



WATER QUALITY REPORT

THE SOUTHEAST MORRIS COUNTY MUNICIPAL UTILITIES AUTHORITY
19 SADDLE ROAD
CEDAR KNOLLS, NJ 07927

SPRING/SUMMER 2012
VOL. 18



A Message from the Executive Director

The Water Quality Report is prepared annually and distributed to every SMCMUA customer. It contains important information concerning the quality and origin of your water supply. Much of the content and format of this report is mandated under the Federal and State Safe Drinking Water Acts.

The Safe Drinking Water Act requires testing for over 100 primary contaminants (those that have health concerns) and several secondary contaminants (those that have cosmetic or aesthetic concerns). Testing is also required for several unregulated contaminants with unknown health concerns. Additionally, the Authority performs extensive, proactive quality control testing, not required by law, at all of the sources of supply and at customers' taps. This provides an extra level of protection as well as operational data to optimize water treatment.

For 2011, the quality of your drinking water was in compliance with all State and Federal Drinking Water Regulations. All primary drinking water standards were met as well as treatment techniques, monitoring and reporting requirements.

It is important to note that the quality and reliability of your water supply was severely tested by the uncommon events that occurred during 2011. On August 23 a large (for the east coast) earthquake occurred, centered in northern Virginia, which caused significant vibrations throughout New Jersey. Unlike other natural and manmade disasters, an earthquake is difficult to provide a response plan for since the locations and severity of the damage can't be predicted. Luckily, the underground infrastructure held up and there were no main breaks. Additionally, the Authority operates a large dam at the Clyde Potts Reservoir in Mendham Township. After the earthquake, an immediate inspection of the dam took place and confirmed that there was no damage.

Later that same week, Hurricane Irene struck New Jersey causing widespread power outages and flooding. Several of the Authority's pumping and supply facilities lost power and the Black Brook wells and treatment facilities were flooded to a level not seen before. However, a hurricane is an event that can be anticipated and planned for. All of the critical facilities that lost power have backup generators allowing a smooth transition with no interruption in service. Likewise, the loss of the Black Brook supply was replaced with redundant supply facilities that the Authority has built over the years.

All was well until Halloween, when a rare snowstorm occurred before the trees had shed their leaves. Falling limbs knocked out power lines throughout the entire service area. It took several days for Jersey Central to restore power to most of the facilities and several weeks for

one critical pump station in Morris Township. The backup generator to that pump station ultimately failed (it was scheduled to be replaced in 2012). However, the Authority is contracted with a generator service company who provided a portable unit within hours.

The water supply infrastructure has passed the tests thanks to the longstanding support of our customers. Compared to other utilities, your water system is safe and reliable through fair weather and foul.

Along those lines of reliability, the Authority is in the process of replacing all of the water meters throughout the service area along with the outdated telephone based meter reading system. Replacements have already been made for two thirds of the Authority's customers and we will ultimately need to access the meter of every customer. The new system provides accurate, daily meter readings which facilitates timely indication of any water leaks.

If you have not yet been contacted to schedule an appointment, please contact your customer service representative or the Business Office Supervisor, Judy Burster, at 973-326-6880. If you have any other questions or concerns, please contact us at the telephone numbers listed on page 7 of this report.

William Hutchinson, P.E.
Executive Director/Chief Engineer



Treatment and Pumping Operators monitoring plant performance at the Clyde Potts Surface Water Treatment Plant in Mendham

This report must contain a brief explanation regarding contaminants which may reasonably be expected to be found in drinking water including bottled 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:

- 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 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 can also come from gas stations, urban stormwater 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. FDA 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 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).

Source Water Assessment Program

The New Jersey Department of Environmental Protection (NJDEP) has prepared Source Water Assessment Reports and Summaries for all public water systems. The purpose of the Source Water Assessment Program (SWAP) is to provide for the protection and benefit of public water systems and to increase public awareness and involvement in protecting the sources of public drinking water (see Page 6 for SMCMUA summary). Further information on SWAP can be obtained by logging onto the New Jersey Department of Environmental Protection's website at www.state.nj.us/dep/swap or by phoning the NJDEP Bureau of Safe Drinking Water at (609) 292-5550.

SMCMUA has identified its watershed and wellhead protection areas. To become involved in the effort to protect and preserve local water resources contact The Passaic River Coalition's Ground Water Protection Committee at (973) 532-9830.



