Unregulated Contaminant Monitoring Rule 4 (UCMR 4)

Under the directive of the 1996 Safe Drinking Water Act (SDWA), every five years the EPA issues a new list of unregulated contaminants to be monitored by some public water systems (PWSs). The monitoring results may provide a basis for future regulatory actions to protect public health. The Fourth Unregulated Contaminant Monitoring Rule (UCMR4) required PWSs serving more than 10,000 people to monitor for 30 unregulated contaminants during January 2018 through December 2020, with each PWS assigned a monitoring period. Under UCMR 4, public water systems will conduct sampling for 10 dyanotoxins and 20 additional contaminants as listed below.

10 Cyanotoxins

Anatoxin-A	Microcystin-LY
Cylindrospermopsin	Microcystin-RR
Microcystin-LA	Microcystin-YR
Microcystin-LF	Nodularin
Microcystin-LR	Total Microcystins

20 Other Unregulated Contaminants

Germanium	1-butanol
Manganese	2-methoxyethanol
Alpha-hexachlorocyclohexne	2-propen-1-ol
Chlorpyrifos	Butylated hydroxyanisole
Dimethipin	O-toluidine
Ethoprop	Quinoline
Oxyfluorfen	Total organic carbon (TOC)
Profenofos	Bromide
Tebuconazole	HAA5[1]
Total permethrin (cis- & trans-)	HAA6[2]
Tribufos	HAA9[3]

[1]HAA5	[2]HAA6Br	[3]HAA9
dibromoacetic	bromochloroacetic	bromochloroacetic
dichloroacetic	bromodichloroacetic	bromodichloroacetic
monobromoacetic	dibromoacetic	chlorodibromoacetic
monochloroacetic	dibromochloroacetic	Dibromoacetic
trichloroacetic	monobromoacetic	Dichloroacetic
	tribromoacetic	monobromoacetic
		monochloroacetic
		Tribromoacetic
		Trichloroacetic

Assigned monitoring periods for the City of Cullman Water and Sewer were June 2018, September 2018, December 2018, and March 2019. The following table shows the monitoring results on those UCMR4 contaminants for which there was some level of detection during our 2018 monitoring.

Detected Unregulated Contaminant Monitoring Rule 4 (UCMR4) Contaminants

Contaminants	Level Detected	Unit Msmt
Bromochloroacetic acid Disinfection byproduct (HAA6Br)	2.04-4.16	µg/L
Bromodichloroacetic acid Disinfection byproduct (HAA6Br)	ND-1.97	µg/L
Dibromoacetic acid Disinfection byproduct (HAA9)	ND-0.342	µg/L
Dichloroacetic acid Disinfection byproduct (HAA5)	8.87-28.6	µg/L
Monobromoacetic acid Disinfection byproduct (HAA5)	ND-0.416	µg/L
Monochloroacetic acid Disinfection byproduct (HAA5)	ND-5.85	µg/L
Trichloroacetic acid Disinfection byproduct (HAA5)	6.53-17.0	µg/L

City of Cullman Water Department (256) 775-7210

Mailing Address
Cullman Water Department
Customer Service
P.O. Box 278 ~ Cullman, AL 35056

Physical Address
Cullman Water Department
Customer Service
1717 Eva Road NE ~ Cullman, AL 35055

The Cullman City Council meets every second and fourth Monday. Meetings are scheduled for 7 PM in the Lucille Galin conference room, City Hall, Cullman, AL

Cullman City Council Members

Woody Jacobs - Mayor
Jenny G. Folsom - President
Johnny W. Cook — Andy Page
David Moss, Jr. — Clint Hollingsworth

Customer Service Locations

Water and Wastewater Office
1717 Eva Road, N.E.
256-775-7210
Chris Freeman, Superintendent

Water Treatment Plant
1740 Third Street, S.E.
256-739-0266
David Freeman, Manager

Wastewater Treatment Plant
1437 Welti Road
256-739-2410
Jeff Adams, Superintendent

PWSID Number 001786
Annual Water Quality Report

City of Cullman Water Department

January - December 2018

We are pleased to bring you this year's Annual Water Quality Report. This report is designed to keep you informed about the quality of water and services we deliver to you every day. We want you to understand the efforts we make to improve treatment processes and protect our supply. We are committed to the quality of your drinking water.

