

## V.A.W. Water System, Inc.

### 2019 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, 2019 thru December 31, 2019. V.A.W. Water System had **NO VIOLATIONS** of the Alabama Safe Drinking Water Law during 2019, 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 ensure that tap water is safe to drink, EPA prescribes regulations, which limit the number 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 Bozle, and Joseph Dingler.

#### CONTACTS

For information concerning this report or water quality, please contact Shawn Whittle, at 256-734-2413. For information about our office or daily operations, please contact Donna Gossett, 256-734-2413. 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. 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. V.A.W. is also a proud sponsor of the Cullman County Water Festival.

**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. 31, 2019**

Contaminant	MCLG	MCL	Cullman Range	Cullman Detected	WM-EL Range	WM-EL Detected	Likely Source
<b>Bacteriological</b> (Turbidity is a measure of cloudiness of water, it is a good indicator of the effectiveness of filtration systems.)							
Turbidity	0	TT	-	0.10 NTU	-	0.33	Soil Runoff
<b>Radiological</b>							
Beta/ photon emitters	0	4	0	ND	-	WAIVED	Erosion of natural deposits
Radium - 228 (2019)	0	5	0-5	0.0926 pci/l	0-5	ND	Erosion of natural deposits
Gross Beta in Liquids	0	15	-	ND	-	ND	Naturally occurring radioactive elements
<b>Inorganic Chemicals</b>							
Barium	2	2	ND-0.0386	0.0386 ppm	ND-0.21	0.21	Discharge of drilling wastes;discharge from metals refineries;erosion of natural deposits.
Fluoride	0.7	4	0.50-1.06	1.06 ppm	-	-	Erosion of natural deposits;water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate	1	10	0.00-0.5670	0.5670 ppm	-	-	Runoff from fertilizer use;leaching from septic tanks,sewage;
Nitrate As NO3-N	1.45	10	-	-	ND-.24	.24 ppm	erosion of natural deposits
<b>Organic Chemicals</b>							
Total Organic Carbon	0	TT	1.14-2.31	2.31 ppm	0 -1.75	.64ppm	Naturally present in the environment
Chlorine	MRDLG=4	MRDLG=4	1.30-2.60	2.60 ppm	1.01 -1.83	1.83ppm	Water additive used to control microbes
Chlorite	-	1	-	-	0 - .29	.29ppm	Water additive used to control microbes
Clorine Dioxide	-	0.8	-	-	0 - .13	.13ppm	Water additive used to control microbes
TTHM	0	80.0	8.5-21.9	15.7 ppb	0-28.0	12.4ppb	By-product of drinking water chlorination
Haloacetic Acids HAA5	0	60	14.1-24.3	19.4 ppb	0 -7.40	3.2ppb	By-product of drinking water chlorination
<b>Non-Compliance</b>							
Cryptosporidium	0	TT	ND-ND	0.0 oocysts/L	0-3	3	Wildlife and / or human activity
E. coli ( Raw)	0	TT	0.00-4	4mL	ND	0	Wildlife and / or human activity
Giardia	0	TT	0.00-0.10	0.10cysts/L	0-5	5	Wildlife and / or human activity
<b>Inorganic Chemicals</b>							
Copper	1.3	AL=1.3ppm	30 samples taken, 0 above action level	0.265 ppm Within 90th Percentile	No. of sites above action level -0-	.015ppm	Corrosion of household plumbing systems;erosion of natural deposits; leaching from wood preservatives.
Lead	0	AL=15ppb	30 samples taken, 2 above action level	ND ppb Within 90th Percentile	No. of sites above action level -0-	NDppb	Corrosion of household plumbing systems; erosion of natural deposits
<b>V.A.W. Results</b>							
Copper	1.3	AL=1.3ppm	Sites above action level, 0		0.026512 Within 90th Percentile		Last tested in 2019 by V. A. W . Certified Operators (Test every 3 years)
Lead	0	AL=15 ppb	Sites above action level, 0		0.00106 Within 90th Percentile		
<b>Organic Chemicals</b>							
HAA5s	0	60	14.1-24.3	19.4 ppb	0-7.40	3.2ppb	By-product of drinking water chlorination
TTHM	0	80	8.5-21.9	15.7 ppb	0-28.0	12.4ppb	By-product of drinking water chlorination
<b>V.A.W. Results</b>							
HAA5s	0	60	3.01-39.0		14.08 ppb		2007 IDSE Range 9.2-56.0 By-product of drinking water chlorination
TTHM	0	80	13.3-36.6		22.58 ppb		2007 IDSE Range 59.2-120.0 By-product of drinking water chlorination
<b>Non-Compliance</b>							
TTHM	0	80	DSE Monitoring 11.7-39.9		NR ppb		By-product of drinking water chlorination
Haloacetic Acids HAA5	0	60	1.98-37.1		NR ppb		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.

