair or finger nail losses, numbness in fingers or toes, or problems with their circulation.

**Copper** - Although the level of copper is consistently below the health effect level, the EPA requires that the following information be included in this report: “Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing 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.”

**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. HMUA 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 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water is available from the Safe Drinking Water Hotline or at [www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water](http://www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water).

**Nitrate** - Although the level of nitrate is consistently below the health effect level, the EPA requires that the following information be included in this report: “Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.”

**Nitrite** - Although the level of nitrite is consistently below the health effect level, the EPA requires that the following information be included in this report: “Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.”

**Chlorine** - Although the level of chlorine is consistently below the health effect level,

the EPA requires that the following information be included in this report: “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.”

**HAA5 (Haloacetic Acids)** - Although the level of HAA5’s is consistently below the health effect level, the EPA requires that the following information be included in this report: “Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.”

**TTHM’s (Total Trihalomethanes)** - Although the level of TTHM’s is consistently below the health effect level, the EPA requires that the following information be included in this report: “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.”

**Meta-Dichlorobenzene** - Although the level of meta-Dichlorobenzene is ND, the NJDEP requires that the following information be included in this report: “Some people who drink water containing 1,3-Dichlorobenzene in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory system.”

**1,1-Dichloroethane** - Although the level of 1,1-Dichloroethane is ND, the NJDEP requires that the following information be included in this report: “Some people who drink water containing 1,1 Dichloroethane in excess of the MCL over many years could experience problems with their kidneys.”

**Methyl tertiary butyl ether (MTBE)** - Although the level of MTBE is ND, the NJDEP requires that the following information be included in this report: “Some people who drink water containing MTBE in excess of the MCL over many years could experience problems with their kidneys.”

**Naphthalene** - Although the level of Naphthalene is ND, the NJDEP requires that the following information be included in this report: “Some people who drink water containing Naphthalene in excess of the MCL over many years could experience problems with cataracts and hemolytic anemia.”

**1,1,2,2-Tetrachloroethane** - Although the level of 1,1,2,2-Tetrachloroethane is ND, the NJDEP requires that the following information be included in this report: “Some people who drink water containing 1,1,2,2-Tetrachloroethane in excess of the MCL over many years could experience problems with their liver, kidneys and central nervous system.”

## Special Considerations Regarding Children, Pregnant Women, Nursing Mothers and Others

Children may receive a slightly higher amount of a contaminant present in the water than do adults, on a body weight basis, because they may drink a greater amount of water per pound of body weight than do adults. For this reason, reproductive or developmental effects are used for calculating a drinking water standard if these effects occur at lower levels than other health effects of concern. If there is insufficient toxicity information for a chemical (for example, lack of data on reproductive or developmental effects), an extra uncertainty factor may be incorporated into the calculation of the drinking water standard, thus making the standard more stringent, to account for additional uncertainties regarding these effects. In the cases of lead and nitrate, effects on infants and children are the health endpoints upon which the standards are based.

## Source Water Assessments

The New Jersey Department of Environmental Protection (NJDEP) has completed and issued Source Water Assessment Reports and Summaries for public water systems, which are available at [www.state.nj.us/dep/swap/](http://www.state.nj.us/dep/swap/) or by contacting the NJDEP, Bureau of Safe Drinking Water at 609-292-5550. The source water assessments\* performed on our water sources in 2004 determined the following:

Sources	Pathogens			Nutrients			Pesticides			Volatile Org Compounds			Inorganics			Radionuclides			Radon			Disinfection Byproducts		
	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		3	1	4				3	1	2		2		1	3	4			3	1		1	3	

\* Source Water Assessment Report for Hackettstown MUA and Source Water Assessment Report for Hackettstown MUA – Diamond Hill Water System, Table 9: Susceptibility Rating for Drinking Water Sources, December 2004, by NJDEP Bureau of Safe Drinking Water. Susceptibility ratings provided in the NJDEP’s December 2004 reports include four of the HMUA’s six current water supply wells.

If a system is rated highly susceptible for a contamination 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.

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HACKETTSTOWN, NJ  
PERMIT 362

*Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.*

*We would be happy to answer any questions that you may have about the HMUA or the quality of our water. Call 908-852-3622 and ask for Bud Volkert, Water Utility Superintendent.*

**Unregulated Contaminants** - Cryptosporidium: Cryptosporidium is a microscopic protozoan parasite affecting the gastrointestinal tract of humans and animals. Spread of the organism can be by food, water or person-to-person. The HMUA has tested for and has never found Cryptosporidium in our treated water.

#### **Radon**

Contaminant	Unit	Average	Range
Radon	pCi/L	579.54	ND – 1458.34

The most recent Radon testing was conducted in 1999.

Radon is a radioactive gas that you can't see, taste or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a small source (1–2 percent) of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that are relatively inexpensive. For additional information, call your State radon program or call EPA's Radon Hotline (800-SOS-RADON).

*For more information about the HMUA and your water and sewer utility services, visit our website at [www.hmua.com](http://www.hmua.com).*

## **ASSURING A SAFE AND DEPENDABLE WATER SUPPLY**

The HMUA will continue to implement initiatives that ensure safe, clean drinking water now and in the future.

#### **Geographical Information System**

The HMUA utilizes a Geographical Information System (GIS) program for the entire HMUA Service Area, which is a valuable tool in improving customer service and in the planning, operation and maintenance of HMUA assets.

#### **Water Main Replacement Program**

Since 1993, more than 84,000 feet of pipe has been replaced with new lined ductile iron water mains. The new piping replaced aging 3, 4 and 6 inch diameter unlined cast iron water mains. The most recent phase was completed in the fall of 2016, and included areas of Hackettstown and Mount Olive Twp. The new water mains will greatly improve fire flows and delivered water quality for HMUA customers. The water system improvements, along with the Hackettstown Fire Department, have assisted the Town of Hackettstown in obtaining a Fire Suppression Delivery System Rating of 4, which places the Town of Hackettstown in the top 10 percent of all communities nationwide.

#### **Periodic Hydrant Flushing**

At least once per year, the HMUA conducts a comprehensive water main and hydrant flushing program throughout the 100+ miles of the water distribution system. Hydrant flushing helps to remove any sediment from the water mains and assures consistent, good quality water. As part of the flushing process, every fire hydrant in the water system is operated to ensure that it will operate properly in the event of a fire.

#### **Water Supplies**

The Authority no longer owns or operates any surface water supply sources. In order to provide a more reliable well water system and to meet increasing water demands, especially during summer peak use periods, the HMUA has worked to develop an increased pumping capacity for Claremont Well #8. The Authority also recently completed construction of Well #9 in August 2015, which has a capacity of 800 gpm. During the summer of 2017, the Authority will be completing a project to rehabilitate its 2.4 million gallon water storage tank.

