

2012 What's New?

A new regulation from EPA goes into effect this year. The rule replaces the present law that regulates the byproducts that are formed when chlorine is used as a disinfectant. The regulation changes our limit of 80 ppb for our system average to 80 ppb average at each site. This means that one isolated site could put our whole system in violation and we would have to notify every consumer. The irony is that our water is safer than ever before. Chlorine kills or inactivates many waterborne illnesses such as cholera, typhoid, dysentery and hepatitis A. Before the advent of chlorination for drinking water treatment, typhoid fever killed about 25 out of 100,000 people in the US annually. The filtration and disinfection of drinking water has been responsible for a large part of the 50 percent increase in life expectancy in this century. That fact led Life magazine to recently cite the filtration of drinking water and use of chlorine as "probably the most significant public health advance of the millennium".

WHAT IS THE SOURCE OF OUR DRINKING WATER?

Lake Tuscaloosa is Tuscaloosa's primary surface water supply source for drinking water. Lake Tuscaloosa is a 5,885-acre impoundment of North River and several major creeks. This beautiful man-made lake holds more than 40 billion gallons of excellent quality water. Lake Nicol and Harris Lake are our alternate sources of water. Currently, Harris Lake is used for industrial water.

The City of Tuscaloosa has completed the required Source Water Assessment and has published the data. A copy of the data may be viewed at the City of Tuscaloosa Water & Sewer Department's Office at 2201 University Blvd., 2nd floor.

Lake Tuscaloosa's watershed is comprised of a large portion of three counties. Every activity in the watershed has an impact on the quality of our drinking water.

WHAT CAN I DO TO PROTECT OUR SOURCE OF DRINKING WATER?

The Lakes Division is planning a Watershed Festival on May 4th followed by the fourth annual Lake Cleanup Day on May 5th. These events are a great way to learn about our lakes and to participate in their protection. Contact the Lakes Division at (205) 349-0279 or visit the City's website at www.tuscaloosa.com for more information.

WHAT TREATMENT TECHNIQUES ARE USED TO TREAT MY WATER?

The City of Tuscaloosa operates two water treatment plants. These are the Ed Love Water Plant and the Jerry Plott Water Treatment Plant. The Ed Love Water Plant was named for former superintendent Ed E. Love. The Jerry Plott Plant was named after former city councilman Jerry Plott. Both plants treat water from a common intake structure at Lake Tuscaloosa.

The Ed Love facility is a conventional treatment plant. Raw water enters a flash mixer where aluminum sulfate and lime are added for coagulation. Sodium permanganate is added when necessary for removal of iron and manganese for taste and odor control. The water then travels through four flocculators and four settling basins.

The water is then gravity filtered through multi-media filters. Lime is added for pH adjustment and corrosion control. Sodium hypochlorite is added for disinfection. Fluoride is added for the prevention of tooth decay, and ortho-phosphate is added for corrosion control. The finished water is pumped into the Distribution System.

The Jerry Plott Water Plant uses the same basic treatment as the Ed Love Plant, but with some different chemicals and techniques. Coagulation starts in a flash mixer with poly aluminum chloride. As the water passes through one of two flocculators, it enters a settling basin. The plant has two basins. Settling is accelerated with a series of settling plates.

The settled water is pumped under pressure to a bank of seven membrane filters. The water is squeezed through the pores of the membranes while impurities are left behind. Sodium hydroxide is added for pH control. Fluoride and ortho-phosphate are also added. The finished water then goes to the distribution system. The water produced at these two plants is very similar.

The plants are maintained by 35 full-time employees. These employees are responsible for the highest quality water possible for more than 200,000 consumers. The plants are operated 24 hours a day, 365 days a year.

The City's most valuable asset is its abundant supply of excellent quality water! Because of this excellent quality, numerous industries and businesses have selected Tuscaloosa as their home.

WATER AND SEWER DEPARTMENT

Jimmy W. Junkin, Director
Post Office Box 2090
Tuscaloosa, AL 35403-2090

The Tuscaloosa City Council Meetings are held every Tuesday at 6:00 pm in the City Council Chambers on the second floor of Tuscaloosa City Hall, 2201 University Blvd. The agenda for each meeting is published in the Tuscaloosa News on Saturday and on the internet at www.tuscaloosa.com or you may call (205) 248-5010.

