



Presented By _____
Township of Moorestown

Annual
WATER
QUALITY
REPORT
Reporting Year 2011

PWS ID#: NJ0322001

Meeting the Challenge

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2011. 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 share with us your thoughts or concerns about the information in this report. After all, well-informed customers are our best allies.

Where Does My Water Come From?

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

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 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, 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 that time. 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.

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.

The NJDEP 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 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.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the North Carolina Department of Environment and Natural Resources maintains the following Web sites: Division of Water Resources (<http://www.ncwater.org>), Division of Water Quality (<http://portal.ncdenr.org/web/wq>), and Public Water Supply (<http://www.ncwater.org/pws/>). The sites provide complete and current information on water issues in North Carolina, including valuable information about our watershed.

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

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 the Moorestown Township Department of Public Works at (856) 235-3520.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less 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.

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									
				Moorestown Township		Delaware River Regional WTP			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
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	0.012	0.012–0.012	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Bromate (ppb)	2011	10	0	NA	NA	6	ND–6	No	By-product of drinking water disinfection
Chlorine (ppm)	2011	[4]	[4]	0.46	0.20–0.46	0.59	0.22–0.59	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
Nickel (ppb)	2011	100	NA	10.9	0.74–10.9	1.3	1.3–1.3	No	Pollution from mining and refining operations; Natural occurrence in soil
Nitrate (ppm)	2011	10	10	4.05	ND–4.05	0.94	0.94–0.94	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Tetrachloroethylene (ppb)	2011	1	0	0.260	ND–0.260	NA	NA	No	Discharge from factories and dry cleaners
Total Coliform Bacteria (# positive samples)	2011	1 positive monthly sample	0	1	NA	NA	NA	No	Naturally present in the environment
Total Organic Carbon (% removal)	2011	TT	NA	NA	NA	44 ²	44–77	No	Naturally present in the environment
Trichloroethylene (ppb)	2011	1	0	0.300	ND–0.300	NA	NA	No	Discharge from metal degreasing sites and other factories
Turbidity ³ (NTU)	2011	TT	NA	NA	NA	0.10	0.04–0.10	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2011	TT	NA	NA	NA	100	NA	No	Soil runoff
Uranium (ppb)	2011	30	0	1	1–1	1 ⁴	ND–2	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 ⁵	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES (MOORESTOWN TOWNSHIP)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	RUL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	EXCEEDANCE	TYPICAL SOURCE
Manganese (ppb)	2011	50	NA	116	50.5–166	Yes ⁶	Leaching from natural deposits

INITIAL DISTRIBUTION SYSTEM EVALUATION (IDSE)⁷

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Haloacetic Acids [HAA]–IDSE Results (ppb)	2011	5.74	ND–5.74	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–IDSE Results (ppb)	2011	17.7	0.220–17.7	By-product of drinking water disinfection

Definitions

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

RUL (Recommended Upper Limit): The highest level of a contaminant recommended in drinking water. RULs are set to protect the odor, taste, and appearance of drinking water.

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

Footnotes

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 Amount detected represents the lowest removal of Total Organic Carbon (TOC).

³ Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The turbidity rule requires that 95 percent or more of the monthly samples must be less than or equal to 0.3 NTU (no sample may exceed 1 NTU).

⁴ Amount detected represents an average.

⁵ The two sites above the action level were re-sampled, and results were below the action level.

⁶ Secondary samples taken on April 13, 2011, and June 29, 2011 exceeded the RUL. The sequestering agent feed system at the North Church Street water treatment plant has since been automated to better control the manganese within our water distribution. The recommended upper limit for manganese is based on staining of laundry. Manganese is an essential nutrient, and toxicity is not expected from high levels which would be encountered in drinking water.

⁷ We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution system that have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.