

V.A.W. Water System, Inc.

2016 Annual Water Quality Report

To better communicate with you -our customer- we have prepared our annual Consumer Confidence Report as authorized by the Environmental Protection Agency through amendments to the Safe Drinking Water Act. This report is designed to inform you of the good quality water and system services provided to you from January 1, 2016 thru December 31, 2016. V.A.W. Water System had **NO VIOLATIONS** of the Alabama Safe Drinking Water Law during 2016, and we expect to have no violations in the upcoming year. We are committed to ensuring the quality of your water.

ADDITIONAL INFORMATION

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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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, 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:

- A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B) **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or the result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- D) **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- E) **Radioactive contaminants**, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to insure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water.

HEALTH INFORMATION

Some people may be more vulnerable to contaminants in drinking water than the general population. People, who are immune-compromised, such as cancer patients undergoing chemotherapy, organ transplant recipients, HIV/AIDS positive or individuals with other immune system disorders. Particularly the elderly as well as infants can be at risk from infection. People at risk should seek advice about drinking water from their health care provider. 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, 1-800-426-4791.

LEAD 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. V.A.W. 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 Drink Water Hotline or at <http://www.epa.gov/safewater/lead>.

DIOXIN & ASBESTOS MONITORING STATEMENT

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 is not required.

WATER SOURCE

The V.A.W. Water System currently has two water sources. 1) Water purchased from the City of Cullman, who own and operate a Water Treatment Plant which is governed by the City of Cullman Utilities Board. The water supply is drawn from Lake Catoma which is owned by the City. The City of Cullman Treatment Plant has a total treatment capacity of 24 MGD and is the conventional surface treatment process. 2) Water purchased from the West Morgan East Lawrence Water and Sewer Authority (WM-EL). This source is surface water from the Wheeler Lake Reservoir on the Tennessee River, which is processed at Robert Milton Hames Water Treatment Plant, located at Lock A, near Hillsboro in Lawrence County. WM-EL also has connections with Decatur Utilities for an emergency supply if needed. **TREATMENT TECHNIQUES** - At times it is necessary for V.A.W. Certified Operators to add additional chlorine to the water purchased from WM-EL and City of Cullman. This is done to stay within ADEM guidelines.

Both of V.A.W.'s water sources have completed a "source water protection plan" as required by EPA. This plan provides information about potential sources of contamination in our source water area and is available at their respective offices.

BOARD MEMBERS / BOARD MEETINGS

The regular scheduled Board Meetings are held on the third Thursday of each month at 6:00 p.m. Meeting changes will be posted as soon as received. All members are welcome and encouraged to attend. Current Board Members : Larry Duke-Chairman, Tim Box -Vice Chairman, Morris Williams - Sec/Treas, Jeremy Bolzle, and Joesph Dingler.

CONTACTS

For information concerning this report or water quality, please contact Shawn Whittle, at extension 113. For information about our office or daily operations, please contact Donna Gossett, extension 116. Business hours are Monday-Friday, 7:30 a.m. until 4:00 p.m. We are located at 11802 Alabama Highway 157 West, at West Point (256) 734-2413 or (800) 422-6059. V.A.W. Water System, Inc. is a proud member of the American Water Works Association, Alabama Rural Water Association, Alabama Water and Pollution Control Association and Alabama One Call. And proud sponsor of the Cullman County Water Festival.

