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**Committed to  
Excellence**

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## **2014 Annual Drinking Water Quality Report**

### **Water & Wastewater Board of the City of Madison**

(dba Madison Utilities)

We are pleased to present our Annual Drinking Water Quality Report. We designed this report to inform you about the quality of the drinking water delivered to you every day. Our goal is to provide you with a safe dependable supply of drinking water. We are also happy to announce an award that we received in the past year, which reinforces our commitment to excellence.

**Three Year Optimized Plant Award for our Bressette-Quarry Water Treatment Plant (by the Alabama Department of Environmental Management)**

As you read the information listed below, if you have questions, please contact Jason Leggett at 256-772-0253 ext. 119 between the hours of 8:00 a.m. to 4:00 p.m. Monday through Friday. If you want to learn more about your water utility operations, you may attend any of our regularly scheduled Board meetings or visit our web site at [www.madisonutilities.org](http://www.madisonutilities.org). Our Board meetings are on the first and third Monday (unless otherwise posted) of each month at 5:30 p.m. in the conference room of Madison Utilities located at 101 Ray Sanderson Drive.

Rainfall for 2014 was close to normal historical averages. Water supply was ample to supply the area needs, and our system performed well. While we do not expect water shortages this summer, we do encourage wise use of our limited resources.

2015 will feature several large construction projects. We are expanding our wastewater treatment plant, and will begin the installation of a river intake and improvements at the Quarry Water Treatment Plant to allow for the withdrawal and treatment of surface water from the Tennessee River. The intake will prepare us for the ability to provide a greater quantity of water to the Madison service area in the future, as the treatment plant is expanded further.

We thank you for allowing us to be your service provider. We will continue to work hard to earn your trust and loyalty in the days ahead. We are always available to discuss any concerns or questions that may arise.

Sincerely,

**Emory DeBord**  
General Manager

# COMMITTED TO EXCELLENCE

In these tables 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:

**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.

**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 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 contaminants.

**Maximum Residual Disinfectant Level or 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.

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

**Action Level** - The concentration of a contaminant that triggers treatment or other requirements a water system shall follow.

**RAA** – Running Annual Average

## Table of Primary Drinking Water Contaminants

<u>Contaminant (unit)</u>	<u>MCL</u>	<u>Max Detected</u>	<u>Contaminant (unit)</u>	<u>MCL</u>	<u>Max Detected</u>
<u>Microbiological Contaminants</u>			<u>Organic Contaminants (cont.)</u>		
Total Coliform Bacteria	<5%	0	Dichlorodifluoromethane	N/A	<0.5
Fecal Coli and E Coli	0	0	Ethylbenzene	0.7	<0.5
<u>Organic Contaminants (ppb)</u>			Isopropylbenzene	N/A	<0.5
1,1,1,2-Tetrachloroethane	N/A	<0.5	Methylene Chloride	0.005	<0.5
1,1,1-Trichloroethane	200	<0.5	Methyl tert-butyl ether	N/A	<0.5
1,1-Dichloroethane	N/A	<0.5	Naphthalene	N/A	<0.5
1,1-Dichloropropene	N/A	<0.5	n-Butylbenzene	N/A	<0.5
1,1,2,2-Tetrachloroethane	N/A	<0.5	n-Propylbenzene	N/A	<0.5
1,1,2-Trichloroethane	5	<0.5	p-Isopropyltoluene	N/A	<0.5
1,2-Dichloroethane	0.007	<0.5	sec-Butylbenzene	N/A	<0.5
1,2-Dichloropropene	0.005	<0.5	Styrene	0.1	<0.5
1,2,3-Trichlorobenzene	N/A	<0.5	tert-Butylbenzene	N/A	<0.5
1,2,3-Trichloropropane	N/A	<0.5	Total Organic Carbon	N/A	1.2
1,2,4-Trichlorobenzene	0.07	<0.5	Toluene	1	<0.5
1,2,4-Trimethylbenzene	N/A	<0.5	Trichlorofluoromethane	N/A	<0.5
1,3-Dichloropropane	N/A	<0.5	TTHM	80	37.2
1,3-Dichloropropene	N/A	<0.5	Vinyl Chloride	0.002	<0.5
2,2-Dichloropropane	N/A	<0.5	Xylenes	10	<1.5
Benzene	0.005	<0.5	<u>Inorganic Contaminants</u>		
Bromobenzene	N/A	<0.5	Alkalinity (ppm)	N/A	160
Bromochloromethane	N/A	<0.5	Aluminum (ppm)	200	<0.1
Bromodichloromethane	N/A	8.8	Antimony (ppm)	6	<0.001
Bromoform	N/A	<1	Arsenic (ppm)	50	<0.001
Bromomethane	N/A	<0.5	Barium (ppm)	2	0.024
Carbon tetrachloride	0.005	<0.5	Beryllium (ppb)	4	<1
Chlorobenzene	100	<0.5	Cadmium (ppb)	5	<0.5
Chloroethane	N/A	<0.5	Calcium (ppm)	N/A	64
Chloroform	N/A	27.2	Carbon Dioxide (ppm)	N/A	<20
Chloromethane	N/A	<0.5	Chloride (ppm)	250	6.8
cis-1,2-Dichloroethylene	0.07	<0.5	Chromium (ppb)	100	<10
Dibromomethane	N/A	<0.5	Color (units)	15	3