Treatment and Pumping Operator fabricating control panel for remote operation of pumping station

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although Cryptosporidium can be removed through commonly used filtration methods, the US EPA issued a new rule in January 2006 that requires water systems with higher Cryptosporidium levels in their source water to provide additional treatment. The SMCMUA monitored for Cryptosporidium in its raw surface water during 2006-2008. Sample results do not show a need to provide additional treatment.

Unregulated Contaminant Monitoring

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. During the first round of monitoring (1988-1997) the SMCMUA sampled for 12 unregulated contaminants including several volatile organic compounds and herbicides. Dacthal Acid Metabolites (DCPA) were detected at low levels. Sample tests from each source of water showed DCPA levels from non-detect to 3 parts per billion (ppb). Based on the toxicological information currently available for Dacthal Acid Metabolites, the Bureau of Safe Drinking Water has established an Action Level of 70 parts per billion (ppb).

The second round of monitoring was completed during 2009 and consisted of 10 unregulated contaminants including explosives and flame retardants. None of these contaminants were detected in sample tests from each source of water.

Additional information on unregulated contaminants can be found at <http://www.epa.gov/safewater/ucmr/index.html>.

Perfluorooctanoic Acid (PFOA)

Perfluorooctanoic Acid (PFOA) is synthetic (man-made) chemical used in the manufacture of several commercially important products. PFOA is very persistent in the environment and has been found at very low levels both in the environment and in the blood of the general U.S. population. On February 13, 2007 the New Jersey Department of Environmental Protection (NJDEP) Commissioner Lisa P. Jackson released the results of a study that evaluated the occurrence of PFOA in New Jersey. The study found very low levels in wells throughout the state consistent with other levels found in other areas of the country. PFOA is not currently regulated under the requirements of the New Jersey or Federal Safe Drinking Water Act. The NJDEP has taken the first step toward developing a preliminary drinking water guidance value for PFOA based on existing animal studies and estimates derived from a lifetime of exposure (70 years). The NJDEP has developed a "guidance level" of 0.04 parts per billion (ppb).

During 2009 the Southeast Morris County M.U.A. voluntarily tested each of its major sources for PFOA. All sample results were non-detect. During 2011 the NJDEP requested that the SMCMUA perform quarterly testing on one of its groundwater sources as part of an on-going occurrence study. All sample results were non-detect. Water purchased from the Passaic Valley Water Commission during 2011 showed PFOA at 0.013 parts per billion. Additional information on PFOA can be found at <http://www.epa.gov/opptintr/pfoa/index.htm>.

The Southeast Morris County Municipal Utilities Authority is a public community water system consisting of 9 groundwater sources, none under the influence of surface water, 1 surface water intake, 1 purchased groundwater source, and 1 purchased surface water source. These sources are drawn from the following aquifers and surface water bodies: Clyde Potts Reservoir, glacial sand and gravel and the Brunswick aquifer. This system purchases water from the following water systems: Morris County MUA, NJAWC connection to Passaic Valley Water Commission and Wanaque Reservoir.



Treatment and Pumping Operator inspecting Countrywood Water Storage Tank in Cedar Knolls

IMPORTANT INFORMATION ABOUT LEAD IN DRINKING WATER

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. SMCMUA 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 two 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 <http://www.epa.gov/safewater/lead>.

IMPORTANT NOTICE ABOUT YOUR DRINKING WATER SODIUM RECOMMENDED UPPER LIMIT EXCEEDED

The Southeast Morris County Municipal Utilities Authority exceeded the Secondary Recommended Upper Limit (RUL) for sodium during 2011 at two wells that periodically supply water to Morris Plains and in treated surface water purchased from the Passaic Valley Water Commission that supplies water to Morristown. The RUL for sodium is 50 parts per million (ppm) whereas the maximum detected level at any source was 83 ppm, on a Running Annual Average (RAA).

This is not an emergency, but as our customers, you have a right to know the results of the water source analysis.

For healthy individuals, the sodium intake from water is not important, because a much greater intake of sodium takes place from salt in the diet. However, sodium levels above the RUL might be of concern to individuals on sodium restricted diets.

There is nothing you need to do at this time. Sodium is naturally present in this source water and cannot be removed by the water treatment process. This is not an emergency. If it had been you would have been notified immediately.

The Southeast Morris County Municipal Utilities Authority will continue to monitor sodium at these sources on a quarterly basis and report the values in the annual Water Quality Report.

For more information, please contact Frank J. Marascia, Water Quality/Regulatory Specialist at 973-326-7230 or fmarascia@smcmua.org.