Primary Contaminants 2016

Contaminant	MCL	Cullman	WM-EL	Contaminant	MCL	Cullman	WM-EL
Bacteriological				Endrin	2 ppb	ND	ND
TIt Coliform Bacteria*	<5%	0	ND	Epichlorohydrin	TT	ND	N/A
Turbidity	TT	0.10	0.83	Glyphosate	700 ppb	ND	ND
Fecal Coliform & <i>E. coli</i>	0	16	ND	Heptachlor	400 ppt	ND	ND
Radiological				Heptachlor epoxide	200 ppt	ND	ND
Beta/photon emitters (mrem/yr)	4	ND	Waived	Hexachlorobenzene	1 ppb	ND	ND
Alpha emitters(pci/l)	15	ND	ND	Hexachloropentadiene	1ppb	ND	ND
Gross Beta in Liq. (pci/L)	15	ND	-	Lindane	200 ppt	ND	ND
Inorganic				Methoxychlor	40 ppb	ND	ND
Antimony	6 ppb	ND	ND	Oxamyl [Vydate]	200 ppb	ND	ND
Arsenic	10 ppb	ND	ND	PCB's	500 ppt	ND	ND
Asbestos (MFL)	7	ND	Waived	Pentachlorophenol	1 ppb	ND	ND
Barium	2 ppm	0.026	ND	Picloram	500 ppb	ND	ND
Beryllium	4 ppb	ND	ND	Simazine	4 ppb	ND	ND
Cadmium	5 ppb	ND	ND	Toxaphene	3 ppb	ND	ND
Chromium	100 ppb	ND	ND	Benzene	5 ppb	ND	ND
Copper(ppm)(2016)*	AL=1.3	0.195	0	Carbon Tetrachloride	5 ppb	ND	ND
Cyanide	200 ppb	ND	ND	Chlorobenzene	100 ppb	ND	ND
Fluoride	4 ppm	1.08	ND	Dibromochloropropane	200 ppt	ND	ND
Lead(ppb)(2016)*	AL=15	<1.0	0	0-Dichlorobenzene	600 ppb	ND	ND
Mercury	2 ppb	ND	ND	p-Dichlorobenzene	75 ppb	ND	ND
Nitrate	10 ppm	1.30	0.61	1,2-Dichloroethane	5 ppb	ND	ND
Nitrite	1 ppm	ND	ND	1,1-Dichloroethylene	7 ppb	ND	ND
Selenium	50 ppb	ND	ND	Cis-1,2-Dichloroethylene	70 ppb	ND	ND
Thallium	2 ppb	ND	ND	trans-1,2-Dichloroethylene	100 ppb	ND	ND
Organic Chemicals				Dichloromethane	5 ppb	ND	ND
2,4-D	70 ppb	0.3	ND	1,2-Dichloropropane	5 ppb	ND	ND
2,4,5-TP (Silvex)	50 ppb	ND	ND	Ethylbenzene	700 ppb	ND	ND
Acrylamide	TT	ND	N/A	Ethylene dibromide	50 ppt	ND	ND
Alachlor	2 ppb	ND	ND	Styrene	100 ppb	ND	ND
Atrazine	3 ppb	ND	ND	Tetrachloroethylene	5 ppb	ND	ND
Benzo(a)pyrene[PHAs]	200 ppt	ND	ND	1,2,4-Trichlorobenzene	70 ppb	ND	ND
Carbofuran	40 ppb	ND	ND	1,1,1-Trichloroethane	200 ppb	ND	ND
Chlordane	2 ppb	ND	ND	1,1,2-Trichloroethane	5 ppb	ND	ND
Dalapon	200 ppb	ND	ND	Trichloroethylene	5 ppb	ND	ND
Di-(2-ethylhexyl)adipate	400 ppb	ND	ND	TTHM (ppb)	80 ppb	12.0	38.8
Di(2-ethylhexyl)phthlate	6 ppb	1.2	ND	Toluene	1 ppm	ND	ND
Dinoseb	7 ppb	ND	ND	Vinyl Chloride	2 ppb	ND	ND
Diquat	20 ppb	ND	ND	Xylenes	10 ppm	ND	ND
Dioxin[2,3,7,8-TCDD]	30 ppq	ND	ND	Chlorine	4 ppm	3	2.14
Endothall	100 ppb	ND	ND	Chlorine dioxide	800 ppb	249	.29PPM
1,2 Dichlorobenzene	600ppb	-	ND	Haloacetic Acids (HAA5)	60ppb	14.4	19.2
1,4 Dichlorobenzene	75ppb	-	ND	Chlorite	1 MCL	0.54	0.82
cis-1,2-ichloroethylene	70ppb	-	ND				

