



101 Ray Sanderson Drive
Madison, AL 35758
O: 256.772.0253
F: 256.772.7501
www.madisonutilities.org

TERRIS TATUM
CHAIRMAN

STEVE HARRAWAY
VICE CHAIRMAN

JOHN ALLEN
DIRECTOR

GERALD CLARK
DIRECTOR

MIKE HUBBARD
DIRECTOR

RICKY POUNDERS
SECRETARY/TREASURER
GENERAL MANAGER

2012 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. Our system had no finished water violations of the Alabama Safe Drinking Water Act during 2012. We also expect to have no violations in 2013. We are also happy to announce four awards that we received in the past year that further reinforces our commitment to excellence.

- Best Operated Plant Award (Mechanical Plants 5.1-10.0 MGD) for our Wastewater Treatment Plant (by the Alabama Water Pollution Control Association)
- Award of Excellence for Package Plants for our Bressette-Quarry Water Treatment Plant (by the Alabama Water Pollution Control Association)
- Award of Excellence for Distribution Systems with 15,001 - 25,000 meters (by the Alabama Water Pollution Control Association)
- Water Fluoridation Quality Award (by the Centers for Disease Control (CDC) and the U.S. Department of Health and Human Resources)

As you read the information listed below, if you have questions, please contact Andy Faulk at 256-772-0253 extension 112 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. 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.

As you may recall, rainfall for 2012 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.

2013 will be a busy time. We will be expanding our wastewater treatment plant and one of our water treatment plants to ensure we meet seasonal demands. We are also continuing the permit process that will allow us to withdraw water from the Tennessee River.

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,


Ricky K. Ponders
General Manager



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 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.

Maximum Residual Disinfectant Level Goal or 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 requirement a water system shall follow.

RAA – Running Annual Average

Table of Primary Drinking Water Contaminants

Contaminant	Bacteriological		Contaminant	Organic Chemicals	
	MCL	Detected		MCL	Detected
Total Coliform Bacteria	< 5%	0.0	Di (2-ethylhexyl) phthalates	6 ppb	<1.0
Turbidity	TT	0.20	Dinoseb	7 ppb	<0.1
Fecal Coliform and E. coli	0	0.0	Diquat	20 ppb	<0.4
Fecal Indicators (enterococci or coliphage)	TT	0.0	Dioxin (2,3,7,8-TCDD)	30 ppq	N/A
			HAA5	60 ppb	11.36
			Endothall	100 ppb	<9.0
			Endrin	2 ppb	<0.01
			Epichlorohydrin	TT	N/A
			Glyphosate	700 ppb	<6.0
			1,2,4-Trichlorobenzene	70 ppb	<0.5
			Heptachlor	400 ppt	<4.0
			Heptachlor epoxide	200 ppt	<0.2
			Hexachlorobenzene	1 ppb	<0.1
			Hexachlorocyclopentadiene	50 ppb	<0.1
			Lindane	200 ppt	<0.2
			Methoxychlor	40 ppb	<0.1
			Oxamyl (Vydate)	200 ppb	<1.0
			PCBs	500 ppt	<2.0
			Pentachlorophenol	1 ppb	0.0
			Picloram	500 ppb	<0.1
			Simazine	4 ppb	0.0
			Toxaphene	3 ppb	<1.0
			Benzene	5 ppb	<0.5
			Carbon tetrachloride	5 ppb	<0.5
			Chlorobenzene	100 ppb	<0.5
			Dibromochloropropane	200 ppt	0.0
			o-Dichlorobenzene	600 ppb	<0.5
			p-Dichlorobenzene	75 ppb	<0.2
			1,2-Dichloroethane	5 ppb	<0.5
			1,1-Dichloroethylene	7 ppb	<0.5
			cis-1,2-Dichloroethylene	70 ppb	<0.5
			trans-1,2-Dichloroethylene	100 ppb	<0.5
			Dichloromethane	5 ppb	<0.5
			1,2-Dichloropropane	5 ppb	<0.5
			Ethylbenzene	700 ppb	<0.5
			Ethylene dibromide	50 ppt	0.0
			Styrene	100 ppb	<0.5
			Tetrachloroethylene	5 ppb	<0.5
			1,1,1-Trichloroethane	200 ppb	<0.5
			1,1,2-Trichloroethane	5 ppb	<0.5
			Trichloroethylene	5 ppb	2.9
			TTHM	80 ppb	22.2
			Toluene	1 ppm	0.0
			Vinyl Chloride	2 ppb	<0.5
			Xylenes	10 ppm	0.0
			TOC	TT	1.3
			Atrazine	3 ppb	<0.1