All information provided in this report has been collected and reported in accordance with the water quality standards established by the United States Environmental Protection Agency (USEPA) and the Alabama Department of Environmental Management (ADEM). ***We are proud to report that the water provided by the Utilities Board of the City of Cullman meets or exceeds established water quality standards.***

As you can see by the tables, our system had no violations of allowable limits of contaminants in drinking water. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

Who Provides My Water?

The Water Treatment Plant is owned and operated by the Utilities Board of the City of Cullman. The Utilities Board has only one customer, The City of Cullman. The Water Treatment Plant has provided water for many years and is recognized as an industry leader. Over the years the Water Treatment Plant has received numerous awards for excellence in management, operations, and employee achievement. The Water Plant has received the Optimized Plant Award for 10 out of 11 years. The plant award is given by ADEM. The Water plant is attending Performance Based Training starting in 2011. The training is a 3 year long training session that ADEM provides to Surface Water Treatment Plants to help optimize the plant. The Cullman Water Plant has 13 Grade IV Certified Operators. Grade IV is the highest level of certification that ADEM recognizes.

Where Does My Water Come From?

The Utilities Board owns and operates one treatment plant receiving water from Lake Catoma. The treatment is a conventional surface treatment process with a total capacity of 24MGD. The City owns and operates the distributions network within the city. Water quality samples are collected regularly. Samples include untreated and treated water taken at our treatment facility, sample sites throughout our service area, and at customers' homes. The Source Water Assessment has been completed and updated to current status. The assessment is available for your review. Please contact David Freeman at The Cullman Water Treatment Plant at (256) 739-0266.

To provide a safe drinking water we use chlorine as our primary disinfectant, providing a minimum of 1.0 ppm entering the distribution system and maintaining at least .2 ppm throughout the system.

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 activities.

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).

Arsenic is a naturally occurring mineral known to cause cancer in humans at high concentrations. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

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.

All drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. MCL's, defined in a List of Definitions in this report, are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Cullman Water Plant

The Cullman Water Plant has been issued a Very Small Systems Waiver for the Stage 2 Disinfection Byproduct Rule. This is for the (IDSE) Initial Distribution System Evaluation.

Ten Tips for Conserving Water

(1) Check your faucets inside and outside your home. Just a slow drip can waste 15 to 20 gallons of water a day.
(2) Check your toilets. Look for hidden leaks. A leaking toilet can waste up to 100 gallons of water a day. Think before your flush. Do not use your toilet for a trash can. Most toilets use 5 to 7 gallons of water each flush.
(3) Reduce your shower time. Most showers pour out between 5 and 10 gallons per minute.
(4) While brushing your teeth or shaving, don't leave the water running. It adds up quick.
(5) Automatic dishwashers claim the most water in the kitchen - about 12 gallons per run. Make sure your dishwasher is fully loaded before you turn it on.
(6) Washing machines use 40 or more gallons a load whether it's full or just a pair of socks. Save up for a full load and make your water work efficiently.
(7) Reduce watering your lawn to 1 or 2 times a week. A garden hose can pour out 600 gallons or more in only a few hours. Remember to water in the early morning or late afternoon and make your water work for you.
(8) Think about the amount of water it will take to wash your vehicle. Don't let the water run. Shut it off between washing and rinsing.
(9) Locate your cutoff valves. Lots of water can be lost if you have a leak and have to search for your cutoff valve.
(10) If you see a leak, notify the water department immediately. We will check the leak and prioritize the problem.