This notice is being sent to you by The Southeast Morris County Municipal Utilities Authority, State Water System I.D. No. NJ1424001.

Date Distributed: June 2012

Definitions

In order to ensure that tap water is safe to drink, EPA prescribes regulations that 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 that must provide the same protection for public health. The following definitions describe the limits the EPA has established for drinking water. These definitions will assist you in reviewing the data on the following page.

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. MCLGs allow for a margin of safety.

Maximum Contaminant Level or 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.

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

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

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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Vulnerable Populations Statement

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 Table on the following page lists substances that were found in the SMCMUA's treated water during testing conducted in 2011. The presence of these substances in water does not necessarily indicate that the water poses a health risk.

Table of Detected Contaminants

Regulated Contaminant (Unit)	Range	Maximum Detected Level	MCL	MCLG	Typical Source	Violation
Turbidity ⁽¹⁾ (NTU)	0.04 – 0.44	0.44 99%	TT = 1 NTU TT = Percent of samples below 0.3 NTU	N/A	Soil runoff	No
Total Coliform Bacteria	N/A	1% ⁽²⁾	5% of monthly samples are positive	0	Naturally present in the environment	No
Chlorine (ppm)	0.39 – 0.70 ⁽³⁾	0.57 ⁽³⁾	MRDL = 4	MRDLG = 4	Water additive used to control microbes	No
Total Trihalomethanes (ppb)	1 – 74 ⁽⁴⁾	44 ⁽⁴⁾	80	N/A	By-product of drinking water disinfection	No
Five Haloacetic Acids (ppb)	ND – 57 ⁽⁴⁾	26 ⁽⁴⁾	60	N/A	By-product of drinking water disinfection	No
Methyl t-Butyl Ether (ppb)	2.1 – 3.6 ⁽⁴⁾	2.9 ⁽⁴⁾	70	70	Leaking underground gasoline and fuel oil tanks, gasoline and fuel oil spills	No
Arsenic (ppb)	ND – 0.6	0.6	5	0	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Barium (ppm)	0.008 – 0.5	0.5	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Chromium (ppb)	ND – 1.6	1.6	100	100	Discharge from steel and pulp mills; Erosion of natural deposits	No
Fluoride (ppm)	ND – 0.34	0.34	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories	No
Nickel (ppb)	ND – 3.5	3.5	No MCL – Monitoring Required	N/A	Erosion of natural deposits	No
Nitrate ⁽⁵⁾ (ppm)	ND – 3.5	3.5	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	No
Selenium (ppb)	ND – 0.8	0.8	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines	No
Alpha Emitters (pCi/L)	ND – 8.7	8.7	15	0	Erosion of natural deposits	No
Combined Radium 226 & 228 (pCi/L)	ND – 1.4	1.4	5	0	Erosion of natural deposits	No

Regulated Contaminant (Unit)	Action Level ⁽⁶⁾	MCLG	Number of Samples	90 th Percentile ⁽⁷⁾	Number of Samples above Action Level	Typical Source	Violation
Lead (ppb)	15	0	30	5	3	Corrosion of household plumbing systems	No
Copper (ppm)	1.3	1.3	30	0.5	3	Corrosion of household plumbing systems; erosion of natural deposits	No

Secondary Contaminant (Unit)	Recommended Upper Limit	Maximum Detected Level	Range	Typical Source	Exceeded
Sodium (ppm)	50	83 ⁽³⁾	18 – 85 ⁽³⁾	Erosion of natural deposits; leaching; runoff	Yes

MCL = Maximum Contaminant Level	NTU = Nephelometric Turbidity Unit	ND = not detected
MCLG = Maximum Contaminant Level Goal	TT = Treatment Technique	ppm = parts per million or milligrams per liter
MRDL = Maximum Residual Disinfectant Level	pCi/L = pico Curie per liter	ppb = parts per billion or micrograms per liter
MRDLG = Maximum Residual Disinfectant Level Goal	N/A = not applicable	

The potential health effects of the contaminants detected in the water supply are detailed on Page 6. Please note that the levels of the primary contaminants detected in the water supply did not exceed any MCLs.

- ¹ Turbidity is a measure of the cloudiness in the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.
- ² Maximum percentage of positive samples collected in any one month.
- ³ Maximum Detected Level indicated is the maximum running annual average. Range indicates the monthly averages detected.
- ⁴ Maximum Detected Level indicated is the maximum running annual average. Range indicates the discrete “instantaneous” values detected.
- ⁵ 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 rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.
- ⁶ Action Level: The concentration of a contaminant that, if exceeded, triggers a treatment technique or other requirement, which a water system must follow.
- ⁷ Ninety percent of the samples test below the indicated action level.