Contaminant	Radiological		Contaminant	Inorganic Chemicals	
	MCL	Detected		MCL	Detected
Beta/Photon emitters (mrem/yr)	4	N/A	Antimony	6 ppb	0.0
Alpha emitters (pCi/l)	15	2.9	Arsenic	10 ppb	1.0
Combined radium (pCi/l)	5	1.61	Asbestos (MFL)	7	N/A
Uranium	30 pCi/L	N/A	Barium	2 ppm	0.02
			Beryllium	4 ppb	<1.0
			Bromate	10 ppb	0.0
			Cadmium	5 ppb	<0.5
			Chloramines	4 ppm	N/A
			Chlorine	4 ppm	2.2
			Chlorine dioxide	800 ppb	N/A
			Chlorite	1 ppm	N/A
			Chromium	100 ppb	<1.0
			Copper	AL= 1.3 ppm	0.25 90th Percentile
			Cyanide	200 ppb	<5.0
			Fluoride	4 ppm	0.76
			Lead	AL= 15 ppb	4.30 90th Percentile
			Mercury	2 ppb	<0.2
			Nitrate	10 ppm	2.6
			Nitrite	1 ppm	0.0
			Total Nitrate and Nitrite	10 ppm	2.6
			Selenium	50 ppb	<1.0
			Thallium	2 ppb	<1.0

Contaminant	Organic Chemicals	
	MCL	Detected
2,4-D	70 ppb	<0.1
2,4,5-TP (Silvex)	50 ppb	<0.1
Acrylamide	TT	N/A
Alachlor	2 ppb	<0.1
Benzo(a)pyrene (PAHs)	200 ppt	<0.2
Carbofuran	40 ppb	<0.9
Chlordane	2 ppb	<0.1
Dalapon	200 ppb	<1.0
Di (2-ethylhexyl) adipate	400 ppb	<1.0

Table of Detected Contaminants

Contaminants (units of measure)	Violation			Highest Level			Major Sources
	Year	Y/N	MCLG	MCL	Detected	Range	
Barium (ppm)	2012	N	2	2	0.02	0.023 - 0.024	Discharge of drilling waste, Discharge from metal refineries, Erosion of natural deposits
Fluoride (ppm)	2012	N	4	4	0.00	0.68 - 0.79	
Alpha emitters (pCi/l)	2012	N	0	15	2.95	2.3 - 3.6	Water additive which promotes strong teeth, Erosion of natural deposits, Discharge from fertilizer and aluminum production
Combined Radium (pCi/l)	2012	N	0	5	1.61	1.25 - 1.61	
Nitrate (ppm)	2012	N	10	10	2.60	2.1 - 2.6	Erosion of natural deposits
TTHM (ppb)	2012	N	N/A	80	22.2	6 - 22.2	
Haloacetic Acids (HAA5) (ppb)	2012	N	N/A	60	14.4	1 - 14.4	By-Product of drinking water chlorination
Turbidity (NTU) Surface Water	2012	N	N/A	5	0.10	N/A	
Turbidity (NTU) Groundwater	2012	N	N/A	5	0.20	N/A	By-Product of drinking water disinfection
Lead (ppb)	2010	N	0	AL=15	4.3 (90th Percentile)	1 - 18	
Copper (ppm)	2010	N	1.3	AL=1.3	0.25 (90th Percentile)	0.025 - 0.31	Soil Runoff
Chlorine (ppm)	2012	N	MRDLG=4	MRDL=4	2.2	1.6 - 2.2	Soil Runoff
Trichloroethylene (ppb)	2012	N	0	5	1.1 (Annual Average)	0.00 - 2.9	Corrosion of household plumbing systems, Erosion of natural deposits
Total Organic Carbon	2012	N	N/A	TT	1.3	0.00 - 1.30	Corrosion of household plumbing systems, Erosion of natural deposits, Leaching from wood preservatives