## Table of Primary Drinking Water Contaminants (cont.)

<u>Contaminant (unit)</u>	<u>MCL</u>	<u>Max Detected</u>	<u>Contaminant (unit)</u>	<u>MCL</u>	<u>Max Detected</u>
<u>Inorganic Contaminants (cont.)</u>			Nickel (ppm)	0.1	<0.02
Copper (ppm)	AL= 1.3	<0.2 (90 <sup>th</sup> pctl)	Nitrate (ppm)	10	4.8
Cyanide (ppm)	200	<0.005	Nitrite (ppm)	1	<0.1
Dissolved Solids (ppm)	500	250	Odor (T O N )	N/A	<1
Fluoride (ppm)	4	0.63	pH	N/A	7.8
Hardness (ppm)	N/A	160	Selenium (ppb)	50	<1
Iron (ppm)	0.3	<0.1	Silver (ppm)	0.1	<0.01
Lead (ppb)	AL= 15	<1 (90 <sup>th</sup> pctl)	Sodium (ppm)	N/A	19
Magnesium (ppm)	N/A	6.6	Sulfate (ppm)	500	7.4
Manganese (ppm)	0.05	<0.01	Thallium (ppb)	2	<1
MBAS (ppm)	0.5	<0.025	Zinc (ppm)	5	<0.03
Mercury (ppb)	2	<0.2			

## Table of Detected Contaminants

<u>Contaminants</u>	<u>MCL</u>	<u>Max Detected</u>	<u>Range</u>	<u>Major Sources</u>
Barium (ppm)	2	0.024	0.01- 0.024	Discharge of drilling wastes, Discharge from metal refineries; Erosion of natural deposits
Copper (ppm)	AL=1.3	<0.2	N/A	Corrosion of household plumbing systems; Erosion of natural deposits, Leaching from wood preservatives
Fluoride (ppm)	4	0.63	<0.1 - 0.63	Water additive which promotes strong teeth; Erosion of natural deposits, Discharge from fertilizer and aluminum factories
Haloacetic Acids (ppm)	0.06	0.029	0.0024 - 0.029	By-product of drinking water disinfection
Lead (ppb)	AL= 15	<1	N/A	Corrosion of household plumbing systems
Nitrate (ppm)	10	4.8	1.8 - 4.8	Runoff from fertilizer use; Leaching septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon TT		1.4	0.63 - 1.4	Naturally present in the environment
TTHM (ppb)	80	37.2	4 - 37.2	By-product of drinking water chlorination