**Primary Contaminants 2019**

Contaminant	MCL	Cullman	WM-EL	Contaminant	MCL	Cullman	WM-EL
<b>Bacteriological</b>				Endrin	2 ppb	ND	ND
Tit Coliform Bacteria*	<5%	0	ND	Epichlorohydrin	TT	ND	N/A
Turbidity	TT	0.10	0.033	Glyphosate	700 ppb	ND	ND
Fecal Coliform & <i>E. coli</i>	TT	-	ND	Heptachlor	400 ppt	ND	ND
<b>Radiological</b>				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
<b>Inorganic</b>				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	ND-0.21	0.21	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)(2019)	AL=1.3	0.265	0.015	Carbon Tetrachloride	5 ppb	ND	ND
Cyanide	200 ppb	ND	ND	Chlorobenzene	100 ppb	ND	ND
Fluoride	4 ppm	0.77	ND	Dibromochloropropane	200 ppt	ND	ND
Lead(ppb)(2019)	AL=15	ND	ND	0-Dichlorobenzene	600 ppb	ND	ND
Mercury	2 ppb	ND	ND	P-Dichlorobenzene	75 ppb	ND	ND
Nitrate	10 ppm	1.48	0.24	1,2-Dichloroethane	5 ppm	ND	-
Nitrite	1 ppm	ND	ND	1,1-Dichloroethylene	7 ppb	ND	ND
Selenium	50ppm	ND	ND	Cis-1,2-Dichloroethylene	70 ppb	ND	ND
Thallium	2 ppb	ND	ND	trans-1,2-Dichloroethylene	100 ppb	ND	-
<b>Organic Chemicals</b>				Dichloromethane	5 ppb	ND	ND
2,4-D	70 ppb	ND	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	-
Alachlor	2 ppb	ND	ND	Styrene	100 ppb	ND	ND
Atrazine	3 ppb	ND	ND	Tetrachloroethylene	5 ppb	ND	ND
Benzo(a)pyrene(PAHs)	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	-	TTHM	80 ppb	15.7	12.4
Di(2-ethylhexyl)phthalates	6 ppb	1.20	-	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	2.60	1.83
Endothall	100 ppb	ND	ND	Chlorine dioxide	0.80ppm	0.216	0.13
1,2 Dichlorobenzene	600ppb	-	-	Haloacetic Acids (HAA5)	60ppb	19.4	3.2
1,4 Dichlorobenzene	75ppb	-	-	Chlorite	1ppm	0.61	0.29
Bis(2-ethylhexyl)adipate	400ppb	-	ND	cis-1,2-Dichloroethene	70ppb	-	ND
Bis(2-ethylhexyl)phthalate	6ppb	-	ND	trans-1,2-Dichloroethane	100ppb	-	ND

**Secondary Contaminants 2019**

Contaminant	MCL	Cullman	WM-EL
Chloride	250 ppm	6.02	13.2
Sodium (ppm)	Corrosivity	3.88	6.40
Sulfate	500ppm	16.5	26.6
Tit Dissolved Solids	500 ppm	45.0	96.0
Calcium(ppm)	Corrosivity	16.6	22.3
Magnesium(ppm)	Corrosivity	1.85	4.0
Aluminum	0.2 ppm	ND	0.028
Manganese	0.05 ppm	0.01040	0.014
Iron	0.3 ppm	ND	0.017
Nickel	0.1 ppm	ND	ND
Carbon Dioxide	Corrosivity	2.64	ND
Hardness(ppm)	Corrosivity	49.0	46-100
Color(ppm)	15 Color Units	ND	ND
Silver	0.1 ppm	ND	ND
Zinc	5 ppm	ND	ND
pH(ppm)	Corrosivity	6.45	7.1-8.1
Tit Alkalinity(ppm)	Corrosivity	23.8	47-66
MBAS	.5 ppm	ND	0.055
Odor	3 ppm	-	ND
Specific Conductance	Corrosivity	116	195
Langelier Index	N/A	-	-0.34
Foaming Agents	N/A	-	
Copper	1 ppm	0.265	0.015
Fluoride	4ppm	1.06	ND