Secondary Contaminants 2016

Contaminant	MCL	Cullman	WM-EL
Chloride	250 ppm	6.44	20.9
Sodium (ppm)	Corrosivity	2.97	10.80
Sulfate	250 ppm	18	21.9
TIt Dissolved Solids	500 ppm	83.0	112
Calcium	Corrosivity	14.4	25.8
Magnesium	Corrosivity	1.74	4.58
Aluminum	0.2 ppm	0.0124	0.092
Manganese	0.05 ppm	0.0021	0.029
Iron	0.3 ppm	ND	0.02
Nickel	0.1 ppm	ND	ND
Carbon Dioxide	Corrosivity	4.4	<1.0
Hardness	Corrosivity	48.3	56-100
Color	15 Color Units	ND	4
Silver	0.1 ppm	ND	ND
Zinc	5 ppm	ND	ND
pH	Corrosivity	6.8	7.3-8.9
TIt Alkalinity	Corrosivity	19.4	43-73
MBAS	500ppm	ND	ND
Odor	3 ppm	-	<1
Specific Conductance	Corrosivity	129	240
Langelier Index	- 10 ppm	-	-0.71
Foaming Agents	N/A	-	ND
Copper, as Cu	1	-	ND
Fluoride	2	1.08	ND

Non-Compliance Long Term2 Enhanced Surface Water Rule

Cryptosporidium	0-3	-	3
Giardia	0-5	-	5

DEFINITIONS

Primary Standards - Used as guides to protect public health.

Primary standards include maximum contaminant levels, maximum contaminant level goals, action levels, and treatment techniques.

Secondary Standards - Guidelines to assure good aesthetic quality of water. Secondary standards apply to contaminants that affect the taste, odor or color of water, stain sinks or bathtubs, or interfere with treatment processes.

* V.A.W. Water System - Independently Tested
See Table of Detected Contaminants for results.

LEGEND AND DEFINITIONS

90th Percentile -90%or less than chart
MCLG (Maximum Contaminant Level Goal) - 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.
MCL (Maximum Contaminant Level) - 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.
MFL - million fibers per liter

MRDL (Maximum Residual Disinfectant Level) - 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.
MRDLG (Maximum Residual Disinfectant Level Goal) - 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.
TT (Treatment Technique) - A required process intended to reduce the level of a contaminant in drinking water.
AL (Action Level) - The concentration of a contaminant that triggers treatment or other requirements a water system shall follow.
mrem/yr-millirems per year
ND - not detected
NR - not required
NTU - nephelometric turbidity unit
pCi/l - picocuries per liter
Umhos - expressed microminos per centimeter
ppb - parts per billion
ppm - parts per million
ppq - parts per quadrillion
ppt - parts per trillion

Table of Detected Contaminants Jan. 1- Dec Dec.31 2016

Contaminant	MCLG	MCL	Cullman Range	Cullman Detected	WM-EL Range	WM-EL Detected	Likely Source
Bacteriological (Turbidity is a measure of cloudiness of water, it is a good indicator of the effectiveness of filtration systems.)							
Turbidity	0	TT		0.10NTU	-	0.034	Soil Runoff
Radiological							
Beta/ photon emitters	0	4	0	ND	-	WAIVED	Erosion of natural deposits
Radium - 228 pCi/l	0	5	0-5	3.4+/-0.5pci/l	0-5	ND	Erosion of natural deposits
Gross Beta in Liquids	0	15	-	ND	-	-	Naturally occurring radioactive elements
Inorganic Chemicals							
Barium	2	2	ND-0.0260	0.0260ppm	-	ND	Discharge of drilling wastes;discharge from metals refineries;erosion of natural deposits.
Fluoride	0.7	4	0.00-1.08	1.08ppm	2	ND	Erosion of natural deposits;water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate	1	10	0.00-1.30	1.30ppm	ND-0.21	0.21ppm	Runoff from fertilizer use;leaching from septic tanks,sewage; erosion of natural deposits
Organic Chemicals							
Total Organic Carbon	0	TT	1.51-2.38	2.38ppm	1.2-2.2	1.6ppm	Naturally present in the environment
Chlorine	MRDLG=4	MRDLG=4	1.50-3.00	3.00ppm	.50-1.83	1.83ppm	Water additive used to control microbes
Chlorite		1ppm		0.54ppm	0-.91	.91ppm	Water additive used to control microbes
Chlorine Dioxide		800ppb		249ppb	0-.18	.18ppm	Water additive used to control microbes
Non-Compliance							
Microbiological (LT2ESWTR)							
Cryptosporidium	0	TT	ND-ND	0.0 oocsts/L	0-2	2	Wildlife and / or human activity
E. coli (Raw)	0	TT	0.00-16	16mL	ND-ND	ND	Wildlife and / or human activity
Giardia	0	TT	0.00-0.09	0.09cysts/L	ND-ND	ND	Wildlife and / or human activity
Inorganic Chemicals							
Cullman 2016				WM-EL 2016			
Copper (Tested for every 3 years.)	1.3	AL=1.3ppm	30 samples taken, 0 above action level	0.195ppm Within 90th Percentile	No. of sites above action level -0-	0	Corrosion of household plumbing systems;erosion of natural deposits; leaching from wood preservatives.
Lead (Tested for every 3 years.)	0	AL=15ppb	30 samples taken, 2 above action level	<1.0ppb Within 90th Percentile	No. of sites above action level -0-	0	Corrosion of household plumbing systems; erosion of natural deposits
V.A.W. Results							
Copper	1.3	AL=1.3ppm	Sites above action level, 0		0.036	Within 90th Percentile	Last tested in 2016 by V. A. W . Certified Operators (Test every 3 years)
Lead	0	AL=15 ppb	Sites above action level, 0		0.001	Within 90th Percentile	
Organic Chemicals							
Cullman 2016				WM-EL 2016			
HAA5s	0	60	11.4-16.6	14.4ppb	0-25.5	21.3ppb	By-product of drinking water chlorination
TTHM	0	80	6.6-20.0	12.0ppb	0-69.6	38.8ppb	By-product of drinking water chlorination
V.A.W. Results							
V.A.W. Range 2016				V.A.W. Detected 2016			
HAA5s	0	60	2.5-52.0		22.8		2007 IDSE Range 9.2-56.0 By-product of drinking water chlorination
TTHM	0	80	6.0-40.1		30.3		2007 IDSE Range 59.2-120.0 By-product of drinking water chlorination