The City of Tuscaloosa's Mayor and Council are as follows:

Mayor, **Walt Maddox**
Bobby Howard, District 1
Harrison Taylor, District 2
Cynthia Almond, District 3
Lee Garrison, District 4
Kip Tyner, District 5
Bob Lundell, District 6
William Tinker, III, District 7

Water Billing Office Turn On/Turn Off Office Hours: 8:00 am – 4:30 pm Monday – Friday (205) 248-5500	Lakes Division Source Division Office Hours: 7:00 am – 3:30 pm Monday – Friday (205) 349-0279
Drive Through Hours 7:30 am – 5:00 pm	Lakes Division Manager Scott Sanderford

Distribution Division Line Breaks/Leaks Office Hours: 7:00 am – 3:30 pm Monday – Friday (205) 248-5950	Hilliard N. Fletcher Wastewater Plant Office Hours: 7:00 am – 3:30 pm Monday – Friday (205) 248-5900
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Jerry Plott Water Plant
2101 New Watermelon Road
(205) 248-5600
Tuscaloosa, AL 35406

Water Mains in Service, 4" and larger.....	589 Miles
Water Storage Tanks.....	13 Tanks
Water Booster Pump Stations.....	8 Stations
Water Storage Capacity.....	25.4 Million Gallons
Ed Love Treatment Capacity.....	45.7 Million Gallons/ Day
Jerry Plott Treatment Capacity.....	14 Million Gallons/ Day
Public Fire Hydrants.....	3796 Hydrants



Jerry Plott Water Treatment Plant Wins Again,
the Best Operated Plant Award for a Membrane Plant
awarded by the Alabama Water Pollution Control
Association two years in a row!



CITY OF TUSCALOOSA WATER AND SEWER DEPARTMENT

2012 ANNUAL WATER QUALITY REPORT



City of Tuscaloosa
Ed Love Water Filtration Plant
1125 Jack Warner Parkway North East
Tuscaloosa, Alabama 35404-1056

Telephone (205) 248-5630
Fax (205) 349-0213
<http://www.tuscaloosa.com>

Office Hours:
7:00 a.m. to 3:30 p.m.
Monday - Friday

Additional Information:
Perry A. Acklin
Water Treatment Manager

THE SAFE DRINKING WATER ACT... What Does It Mean For You?

The Safe Drinking Water Act (SDWA) was signed into law on December 16, 1974. The purpose of the law is to assure that the nation's water supply systems serving the public meet minimum national standards for the protection of public health.

The SDWA directed the U.S. Environmental Protection Agency (EPA) to establish national drinking water standards. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline 800-426-4791 or EPA's website address www.epa.gov/safewater.

Amended in 1996, the SDWA contains provisions for consumer involvement and right-to-know. The Consumer Confidence Report or Annual Water Quality Report is the centerpiece of public right-to-know in SDWA. This report provides consumers the detected amounts of contaminants, sources of contamination, and plain language definitions.

The amendments recognized that some people may be more vulnerable to contaminants in drinking water than the general population. People who are immunocompromised 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 microbial contaminants are available from the Safe Drinking Water Hotline 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 radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

PLAIN LANGUAGE DEFINITIONS

1. **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.
2. **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.
3. **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.

PLAIN LANGUAGE DEFINITIONS continued

4. 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.

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

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

In the following tables you may find terms and abbreviations that might not be familiar to you. To help you better understand these terms we have provided the following definitions.

- ppm** means parts per million and is equal to mg/L or milligrams per liter
- ppb** means parts per billion and is equal to µg/L or micrograms per liter
- ppt** means parts per trillion and is equal to ng/L or nanograms per liter
- PCIL** equals picocuries per liter, a measure of radiation
- NTU** equals Nephelometric Turbidity Units
- CFU** equals Colony Forming Units
- MFL** means million fibers per liter longer than 10 micrometers
- N/A - not applicable** - ND - not detected

Based on a study conducted by ADEM with the approval of the EPA, a statewide waiver for the monitoring of asbestos and dioxin was issued. Thus, monitoring for these contaminants was not required.

EPA Lead and Copper Statement

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. The City of Tuscaloosa is responsible for providing high quality drinking water, but cannot control the variety of materials used in the 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 with 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>.

Tuscaloosa's Lead and Copper Program

Since 1991, the City of Tuscaloosa has tested 57 homes annually for the presence of lead and copper. Because of the involvement of these citizens, the lead and copper program continues to be very successful. The City has always maintained compliance with this regulation. We would like to commend those 57 participants for their support of this endeavor.