Table of Detected Contaminants

Unregulated Contaminants	Date	Units	Range	Average	Unregulated Contaminants	Date	Units	Range	Average		
Alkalinity	2012	ppm	140.0	90.0	120.0	Sodium	2012	ppm	22.0	4.4	10.4
Calcium	2012	ppm	59.0	22.0	46.2	Specific Conductance	2012	umhos/cm	330.0	190.0	275.0
Chloride	2012	ppm	6.8	6.2	6.5	Sulfate	2012	ppm	17.0	11.0	13.7
Dissolved Solids	2012	ppm	190.0	160.0	175.0	Carbon Dioxide	2012	ppm	BDL	BDL	BDL
Hardness	2012	ppm	200.0	110.0	158.3	Manganese	2012	ppb	BDL	BDL	BDL
Magnesium	2012	ppm	7.3	5.1	6.2	Color	2012	units	1.0	1.0	1.0
pH	2012	ppm	8.1	7.4	7.6	Iron	2012	ppb	0.0	10.0	5.0

Microbiological Contaminants	Violation Y/N	Highest Level Detected	Unit of Measure	MCLG	MCL	Likely source of Contamination
Total Coliform Bacteria (including fecal coliform and E. Coli) 2010	N	0	N/A	0	Presence of coliform bacteria in ≤ 5% of monthly samples or if a routine sample and a follow up repeat sample are total coliform positive and one is also fecal Coliform or E. coli positive.	Human and animal fecal waste

Key

AL = Action Level
 TT = Treatment Technique
 MCL = Maximum Contaminant Level
 MCLG = Maximum Contaminant Level Goal
 mg/l = milligrams per liter, or parts per million
 Those values listed as "<" are less than the detectable amount

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
 MFL = million fibers per liter
 GWR = Ground Water Rule
 N/A = Not Applicable

2012 Technical Violation

We are mandated to collect a raw water sample and a finished water (treated water) sample each month for Total Organic Carbon (TOC). It is a measure of organic contaminants in water, normally due to decaying vegetation, and is common in surface waters such as rivers and lakes. During a routine sampling, the contracted lab broke the raw water sample and didn't alert us in time to retake the sample. The finished water sample tested normal. While there was no danger to the public, nor problem with the treatment process, it did equate to a technical violation and as such resulted in this statement for the 2012 reporting year.

Frequently Asked Questions

• What are our sources of water?

We utilized eleven groundwater sources in the Madison County area for 2012. They are the Fiorentino, Drake, New Gillespie, Collier, McCrary, Williams, Hardiman, Nickelson, Rowe, Triana and Murphy Wells, which are in the Tusculumbia/Fort Payne Aquifer. We also used the Quarry storage facility, a seasonal water source.

• 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.

• 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.

• Does all water include some contaminants?

Consumers should be aware that all 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). Madison Utilities 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, 2012 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 Department 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.

- **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 those with 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).

- **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>.

TS1391-000



Committed to Excellence

Madison Utilities
101 Ray Sanderson Drive
Madison, Alabama 35758
Phone 256-772-0253

Christine Domm
Finance Manager

Mark Bland
Wastewater Superintendent

Chris Cobble
Interim Water Superintendent

Misty Leftwich
Customer Service Supervisor

Amber Hatfield
Executive Secretary

PRSR STD
U.S. POSTAGE PAID
NCP