MCL's are set at very stringent levels. To understand the possible health effects 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. Total Coliform: The total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found special followup test are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio.

Unregulated Contaminants 2015

Contaminant	Cullman Range	Cullman Detected	WM-EL Range	WM-EL Detected	Contaminant	Cullman Range	Cullman Detected	WM-EL Range	WM-EL Detected
1,1-Dichloropropene	0.0-0.0	ND	0.0-0.0	ND	Chloroform (ppb)	5.7-16.0	10	0.0-42.6	21.1
1,1,1,2-Tetrachloroethane	0.0-0.0	ND	0.0-0.0	ND	Chloromethane	0.0-0.0	ND	0.0-0.0	ND
1,1,2,2-Tetrachloroethane	0.0-0.0	ND	0.0-0.0	ND	Dibromochloromethane	0.0-0.0	ND	0-11.6	7.8 PPB
1,1-Dichloroethane	0.0-0.0	ND	0.0-0.0	ND	Dibromomethane	0.0-0.0	ND	0.0-0.0	ND
1,2,3-Trichlorobenzene	0.0-0.0	ND	0.0-0.0	ND	Dicamba	0.0-0.0	ND	0.0-0.0	ND
1,2,3-Trichloropropane	0.0-0.0	ND	0.0-0.0	ND	Dichlorodifluoromethane	0.0-0.0	ND	0.0-0.0	ND
1,2,4-Trimethylbenzene	0.0-0.0	ND	0.0-0.0	ND	Dieldrin	0.0-0.0	ND	0.0-0.0	ND
1,3-Dichloropropane	0.0-0.0	ND	0.0-0.0	ND	Hexachlorobutadiene	0.0-0.0	ND	0.0-0.0	ND
1,3-Dichloropropene	0.0-0.0	ND	0.0-0.0	ND	Isopropylbenzene	0.0-0.0	ND	0.0-0.0	ND
1,3,5-Trimethylbenzene	0.0-0.0	ND	0.0-0.0	ND	M-Dichlorobenzene	0.0-0.0	ND	0.0-0.0	ND
2,2-Dichloropropane	0.0-0.0	ND	0.0-0.0	ND	Methomyl	0.0-0.0	ND		
3-Hydroxycarbofuran	0.0-0.0	ND	0.0-0.0	ND	MTBE	0.0-0.0	ND		
Aldicarb	0.0-0.0	ND	0.0-0.0	ND	Metolachlor	0.0-0.0	ND		
Aldicarb Sulfone	0.0-0.0	ND	0.0-0.0	ND	Metribuzin	0.0-0.0	ND		
Aldicarb Sulfoxide	0.0-0.0	ND	0.0-0.0	ND	N-Butylbenzene	0.0-0.0	ND	0.0-0.0	ND
Aldrin	0.0-0.0	ND	0.0-0.0	ND	Naphthalene	0.0-0.0	ND	0.0-0.0	ND
Bromobenzene	0.0-0.0	ND	0.0-0.0	ND	N-Propylbenzene	0.0-0.0	ND	0.0-0.0	ND
Bromochloromethane	0.0-0.0	ND	0.0-0.0	ND	O-Chlorotoluene	0.0-0.0	ND		
Bromodichloromethane(ppb)	3.50-6.90	2.1	0.0-17.50	10.9	P-Chlorotoluene	0.0-0.0	ND		
Bromoform	0.0-0.0	ND	0.0-2.27	0.8 PPB	P-Isopropyltoluene	0.0-0.0	ND		