WATER QUALITY REPORT PRIMARY DRINKING WATER PARAMETERS WATER SOURCE LAKE TUSCALOOSA

DETECTED CONTAMINANTS MICROBIOLOGICAL						
All results meet or surpass Federal Drinking Water Regulations						
Period Covered: 12 Months Ending December, 2011	Units	MCL	MCLG	Highest Level in Distribution System	Range of Occurrence (Low-High)	Major Sources in Drinking Water
Total Coliform Bacteria	Presence of total coliform bacteria in 45% of the 120 required monthly samples	0	0	Present in 1.98 % of samples in 198 % of one month	Not detected (98.02%)	Naturally present in the environment
Only 8 of 2580 samples were positive for Total Coliform or 0.31% in 2011. No samples were ECOL positive.						
1 total Organic Carbon	mg/L	TT	N/A	2.3	1.5 - 2.3	Naturally present in the environment
Turbidity	NTU	0.3	N/A	0.460	0.072- 0.460	Soil Runoff - Turbidity can interfere with distribution
Chlorine as Cl ₂	mg/L	4	4	3.0	0.0 - 3.0	Water additive used to control bacteria
RADIOLOGICAL						
All results meet or surpass Federal Drinking Water Regulations						
Gross Alpha	PCIL	15	0	2.17 ± 0.8	0.2 ± 2.3-4	Erosion of natural deposits
INORGANIC CHEMICALS						
All results meet or surpass Federal Drinking Water Regulations						
Fluoride as F ⁻	mg/L	4	4	1.28	0.02 - 1.28	Rural farm fertilizer use. Leaching from sewage tanks. Erosion of sulfate as SO ₄ .
White as NO ₃ -N	mg/L	10	10	0.95	0.17 - 0.95	Rural farm fertilizer use. Leaching from septic tanks. Sewage. Erosion of Sulfate as SO ₄ .
Sulfate as SO ₄	mg/L	50	50	32.0	14.0 - 32.0	Erosion of natural deposits.
DISINFECTION BY-PRODUCTS						
All results meet or surpass Federal Drinking Water Regulations						
Period Covered: 12 Months Ending December, 2011	Units	MCL	MCLG	Average Level in Distribution System	Range of Occurrence (Low-High)	Major Sources in Drinking Water
Halocetic Acids	µg/L	N/A	N/A	24.6	0.66 - 44.0	By-product of drinking water chlorination
The sum of Bromoacetic, Dichloroacetic, Monobromoacetic, Monochloroacetic, & Trichloroacetic Acids annual average MCL equal to or less than 60 µg/L.						
Total Trihalomethanes	µg/L	80	N/A	44.3	22.3 - 96.5	By-product of drinking water chlorination
The sum of Chloroform, Bromo-dichloromethane, Dibromo-dichloromethane & Bromoform annual average MCL equal to or less than 80 µg/L.						
LEAD AND COPPER PRIMARY MONITORING						
All results meet or surpass Federal Drinking Water Regulations						
Period Covered: 12 Months Ending December, 2011	Units	MCL	MCLG	Highest Level in Distribution System	Range of Occurrence (Low-High)	Major Sources in Drinking Water
Lead as Pb	mg/L (0.015)	0	<0.005	<0.005	<0.005 -	Corrosion of lead-based plumbing system. Erosion of natural deposits.
Copper as Cu	mg/L	1.3	1.3	0.178	0.000 - 0.178	Corrosion of natural plumbing system. Erosion of natural deposits.
There were no violations, more than 50% of samples were below the action level. Only one lead result and only one copper result were above the action level.						
ORGANIC CHEMICALS						
UNREGULATED CONTAMINANTS						
All results meet or surpass Federal Drinking Water Regulations						
Period Covered: 12 Months Ending December, 2011	Units	MCL	MCLG	Highest Level in Distribution System	Range of Occurrence (Low-High)	Major Sources in Drinking Water
Bromoacetic acid	µg/L	N/A	N/A	5.44	3.43 - 5.44	By-Product of drinking water chlorination
Methane	µg/L	N/A	N/A	8.95	5.16 - 8.95	By-Product of drinking water chlorination
Chloroform	µg/L	N/A	N/A	8.95	5.16 - 8.95	By-Product of drinking water chlorination
Dibromomethane	µg/L	N/A	N/A	3.73	3.73	By-Product of drinking water chlorination