RADON

Radon is a naturally occurring radioactive gas found throughout the United States. Radon can move up through the ground and into a home through the cracks in the foundation. Radon can also get into indoor air when released from tap water while showering, washing dishes, and performing other household activities. Compared to radon entering the home through soil, radon entering through tap water is, in most cases, a small source of radon in indoor air.

Sample tests from each source of water during 2009 showed radon levels from non-detect to 1,610 pCi/L. Radon in the air is inexpensive to test and easy to correct. For additional information, call the EPA's Radon Hotline at 1-800-SOS-RADON.

FLUORIDE

The Southeast Morris County Municipal Utilities Authority frequently receives calls regarding the status of fluoridation of its water supply. These callers often include pediatricians and dentists inquiring if the areas where their patients live are receiving fluoridated water. If their patients do not receive fluoridated drinking water, fluoride supplements may be prescribed for their pediatric patients. The Southeast Morris County Municipal Utilities Authority DOES NOT fluoridate its water supply, however, some of our sources do contain trace amounts of naturally occurring fluoride. This includes the Town of Morristown, Morris Township, Morris Plains, Hanover Township, and parts of Mendham Township and Harding Township. If you pay a water bill to the Southeast Morris County Municipal Utilities Authority then you are not receiving fluoridated water. For more information regarding fluoride and fluoride supplements contact your local health department or health care provider.

Susceptibility Ratings for Southeast Morris County MUA Sources

The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report.

The seven contaminant categories are defined at the bottom of this page. DEP considered all surface water highly susceptible to pathogens; therefore all intakes received a high rating for the pathogen category. For the purpose of 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 they all received a low rating.

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

Sources	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radio-nuclides			Radon			Disinfection Byproduct Precursors		
	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 – 12		10	1	10	1			2	9	11			5	6		2	9		11			6	5	
Surface water intakes – 1	1				1				1		1		1					1			1	1		

- **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, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.
- **Volatile Organic Compounds:** 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.
- **Disinfection Byproduct Precursors:** A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.

HOW TO REACH US

For bill inquiries, payment and other customer service information, call:

Judy Burster
Business Office Supervisor
973-326-6880

For questions about water quality, testing results and procedures, call:

Frank Marascia
Water Quality/Regulatory Specialist
973-326-7230

For accounting and finance related questions, call:

Janice Congleton
Chief Financial Officer/Treasurer
973-326-6863

For low pressure, discolored water or field problems, call:

Jim Lengyel
Assistant Superintendent
973-326-9021

For engineering and operational questions, call:

Paul Kozakiewicz
Superintendent
973-326-6865

For general management concerns, call:

William Hutchinson, P.E.
Executive Director/Chief Engineer
973-326-6866

Fax us at 973-326-9521, 973-326-6864, or send e-mail to Info@SMCMUA.ORG.

Check out our website at WWW.SMCMUA.ORG.

The SMCMUA Board

The Town of Morristown, the Townships of Hanover and Morris, and the Borough of Morris Plains each appoint two residents to serve as members of the SMCMUA Board. The Board establishes the overall policies of the Authority and hires appropriate officials to manage the day-to-day operations. Officers are elected by the Board at the Annual Reorganization Meeting on February 1.

Adolf Schimpf
Chairman

Representative of Hanover Twp.
Term expires 2017

Mary Dougherty
Vice Chairman
Representative of Morristown
Term expires 2015

William Conradi
Secretary
Representative of Morris Plains
Term expires 2014

Dennis Baldassari
Member
Representative of Morris Twp.
Term expires 2016

Robert Carroll
Member
Representative of Morris Plains
Term expires 2015

Saverio Iannaccone
Member
Representative of Hanover Twp.
Term expires 2016

Donald Kissil
Member
Representative of Morristown
Term expires 2014

Edward A. Taratko, Jr., P.E.
Member
Representative of Morris Twp.
Term expires 2013

BOARD MEETINGS

The SMCMUA Board normally meets on the third Thursday of every month at 7:30PM in the Saddle Road, Cedar Knolls headquarters of the Authority. The public is invited to attend and participate at the meetings. For a complete meeting schedule, please call Alexis Bozza, Recording Secretary, at 973-326-6867 or visit the Authority's website at www.smcmua.org.