Bromomethane	0.0-0.0	ND	0.0-0.0	ND	Propachlor	0.0-0.0	ND		
Butachlor	0.0-0.0	ND	0.0-0.0	ND	Sec-Butylbenzene	0.0-0.0	ND	0.0-0.0	ND
Carbaryl	0.0-0.0	ND	0.0-0.0	ND	Tert-Butylbenzene	0.0-0.0	ND	0.0-0.0	ND
Chloroacetic Acid	-	-	0.0-2.6	1.2 PPB	Trichlorofluoromethane	0.0-0.0	ND	0.0-0.0	ND
Chloroethane	0.0-0.0	ND	0.0-0.0	ND	Trichloroacetic Acid (PPB)	-	-	0.0-6.50	4.7
Dichloroacetic Acid	-	-	0-14	9.1 PPB	Chromium (Total)	-	-	0.000-0.000	ND
Dibromoacetic Acid	-	-	0.0-2.03	1.6 PPB	Cobalt	-	-	0.000-0.000	ND
Strontium	-	-	0.049-0.070	0.059PPM	Molybdenum	-	-	0.000-0.000	ND
Vanadium	-	-	0.0003-0.0004	0.0004PPM	1,3Butadiene	-	-	0.000-0.000	ND
Perfluorodecane Sulfonate	-	-	0.000-0.000	ND	Perfluorononanoic Acid	-	-	0.000-0.000	ND
Perfluorododecanoic Acid	-	-	0.000-0.000	ND	Perfluoropentanoic Acid	-	-	0.000-0.000	ND
Perfluorododecanoic Acid	-	-	0.000-0.000	ND	Perfluorotetradecanoic Acid	-	-	0.000-0.000	ND
Perfluoroheptanoic Acid	-	-	0.000-0.000	ND	PFHpA	-	-	0-0.003	0.001
Perfluorohexanesulfonic acid	-	-	0.0-0.007	0.0028	PFOA	-	-	0.0-0.033	0.01
Perfluorobutanesulfonic acid	-	-	0-0.0057	0.0057	PFOS	-	-	0-0.010	0.001
Chromium-6	-	-	0.00007-0.00014	0.00009PPM	Perfluorotridecanoic Acid	-	-	0.000-0.000	ND
Chlorate	-	-	0.000-0.690	0.270PPM	Perfluoroundecanoic Acid	-	-	0.000-0.000	ND
1,4-Dioxane	-	-	0.000-0.0004	0.0002PPM	Chlorodifluoromethane	-	-	0.000-0.000	ND
2-Chlorotoluene	-	-	0.000-0.000	ND	Perfluorobutanoic Acid	-	-	0.000-0.000	ND
4-Chlorotoluene	-	-	0.000-0.000	ND	Total Organic Carbons(2016)	-	-	0.39-1.67	1.16PPM

Independently Tested By V.A.W.	Range	Detected			Range	Detected		
Bromodichloromethane(ppb)	0.00091-0.011	0.00548			Chloroform (ppb)	0.0008-0.047	0.023	
Bromoform	0.0005-0.00096	0.0006			Dibromochloromethane	0.0005-0.0072	0.00243	
PFHpA (2014)-UCMR 3	0.000-0.0002	0.00001125						
PFOA (2014)-UCMR 3	0.000-0.00018	0.00006						
PFOS (2014)-UCMR 3	0.000-0.00009	0.000002875						

Unregulated Contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.