## Table of Detected Contaminants

<u>Contaminant (unit)</u>	<u>Range</u>	<u>Avg</u>	<u>Contaminant (unit)</u>	<u>Range</u>	<u>Avg</u>
Alkalinity (ppm)	92 - 160	122	Hardness (ppm)	87 - 160	126.7
Bromodichloromethane (ppb)	1.15 - 8.8	4.3	Magnesium (ppm)	5- 6.6	5.8
Calcium (ppm)	30 - 64	46.5	Manganese (ppb)	BDL	BDL
Chloride (ppm)	5.4 - 6.8	6.1	pH (su)	7.0 - 7.8	7.4
Chlorodibromomethane (ppb)	1.07 - 3.47	2.07	Sodium (ppm)	4.5 - 19	10.05
Chloroform (ppb)	1.8 - 27.2	8.6	Specific Conductance (umhos/cm)	230 - 320	285
Color (units)	1 - 3	2	Sulfate (ppm)	<5 - 7.4	N/A
Dissolved Solids (ppm)	150 - 250	190			

## Key

**AL** = Action Level  
**MCL** = Maximum Contaminant Level  
**MCLG** = Maximum Contaminant Level Goal  
**MFL** = million fibers per liter  
**mg/l** = milligrams per liter, or parts per million  
**mrem/year** = millirems per year (a measure of radiation absorbed by the body)

**pCi/l** = picocuries per liter (a measure of radioactivity)  
**ppb** = parts per billion or micrograms per liter  
**ppm** = parts per million or milligrams per liter  
**ppq** = parts per quadrillion or picograms per liter  
**ppt** = parts per trillion or nanograms per liter  
**TT** = Treatment Technique

## Frequently Asked Questions

### What are our sources of water?

We utilized eleven groundwater sources in 2014. They are the Fiorentino, Drake, New Gillespie, Collier, McCrary, Williams, Hardiman, Nickelson, Rowe, Triana, and Murphy wells, which are in the Tuscomb/Fort Payne Aquifer.

### Does all water include some contaminants?

Consumers should be aware that all drinking water, including bottled water, might 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). The Water & Wastewater Board routinely monitors for contaminants in your drinking water in accordance with Federal and State regulations. The tables included in this report detail the results of our monitoring for the period of January 1 - December 31, 2014 or the data as of the latest testing done in accordance with applicable regulations. All data presented is in the highest levels detected unless otherwise noted. Based on a study conducted by the Alabama Department of Environmental Management (ADEM) with the approval of the EPA, a statewide waiver for the monitoring of asbestos and dioxin was issued. Thus, monitoring for any of these contaminants was not required.

### How is our water treated?

The water from the Drake, Rowe, Triana, Collier, and Murphy wells is treated at the Quarry Water Treatment Plant using aeration, coagulation, filtration, disinfection and the addition of fluoride. The water from the Fiorentino, New Gillespie, McCrary, Williams, Hardiman, and Nickelson wells is treated at the Keene Water Treatment Plant using coagulation, filtration, pH adjustment, disinfection, and fluoridation.

### Are some people more susceptible than others to contaminants?

Some people may be more vulnerable to contaminants in drinking water than the general population. People who are immuno-compromised such as cancer patients undergoing chemotherapy, organ transplant recipients, HIV/AIDS positive or other immune system disorders, some elderly, and infants can be particularly at risk from infections. People at risk 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

### Who regulates our drinking 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 radioactive material, and it can pick up substances resulting from the presence of animals or from human activity.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) establishes limits for contaminants in bottled water.

### Do you have a Source Water Assessment Plan?

Yes. We have completed our Source Water Assessment Plan and Susceptibility Analysis. We also have an established Wellhead Protection Plan. These documents are very extensive and cannot be included within this report but these documents are available for public review at our office located at 101 Ray Sanderson Drive.

### What information do you have about lead in the 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. Madison Utilities 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, 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>.

