

East Hanover Water Quality Report

2011

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Water quality and service has always been East Hanover Water Department's primary commitment to our customers. Each year more than 260 different water analysis tests are conducted to assure the safety and quality of our drinking water. The Township is pleased to report that water provided to our customers has, in the past met, and currently meets all state and federal standards for drinking water. This brochure contains an overview of the water quality and the results of the analytical test conducted during the past year. Information included in this brochure are details of where your water comes from, how it is treated, and test results as they compare to the standards and regulations of the federal Environmental Protection Agency (EPA) the state Safe Drinking Water Act (SDWA) and the state Department of Environmental Protection (DEP). For more information about your water, call 428-3063 and ask for Bruce Allen, Superintendent of Public Utilities. You can also make comments at Town Council Meetings on the first Monday of each month.

East Hanover's water supply comes from three deep groundwater wells. These wells draw water from the Buried Valley Aquifer, also known as the Passaic River Basin. This aquifer encompasses a large area which includes Morris Plains to the south, Pompton Lakes to the north, Chester to the west, and Livingston to the east. Approximately 600,000 people and many large industries depend on the Buried Valley Aquifer for their water supply. During times of high water demand, East Hanover purchases additional water from New Jersey American Water Company.

The New Jersey Department of Environmental Protection (NJDEP), has completed and issued the Source Water Assessment Report and Summary for this public water system, which is available at www.state.nj.us/dep/swap/ or by contacting the NJDEP, Bureau of Safe Drinking Water at 609-292-5550. The source water assessment performed on our three sources determined the following

	Pathogens	Nutrients	Pesticides	Volatile Organic Compounds	Inorganic	Radio-nuclides	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 - 3	2 1	3	3	2 1	3	3	3	2 1

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.

NJDEP found the following potential contaminant sources within the source water assessment areas for our sources: underground storage tanks, solid waste landfills, discharge to ground water, discharge to surface water, sewerage treatment plants. A detailed listing and description can be obtained at the office of the Superintendent.

If you have questions regarding the source water assessment report or summary please contact the Bureau of Safe Drinking Water as swap@dep.state.nj.us or 609-292-5550.

In East Hanover's effort to supply our customers with the safest and highest quality water, the water is chlorinated for disinfection of coliform & E. Coli bacteria; air striped to remove volatile organic compounds; and filtered to remove manganese. A new treatment process has been implemented to reduce the effects of hard water. The process involves treating the water with a polyphosphate that prevents the minerals associated with hardness from being deposited on pipes and fixtures. The treatment process is monitored daily to ensure that the proper dosages are being added and that filtering is 100% efficient.

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 EPA's Safe Drinking Water hotline (1-800-426-4791).

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).

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.

DEFINITIONS:

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

Maximum Contaminant Level (MCL): 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 (MCLG): 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.

Ppm (parts per million): 1 drop in 10 gallons, 1 inch in 16 miles, or 1 penny in \$10,000.

Ppb or ug/l (parts per billion): 1 drop in 10,000 gallons, 1 inch in 16,000 miles, or 1 penny in \$10,000,000.

Mg/l: milligrams per liter, a unit used to denote concentrations of chemicals or other substances in water. Mg/l and ppm are equivalent expressions of concentrations.

PicoCurie (pCi): A unit used to describe the level of activity or decay of a radioactive element.

To convert hardness from Mg/l to grains, divide Mg/l by 17.1.

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 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.

Regarding Nitrate:

Nitrate in drinking water at 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 rain fall or agricultural activity. If you are caring for an infant, you should ask the advice from your health care provider.

Regarding Lead:

If present, elevated levels of lead can cause serious health problems, especially for pregnant woman and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The East Hanover Water Department 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 <http://www.epa.gov/safewater/lead>.

Health Effects of Detected Contaminants:

Methyl-tert-butyl-ether. Some people who drink water containing MTBE in excess of the MCL for many years could experience problems with their kidneys.

Total Trihalomethanes. Some people who drink water containing trihalomethanes in excess of the MCL level over the years may experience problems with their liver, Kidneys, or central nervous system and may have an increased risk of getting cancer.

Haloacetic Acids. Short-term exposure levels above the MCL may increase the chance of spontaneous abortions in pregnant women, but evidence is inconclusive. At long-term exposure levels above the MCL may cause an increased risk of cancer.

The following chart shows the testing results for the water samples taken throughout the year in 2010. In many instances the water was sampled more frequently than is required by state and federal regulations. As part of East Hanover's continued effort to provide the highest quality water and service to our customers, there are several projects planned for the future. These projects include replacement of old water mains, a new well and treatment plant, and increased water storage capacity. We hope that you have found this information to be helpful, and dedicated water professionals are available for comments and to answer your questions.

East Hanover Water Quality Test Results

Regulated Contaminants	Units Level	Average Detected	Range Detected	MCL	MCLG	Source
Bromodichloromethane	UG/L	1.80	1.1 - 2.5	NA	NA	By - product of drinking water chlorination
Bromoform	UG/L	0.70	.60 - 1.3	NA	NA	By - product of drinking water chlorination
Chloroform	UG/L	1.35	.81 - 1.8	NA	NA	By - product of drinking water chlorination
Dibromochloromethane	UG/L	1.83	.91 - 2.9	NA	NA	By - product of drinking water chlorination
Methyl-tert-butyl-ether	UG/L	0.24	ND - .24	70	70	Leaking underground gasoline & fuel oil tanks

Treatment By-Products	Units Level	Average Detected	Range Detected	MCL	
Trihalomethanes	UG/L	6.43	1.3 - 18.0	80	By - product of drinking water chlorination
Haloacetic Acids	UG/L	1.31	ND - 4.19	60	By - product of drinking water chlorination

Secondary	Unit Level	Range Detected	Recommended Upper Limits	
Nitrate	mg/l	ND - 1.42	10.0	Fertilizer, septic tanks, erosion of natural products

Contaminant	Unit Level	Level Detected	Action Level
Gross Alpha	pci/l	2.84	15



HOW MUCH WATER DOES IT TAKE ?

You may be surprised to realize how much water we use every day. Typically each individual in the average residence served by the Township of East Hanover uses about 80 GALLONS of water every day. Here is a summary of how much water is used on average for common household tasks;



Washing machine	20 to 40 gallons per load
Hand washing dishes	Up to 20 gallons per load
Automatic dishwasher	6 to 12 gallons per load
Bath	20 to 50 gallons per bath
Shower	2 to 10 gallons per minute
Toilet	3 to 7 gallons per flush
Faucet	2 to 4 gallons per minute
Garden Hose (1/2 inch)	300 gallons per hour