Cullman County Water Festival

In 1997 the Alabama Department of Environmental Management (ADEM) granted the University of Alabama in Huntsville (UAH) with seed money to organize Alabama's First Water Festival. In 2003, the First Annual Cullman County Water Festival was hosted by the Water Systems of Cullman County. Through hands-on activities the students learn about the role water plays in the environment. In addition, they learn about their drinking water, where it comes from and how to keep it clean as well as the importance of water to all life and the effects of human actions on the quality of water.

The Festival is offered to fourth grade students and teachers and is a one day free event. Each class participates in three hands-on water activities and attends an exciting magic show by an environmental magician. A t-shirt design contest is open to all the students attending. Every student, teacher and volunteer receives a free Water Festival t-shirt.

A Festival Committee meets monthly to plan the Festival activities. The committee raises the money needed for the Festival through local sponsorship. There are approximately 1100 fourth grade students that attend the Festival. Volunteers are needed to serve in many different capacities to make the Festival a success. If you would like more information on how to become a sponsor or volunteer for this Festival, please contact Junior Heaton at (256) 734-0319.

Lead

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 Cullman*** 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.

How do I read this Chart?

It's easy! The column labeled "MCL (mg/L)" provides you with the maximum Contaminant Level as established by USEPA and/or ADEM for each compound. The testing parameters are categorized as primary or secondary, with the required MCL. These are the standards all drinking water supplies must meet.

Where does my water come from?

The Utilities Board of the City of Cullman owns and operates one treatment plant receiving water from Lake Catoma. The treatment is a conventional surface treatment process with a total capacity of 24 MGD. Cullman County purchases water from the City of Cullman. A copy of the Source Water Assessment is available at the Cullman Water Plant. Please call David Freeman at (256) 739-0266 to view.

Definitions

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MDLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminent in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level Goad 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 evicence that addiation of a disinfectant is necessary for control of microbial contaminants.

Action Level (or AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirments, which a water system must follow.

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

90th Percentile: 90% of samples are equal to or less than the number in the chart.

NTU (or Nephelometric Trubidity Units): A measure of clarity.

HARA: Highest Annual Rolling Average; based on seven quarters of testing.

NA: Not applicable.

Su: Standard Unit.

ND: Not detectable at testing limits.

PPB (or parts per billion): micrograms per liter (ug/L).

PPM (or parts per million): milligrams per liter (mg/l).

pC/L (or piocuries per liter): a measure of radioactivity.

FDA: Food and Drug Administration.

EPA: Environmental Protection Agency.

ADEM: Alabama Department of Environmental Management.

CDC: Center for Disease Control.

Variances and Exemptions: Variances and Exemptions - The Department of EPA permission not to meet an MCL or a treatment technique under certain conditions.

(umhos) Numerical expression (expressed in micromhos per centimeter). The ability of water to conduct an electric current.

Table of Primary Contaminants

At high levels some primary contaminants are known to pose a health risk to humans. This table provides a quick glance of any primary contaminant detections.

Contaminant	MCL	2018 Amount Detected
Bacteriological		
Total Coliform Bacteria	<5%	0
Turbidity	TT	0.10
Radiological		
Beta/photon emitters (mrem/yr)	4	ND
Alpha emitters (pci/l)	15	ND
Gross Beta in Liquids (pci/l)	15	ND
Inorganic		
Antimony (ppb)	6	ND
Arsenic (ppb)	10	ND
Asbestos (MFL)	7	ND
Barium (ppm)	2	0.0320
Beryllium (ppb)	4	ND
Cadmium (ppb)	5	ND
Chromium (ppb)	100	ND
Copper (ppm)	AL=1.3	0.178
Cyanide (ppb)	200	ND
Fluoride (ppm)	4	0.78
Lead (ppb)	AL=15	2.4
Mercury (ppb)	2	ND
Nitrate (ppm)	10	1.48
Nitrite (ppm)	1	ND
Selenium	50	ND
Thallium	2	ND
Organic Chemicals		
2,4-D	70	0.30
2,4,5-TP (Silvex)	50	ND
Acrylamide	TT	ND
Alachlor	2	ND
Atrazine	3	ND
Benzo(a)pyrene [PHAs]	200	ND
Carbofuran	40	ND
Chlordane	2	ND
Chlorite (ppm)	1	0.67
Chlorine Dioxide (ppm)	0.80	0.203
Dalapon	200	ND
Di-(2-ethylhexyl)adipate	400	ND
Di-(2-ethylhexyl)phthlates	6	1.20
Dinoseb	7	ND
Diquat	20	ND
Dioxin [2,3,7,8-TCDD]	30	ND
Endothall	100	ND

