

Annual
WATER
QUALITY
REPORT

Reporting Year 2013



Presented By
Township of Moorestown

PWS ID#: NJ0322001

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2013. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Where Does My Water Come From?

Your drinking water comes from a blend of sources that may include groundwater from the Potomac-Raritan-Magothy Aquifer System and surface water from the Delaware River. Moorestown Township purchases surface water from New Jersey American Water.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

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

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at such times. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

Missed Monitoring

During the second quarter of 2013, we failed to collect the Stage 2 TTHM-HAA5 sample for the period 04/01/2013 to 06/30/2013 for the following sample point ID: DS Distribution System. Specifically, we were required to monitor during the months of August, November, February, and May. Our samples were collected on June 12, 2013, which was the correct quarter but the wrong month. We have evaluated our sampling procedures and techniques to ensure proper and timely collection. Our June sampling results showed no MCL violations.

Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

QUESTIONS?

We want you to be informed about your drinking water. For more information about this report, or for any questions relating to your drinking water, please call Bill Butler at the Moorestown Township Department of Public Works at (856) 235-3520.

Source Water Assessment

SWAP (Source Water Assessment Program) is a program of the New Jersey Department of Environmental Protection (NJDEP) to study existing and potential threats to the quality of public drinking water sources throughout the state. Sources are rated depending upon their contaminant susceptibility.

DEP considered all surface water highly susceptible to pathogens, therefore, all intakes received a high rating for the pathogen category. For the purpose of the Source Water Assessment Program, radionuclides are more of a concern for ground water than for surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and a low rating was assigned.

For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report. Source Water Assessment Reports, Definitions, and Summaries are available for public water systems at www.state.nj.us/dep/swap/ or by contacting the NJDEP's Bureau of Safe Drinking Water at (609) 292-5550.

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, NJDEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any biological, inorganic, volatile organic, or secondary contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Any UCMR3 detections are shown in the data tables in this report. Contact us for more information on this program.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES ¹

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	Moorestown Township		Delaware River Regional WTP		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
1,1-Dichloroethane (ppb)	2013	50	NA	0.110	0.060–0.110	NA	NA	No	Discharge from metal degreasing sites and other factories
1,2-Dichloroethane (ppb)	2013	2	0	0.090	ND–0.090	NA	NA	No	Discharge from industrial chemical factories
1,2-Dichloropropane (ppb)	2013	5	0	0.130	ND–0.130	NA	NA	No	Discharge from industrial chemical factories
Alpha Emitters (pCi/L)	2011	15	0	13.34	ND–13.34	NA	NA	No	Erosion of natural deposits
Barium (ppm)	2011	2	2	0.0781	0.0424–0.0781	NA	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Bromate (ppb)	2013	10	0	NA	NA	5	ND–5	No	By-product of drinking water disinfection
Chlorine (ppm)	2013	[4]	[4]	0.43	0.21–0.43	0.57	0.33–0.57	No	Water additive used to control microbes
Combined Radium (pCi/L)	2011	5	0	3.29	ND–3.29	NA	NA	No	Erosion of natural deposits
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2013	60	NA	4.0	ND–5.24	NA	NA	No	By-product of drinking water disinfection
Nickel (ppb)	2011	100	NA	10.9	0.74–10.9	NA	NA	No	Pollution from mining and refining operations; Natural occurrence in soil
Nitrate (ppm)	2013	10	10	4.13	ND–4.13	1.09	1.09–1.09	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2013	80	NA	23.6	1.12–29.2	NA	NA	No	By-product of drinking water disinfection
Tetrachloroethylene (ppb)	2013	1	0	0.240	0.100–0.240	NA	NA	No	Discharge from factories and dry cleaners
Total Coliform Bacteria (# positive samples)	2013	1 positive monthly sample	0	1	NA	NA	NA	No	Naturally present in the environment
Total Organic Carbon (% removal)	2013	TT	NA	NA	NA	44%	21%–62%	No	Naturally present in the environment
Trichloroethylene (ppb)	2013	1	0	0.590	0.360–0.590	NA	NA	No	Discharge from metal degreasing sites and other factories
Turbidity ² (NTU)	2013	TT	NA	NA	NA	0.11	0.05–0.11	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT=95% of samples <0.3 NTU	NA	NA	NA	100%	NA	No	Soil runoff
Uranium (ppb)	2011	30	0	1	1–1	NA	NA	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2011	1.3	1.3	0.0588	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2011	15	0	4.7	2/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED CONTAMINANT MONITORING REGULATION 3 (MOORESTOWN TOWNSHIP)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
1,2,3 Trichloropropane ³ (ppb)	2013	0.038	ND–0.038	Halogenated alkane, used as an ingredient in paint, varnish remover, solvents, and degreasing agents

¹ Under a waiver granted on December 30, 1998, by the State of New Jersey Department of Environmental Protection, our system does not have to monitor for synthetic organic chemicals/pesticides because several years of testing have indicated that these substances do not occur in our source water. The SDWA regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals, and synthetic organic chemicals. Our system received monitoring waivers for synthetic organic chemicals and asbestos.

² Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU (no sample may exceed 1 NTU).

³ EPA's UCMR3. Risk-based screening level (RSL) for TCP is 0.65 ppt.

Definitions

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

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. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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