**Non-Compliance Long Term2 Enhanced Surface Water Rule**

Cryptosporidium	0-3	-	3
E.coli (Raw)	0	-	0
Giardia(Cysts/L)	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.

Unregulated Contaminants 2019

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)	6.5-18.3	12.8	-	-
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(ppb)	0.0-0.0	ND	-	-
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	-	-	MTBE	0.0-0.0	ND	-	-
Aldicarb	0.0-0.0	ND	-	-	Metolachlor	0.0-0.0	ND	-	-
Aldicarb Sulfone	0.0-0.0	ND	-	-	Metribuzin	0.0-0.0	ND	-	-
Aldicarb Sulfoxide	0.0-0.0	ND	-	-	N-Butylbenzene	0.0-0.0	ND	0.0-0.0	ND
Aldrin	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)	1.99-3.86	2.89	-	-	P-Chlorotoluene	0.0-0.0	ND	-	-
Bromoform(ppb)	0.0-0.0	ND	-	-	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	-	-	Sec-Butylbenzene	0.0-0.0	ND	0.0-0.0	ND
Carbaryl	0.0-0.0	ND	-	-	Tert-Butylbenzene	0.0-0.0	ND	0.0-0.0	ND
Chloroacetic Acid(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)	-	-	-	-
Dichloroacetic Acid(ppb)	-	-	-	-	Chromium (Total)	-	-	0.000-0.000	ND
Dibromoacetic Acid(ppb)	-	-	-	-	Cobalt	-	-	0.000-0.000	ND
Strontium	-	-	-	-	Molybdenum	-	-	0.000-0.000	ND
Vanadium	-	-	-	-	1,3Butadiene	-	-	0.000-0.000	ND
Perfluorodecane Sulfonate	-	-	0.000-0.000	ND	Perfluorononanoic Acid	-	-	0.000-0.000	ND
Perfluorodecanoic 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	-	-	-	-	PFHpA	-	-	0.000-0.000	ND
Perfluorohexanesulfonic acid	-	-	-	-	PFOA (ppt)	-	-	0-4	3.5
Perfluorobutanesulfonic acid	-	-	-	-	Bromoacetic Acid(ppb)	-	-	-	-
Chromium-6	-	-	-	-	Perfluorotridecanoic Acid	-	-	0.000-0.000	ND
Chlorate	-	-	-	-	Perfluoroundecanoic Acid	-	-	0.000-0.000	ND
1,4-Dioxane	-	-	-	-	Chlorodifluoromethane	-	-	0.000-0.000	ND
2-Chlorotoluene	-	-	0.000-0.000	ND	Perfluorobutanoic Acid	-	-	-	-
4-Chlorotoluene	-	-	0.000-0.000	ND	Total Organic Carbons(2019)	-	-	0-1.75	0.64
Chlormethane	-	-	0.000-0.000	ND	Bromochloroacetic Acid	-	-	1.41-4.21	2.53ppb
Anatoxin-A	-	-	0.000-0.000	ND	Bromodichloroacetic Acid	-	-	.994-2.41	1.55ppb
Total Microcystins & Nodularins	-	-	0.000-0.000	ND	Chlorodibromoacetic Acid	-	-	.491-1.50	.972ppb
PFNA	-	-	0.000-0.000	ND	Monobromoacetic Acid	-	-	-	-
PFHPA	-	-	0.000-0.000	ND	Tebuconazole	-	-	0.000-0.000	ND
Alpha-Hexachlorocyclohexane	-	-	0.000-0.000	ND	Tribufos	-	-	0.000-0.000	ND
Dimethipin	-	-	0.000-0.000	ND	O-Toluidine	-	-	0.000-0.000	ND
Oxyfluorfen	-	-	0.000-0.000	ND	1-Butanol	-	-	0.000-0.000	ND