Contaminant	MCL	2018 Amount Detected
Endrin	2	ND
Epichlorohydrin	TT	ND
Glyphosate	700	ND
HAA5 (ppb)	60	27.1
Heptachlor	400	ND
Heptachlor epoxide	200	ND
Hexachlorobenzene	1	ND
Hexachloropentadiene	1	ND
Lindane	200	ND
Methoxychlor	40	ND
Oxamyl [Vydate]	200	ND
PCBs	500	ND
Pentachlorophenol	1	ND
Picloram	500	ND
Simazine	4	ND
Toxaphene	3	ND
Benzene	5	ND
Carbon Tetrachloride	5	ND
Chlorobenzene	100	ND
Dibromochloropropane	200	ND
0-Dichlorobenzene	600	ND
p-Dichlorobenzene	75	ND
1,2-Dichloroethane	5	ND
1,1-Dichloroethylene	7	ND
Cis-1,2-Dichloroethylene	70	ND
trans-1,2-Dichloroethylene	100	ND
Dichloromethane	5	ND
1,2-Dichloropropane	5	ND
Ethylbenzene	700	ND
Ethylene dibromide	50	ND
Styrene	100	ND
Tetrachloroethylene	5	ND
1,2,4-Trichlorobenzene	70	ND
1,1,1-Trichloroethane	200	ND
1,1,2-Trichloroethane	5	ND
Trichloroethylene	5	ND
TTHM (ppb)	80	46.8
Toluene	1	ND
Vinyl Chloride	2	ND
Xylenes	10	ND

Table of Detected Contaminants

CONTAMINANT	MCLG	MCL	Range			City of Cullman Amount Detected		Likely Source of Contamination
Bacteriological		**YEAR 2018**						
Turbidity	0	TT				0.10	NTU	Soil runoff
Radiological		**YEAR 2018**						
Beta/photon emitters	0	4				ND	mrem/yr	Decay of natural and man-made deposits
Gross Beta in Liquids	0	15				ND	pci/l	Naturally occurring Radioactive elements
Radium-228 (2016)	0	5				3.4+/-0.5	pci/l	Naturally occurring Radioactive elements
Inorganic Chemicals		**YEAR 2018**						
Barium	2.0	2.0	ND	-	0.0320	0.0320	ppm	Discharge of drilling wastes; discharge from metals refineries; erosion of natural deposits
Copper (2016)	1.3	AL=1.3	All30 samples below action level. Last tested in 2016. Tested every 3 years.			0.178	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	0.7	4.0	0.55	-	0.78	0.78	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead (2016)	0	AL=15	All 30 samples below action level. Last tested in 2016. Tested every 3 years.			2.40	ppb	Corrosion of household plumbing systems; erosion of natural deposits
Nitrate	1	10	0.00	-	1.48	1.48	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Organic Chemicals		**YEAR 2018**						
TTHM	0	80	24.2	-	69.6	46.8	ppb	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	0	60	13.5	-	43.9	27.1	ppb	By-product of drinking water chlorination
Total Organic Carbon	0	TT	1.43	-	2.53	2.53	ppm	Naturally present in the environment
Chlorine	MRDLG=4	MRDL=4	1.20	-	2.70	2.70	ppm	Water additive used to control microbes

Secondary Contaminant Standards - 2018

Substance	Cullman Water		MCL
Chloride	8.94	PPM	250
Sodium	3.61	PPM	Corrosivity
Sulfate	16.9	PPM	250
Total Dissolved Solids	106	PPM	500
Calcium	16.5	PPM	Corrosivity
Magnesium	2.18	PPM	Corrosivity
Aluminum	ND	PPM	0.2
Manganese	0.00376	PPM	0.05
Iron	ND	PPM	0.3
Nickel	ND	PPM	0.1
Carbon Dioxide	3.52	PPM	Corrosivity
Hardness	52.6	PPM	Corrosivity

NOTE: The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, are more than one year old.

