

# *Annual Drinking Water Quality Report*

## *Morris County Municipal Utilities Authority*

PWS ID# NJ1432001

For the Year 2016, Results from the Year 2015

Morris County MUA is pleased to provide you with our Annual Drinking Water Quality Report for the year 2015. This report includes results from water sample monitoring sampling performed by Southeast Morris County MUA (SMCMUA) on their surface water source. Water that you purchase from the Morris County MUA is SMCMUA surface water from their Clyde Potts Treatment Plant. These results are for you to incorporate into your CCR report with other additional sampling and results that you may have performed within your distribution system. We want to keep you informed about the excellent water quality and delivery services we have provided to you over the past year. Our goal is and always has been, to provide a safe and dependable supply of drinking water. Morris County MUA is exclusively a bulk water wholesaler.

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/](http://www.state.nj.us/dep/swap/) or by contacting the NJDEP, Bureau of Safe Drinking Water at 609-292-5550. A brief summary of this report is included.

*Morris County MUA is pleased to report that our drinking water is safe and meets federal and state standards.*

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer who have undergone 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 (1-877-927-6337).

Lead if present, elevated levels of lead can cause serious health problems, especially in pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Morris County M.U.A. 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 and 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 your exposure is available from the Safe Drinking Water hotline at 1-877-927-6337 or at <http://www.epa.gov/safewater/lead>.

If you have any questions about this report, contact Superintendent of Water Operator, Anthony Milonas at (973-584-5503). We want our valued customers to be informed about their water quality. If you want to learn more, feel free to attend any of our regularly scheduled meetings, call (973-285-8385) for date and time.

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 (1-877-927-6337).

The sources of drinking water (both tap 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.
- **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 stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

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.

The Morris County M.U.A. and the Southeast Morris County MUA routinely monitor for contaminants in your drinking water according to federal and state laws. The following table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2015. The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals and synthetic organic chemicals. Our systems received monitoring waivers for two of these types of contaminants, asbestos and synthetic organic chemicals. State law also allows us to monitor for some contaminants less than once a year because the concentrations of these contaminants do not change frequently. Some of the data, though representative, are more than one year old.

## SMCMUA 2015 TEST RESULTS

PWS ID # NJ1424001

Contaminant	Violation Y/N	Level Detected	Units of Measurement	MC LG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants:</b>						
Total coliform Bacteria	N	Highest Monthly -1.3% (1 out of 77 samples were Total Coliform Positive)		0	5% of monthly samples	Naturally present in the environment
Turbidity	N	100% < 0.3 Highest result = 0.197		N/A	TT = 1	Soil runoff
<b>Inorganic Contaminants:</b>						
Barium	N	Range = 0.032 – 0.53 Highest detect = 0.53	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	N	Range = ND – 12 Highest Detect = 12	ppb	100	100	Discharge from steel and pulp mills, erosion of natural deposits
Copper Test results Yr. 2014 Result at 90 <sup>th</sup> Percentile	N	0.5 No samples exceeded the action level	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead Test results Yr. 2014 Result at 90 <sup>th</sup> Percentile	N	5.4 1 sample out of 30 exceeded the action level	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nickel	N	Range = ND – 1.2 Highest detect = 3.8	ppb	N/A	N/A	Erosion of natural deposits
Nitrate (as Nitrogen)	N	Range = ND – 2.7 Highest detect = 2.7	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Volatile Organic Contaminants / Disinfection Byproducts:</b>						
Methyl tertiary butyl ether (MTBE)	N	Range = ND – 5.6 Highest RAA = 5.0	ppb	70	70	Leaking underground gasoline and fuel oil tanks. Gasoline and fuel oil spills.
TTHM Total Trihalomethanes	N	Range = 26.8 – 67.7 Highest LRAA = 61	ppb	N/A	80	By-product of drinking water disinfection
HAA5 Haloacetic Acids	N	Range = 4.9 – 43.0 Highest LRAA = 36.5	ppb	N/A	60	By-product of drinking water disinfection
<b>Radioactive Contaminants:</b>						
Gross Alpha Test results Yr. 2011- 2014	N	Range = ND – 8.7 Highest detect = 8.7	pCi/l	0	15	Erosion of natural deposits
Combined Radium 228 & 226 Test results Yr. 2011-2014	N	Range = ND – 1.37 Highest detect = 1.37	pCi/l	0	5	Erosion of natural deposits

Regulated Disinfectants	Level Detected	MRDL	MRDLG
Sodium Hypochlorite "Chlorine"	Average = 1.88	4.0 ppm	4.0 ppm

Secondary Contaminant	Level Detected	Units of Measurement	RUL
Sodium*	Range = 18 - 93	ppm	50

The SMCMUA exceeded the secondary Recommended Upper Limit (RUL) for sodium. 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 Recommended Upper Limit (RUL) may be of concern to individuals on a sodium restricted diet.

The SMCMUA had a positive Total Coliform Bacteria routine sample in August and one in October 2015. All repeat / confirmation samples were negative. The SMCMUA collects a minimum of 70 total Coliform Bacteria samples each month. 5% of those samples are allowed have positive results. Total Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