WATER QUALITY REPORT TABLE OF PRIMARY DRINKING WATER PARAMETERS MONITORING PERIOD ENDING DECEMBER 2011 WATER SOURCE LAKE TUSCALOOSA

MICROBIOLOGICAL					RADIOLOGICAL				
Analyte	MCL	Highest Level Detected	Analyte	MCL	Highest Level Detected				
Total Coliform Bacteria	<5% NTU	0.286	Beta / Photon Emitters	4 mem/yr	N/A				
Turbidity	<0.3 NTU	0.460	Alpha Emitters	15 PCIL	0.2 ± 0.3				
Chlorine as Cl ₂	4	3.0	Combined Radium	5 PCIL	N/A				
Antimony as Sb	8 ppb	ND	Uranium	30 ppb	N/A				
INORGANIC CHEMICALS									
Ascorbic as As	10 ppb	ND	ORGANIC CHEMICALS						
Asbestos	7 M.F	N/A	Endrin	2 ppb	ND				
Barium as Ba	2 ppm	ND	Endosulfathion	TT	ND				
Beryllium as Be	4 ppb	ND	Glyphosate	700 ppb	ND				
Cadmium as Cd	5 ppb	ND	Heptachlor	400 ppb	ND				
Chromium as Cr	100 ppb	ND	Heptachlor epoxide	200 ppt	ND				
Copper as Cu	Al-1.3ppm	ND	Hezachlorobenzene	1 ppb	ND				
Fluoride as F ⁻	4 ppm	ND	Hexachlorocyclopentadiene	50 ppb	ND				
Cyanide as CN ⁻	200 ppb	ND	Lindane	200 ppt	ND				
Lead as Pb	Al-15 ppb	ND	Methoxychlor	40 ppb	ND				
Mercury as Hg	2 ppb	ND	Oxamyl (Widale)	200 ppb	ND				
Nitrate as NO ₃ -N	10 ppm	ND	PCHs	500 ppt	ND				
Nitrite as NO ₂ -N	1 ppm	ND	Pentachlorobenzene	1 ppb	ND				
Selenium as Se	50 ppb	ND	Picogram	500 ppb	ND				
Thallium as Tl	2 ppb	ND	Smazene	4 ppb	ND				
DISINFECTION BY-PRODUCTS									
Chlorine	4 ppm	3.1	Toxaphene	3 ppb	ND				
Chloramines	4 ppm	ND	Benzene	5 ppb	ND				
Chlorite	1 ppm	ND	Carbon tetrachloride	5 ppb	ND				
Chlorine Dioxide	800 ppb	ND	Chlorobenzene	100 ppb	ND				
Bromate	10 ppb	ND	Chloroethoxybenzene	200 ppt	ND				
Total Organic Carbon	TT	2.5	p-Dichlorobenzene	600 ppb	ND				
Total Trihalomethanes	80 ppb	96.7	1,2-Dichlorobenzene	75 ppb	ND				
Halocetic Acids	60 ppb	88.7	1,1-Dichloroethylene	7 ppb	ND				
ORGANIC CHEMICALS									
2,4-D	70 ppb	ND	trans-1,2-Dichloroethylene	70 ppb	ND				
2,4,5-TP (Silvex)	50 ppb	ND	Dichloromethane	100 ppb	ND				
Acylnitrile	TT	ND	1,2-Dichloropropane	5 ppb	ND				
Acetone	2 ppb	ND	Ethylbenzene	700 ppb	ND				
Azarine	3 ppb	ND	Ethylene dichloride	50 ppt	ND				
Barzol/Alyrene	200 ppb	ND	Tetrahydroethylene	100 ppb	ND				
Carbolarin	40 ppb	ND	1,2,4-trichlorobenzene	70 ppb	ND				
Chloroform	2 ppb	ND	1,1,1-trichloroethane	200 ppb	ND				
Dalapon	200 ppb	ND	1,1,2-trichloroethane	400 ppb	ND				
DIC-ethylhexyladipate	400 ppb	ND	Dibenzyltoluene	5 ppb	ND				
Dibz-ethylhexylphthalates	6 ppb	ND	Trichloroethylene	1 ppm	ND				
Dinoseb	7 ppb	ND	Toluene	1 ppm	ND				
Diquat	20 ppb	ND	Xylenes	2 ppb	ND				
Dimet($2,3,7,8$ -CDD)	30 ppb	ND							
Endrin/Heil	100 ppb	ND							