Secondary Contaminant Standards - 2018 (Continued)

Substance	Cullman Water		MCL
Color	ND	Color Units	15
Silver	ND	PPM	0.1
Zinc	ND	PPM	5
pH	6.8	PPM	Corrosivity
Total Alkalinity	28.2	PPM	Corrosivity
Specific Conductance	153	umhos	Corrosivity
MBAS	ND	PPM	500

Quality Water Is Our Goal

"CULLMAN WATER"

Unregulated Contaminants Table - 2018

Contaminant	Average	Range		
1,1-Dichloropropene	ND	0.000	-	0.000
1,1,1,2-Tetrachloroethane	ND	0.000	-	0.000
1,1,2,2-Tetrachloroethane	ND	0.000	-	0.000
1,1-Dichloroethane	ND	0.000	-	0.000
1,2,3-Trichlorobenzene	ND	0.000	-	0.000
1,2,3-Trichloropropane	ND	0.000	-	0.000
1,2,4-Trimethylbenzene	ND	0.000	-	0.000
1,3-Dichloropropane	ND	0.000	-	0.000
1,3-Dichloropropene	ND	0.000	-	0.000
1,3,5-Trimethylbenzene	ND	0.000	-	0.000
2,2-Dichloropropane	ND	0.000	-	0.000
3-Hydroxycarbofuran	ND	0.000	-	0.000
Aldicarb	ND	0.000	-	0.000
Aldicarb Sulfone	ND	0.000	-	0.000
Aldicarb Sulfoxide	ND	0.000	-	0.000
Aldrin	ND	0.000	-	0.000
Bromobenzene	ND	0.000	-	0.000
Bromochloromethane	ND	0.000	-	0.000
Bromodichloromethane (ppb)	7.25	4.43	-	9.60
Bromoform	ND	0.000	-	0.000
Bromomethane	ND	0.000	-	0.000
Butachlor	ND	0.000	-	0.000
Carbaryl	ND	0.000	-	0.000
Chloroethane	ND	0.000	-	0.000
Chloroform (ppb)	39.4	19.8	-	60.0
Chloromethane	ND	0.000	-	0.000
Dibromochloromethane	ND	0.000	-	0.000
Dibromomethane	ND	0.000	-	0.000
Dicamba	ND	0.000	-	0.000
Dichlorodifluoromethane	ND	0.000	-	0.000
Dieldrin	ND	0.000	-	0.000
Hexachlorobutadiene	ND	0.000	-	0.000
Isoprpylbenzene	ND	0.000	-	0.000
M-Dichlorobenzene	ND	0.000	-	0.000
Methomyl	ND	0.000	-	0.000
MTBE	ND	0.000	-	0.000
Metolachlor	ND	0.000	-	0.000
Metribuzin	ND	0.000	-	0.000
N-Butylbenzene	ND	0.000	-	0.000
Naphthalene	ND	0.000	-	0.000
N-Propylbenzene	ND	0.000	-	0.000
O-Chlorotoluene	ND	0.000	-	0.000
P-Chlorotoluene	ND	0.000	-	0.000
P-Isopropyltoluene	ND	0.000	-	0.000
Propachlor	ND	0.000	-	0.000
Sec-Butylbenzene	ND	0.000	-	0.000
Tert - Butylbenzene	ND	0.000	-	0.000
Trichlorfluoromethane	ND	0.000	-	0.000