UCMR3 CONTAMINANTS	HEALTH ADVISORY LEVEL OR PROPOSED MCL	Purchased Water Results		TYPICAL SOURCE
		SMCMUA PWS ID NJ1424051 2015	NYWC PWS ID NJ1613001 2013 - 2014	
equilin (ppb)	NA	ND	ND	It is an estrogenic hormone and is used in pharmaceuticals.
estradiol (ppb)	NA	ND	ND	It is an estrogenic hormone and is used in pharmaceuticals.
estriol (ppb)	NA	ND	ND	It is an estrogenic hormone and is used in veterinary pharmaceuticals.
estrone (ppb)	NA	ND	ND	It is an estrogenic hormone and is used in veterinary and human pharmaceuticals.
ethynylestradiol (ppb)	NA	ND	ND	It is an estrogenic hormone and is used in veterinary and human pharmaceuticals.
testosterone (ppb)	NA	ND	0.00097 (ND - 0.00097)	Androgenic steroid naturally produced in the human body, and used in pharmaceuticals.
chromium (total) (ppb)	100	0.7 (ND - 0.7)	0.36 (ND - 0.36)	Naturally-occurring element; used in making steel and other alloys; used for chrome plating, dyes and pigments, leather tanning and wood preservation.
cobalt (ppb)	NA	ND	ND	It is a naturally-occurring element and was formerly used as cobaltous chloride in medicines and as a germicide.
molybdenum (ppb)	40	1.7 (ND - 1.7)	ND	It is a naturally-occurring element and is commonly used as molybdenum trioxide as a chemical reagent.
strontium (ppb)	4000	440 (71 - 440)	150 (40 - 150)	It is naturally-occurring element and is used as strontium carbonate in pyrotechnics, in steel production, as a catalyst and as a lead scavenger.
vanadium (ppb)	21	1.8 (ND - 1.8)	0.31 (ND - 0.31)	It is a naturally-occurring element and is commonly used as vanadium pentoxide in the production of other substances and as a catalyst.
1,1-dichloroethane (ppb)	400	0.07 (ND - 0.07)	ND	It is an industrial chemical used as a solvent.
1,2,3-trichloropropane (ppb)	NA	ND	ND	It is an industrial chemical used in paint manufacture.
1,3-butadiene (ppb)	NA	ND	ND	It is an industrial chemical used in rubber production.
bromochloromethane (ppb)	NA	ND	ND	Used as a fire-extinguishing fluid, an explosive suppressant, and as a solvent in the manufacturing of pesticides.
bromomethane (ppb)	NA	ND	ND	Halogenated alkane; occurs as a gas, and used as a fumigant on soil before planting, on crops after harvest, on vehicles and buildings and for other specialized purposes.
chlorodifluoromethane (ppb)	7000	5.3 (ND - 5.3)	ND	Chlorofluorocarbon; occurs as a gas, and used as a refrigerant, as a low-temperature solvent, and in fluorocarbon resins, especially tetrafluoroethylene polymers.
chloromethane (ppb)	NA	ND	ND	It is used as a foaming agent and in the production of other substances.
chromium-6 (ppb)	NA	0.72 (ND - 0.72)	0.12 (ND - 0.12)	Naturally-occurring element; used in making steel and other alloys; used for chrome plating, dyes and pigments, leather tanning and wood preservation.
1,4-dioxane (ppb)	200	0.6 (ND - 0.6)	0.135 (ND - 0.135)	It is used as a solvent or solvent stabilizer in the manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics and shampoos.
Perfluorobutanesulfonic acid (PFBS) (ppb)	NA	ND	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant.
Perfluoroheptanoic acid (PFHpA) (ppb)	NA	ND	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant.
Perfluorohexanesulfonic acid (PFHxS) (ppb)	NA	ND	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant.
Perfluorononanoic acid (PFNA) (ppb)	NA	ND	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant.
Perfluorooctanoic acid (PFOA) (ppb)	0.4	ND	ND	PFOA is used in the manufacture of fluoropolymers, substances which provide non-stick surfaces on cookware and waterproof, breathable membranes for clothing.
Perfluorooctane sulfonate (PFOS) (ppb)	0.2	ND	ND	PFOS was used in fire fighting foams and various surfactant uses; few of which are still ongoing because no alternatives are available.
chlorate (ppb)	NA	180 (26 - 180)	430 (36 - 430)	Chlorate compounds are used in agriculture as defoliants or desiccants and may occur in drinking water related to use of disinfectants such as chlorine dioxide.

Listed in the table below are the contaminants that were detected. In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

- **Non-Detects (ND)** - laboratory analysis indicates that the constituent is not present.
- **Parts per million (ppm) or Milligrams per liter (mg/l)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion (ppb) or Micrograms per liter** - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Maximum Contaminant Level** - The "Maximum Allowed" (MCL) is 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** - The "Goal" (MCLG) is 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.
- **Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- **Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Picocuries per liter (pCi/L)** - picocuries per liter is a measure of the radioactivity in 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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

The following is a brief summary of the Southeast Morris County's M.U.A. Clyde Potts Reservoir source water. The table below illustrates the susceptibility ratings on the source water assessment area. The source has a susceptibility rating of high, medium, or low for each potential contaminant.

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.

Southeast Morris County MUA Source Water Assessment																								
Potential Contaminants	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radionuclides			Radon			Disinfection Byproducts 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
Sources																								
GUDI - 0																								
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.
- **Volatile Organic Compounds:** Manmade chemicals used as solvents, degreasers, and gasoline components.
- **Pesticides:** Manmade chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides.
- **Inorganics:** Mineral-based compounds that are naturally occurring and man made.
- **Radionuclides:** Radioactive substances that are naturally occurring and man made.
- **Radon:** Colorless, odorless, cancer causing gas that occurs naturally in the environment.
- **Disinfection Byproduct Precursors:** A common source is naturally occurring organic matter in surface water. Disinfection by products are formed when the disinfectants (usually chlorine) is used to kill pathogens react with dissolved organic material present in water.

If you have any questions regarding the source water assessment report or summary, please contact the Bureau of Safe Drinking Water at [swap@dep.state.nj.us](mailto:swap@dep.state.nj.us) or call 609-292-5550

Thank you for allowing us to continue providing your municipality with clean, quality water this year.

Very truly yours,  
Morris County Municipal Utilities Authority