

2018 Annual Water Quality Report
(Testing Performed January - December 2017)

VERNON WATER WORKS

PWSID# AL0000773

1318 County Road 9

Vernon, AL 35592

Phone 205-695-7302

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Water Sources	Two groundwater wells producing from the Coker aquifer
	Purchased groundwater from Kennedy Water System
	Purchased groundwater from Sulligent Water Works
Number of Customers	Approximately 3500
Water Treatment	Chlorination and iron removal
Storage Capacity	12 tanks
Additional Connections	Sell water to Sulligent Water, Kennedy, and Millport
Board Members	Jeff Randolph, Chairman
	Glenn Butler, Co-Chairman, District 1: 205-712-1111
	James Morton, Member, District 2: 205-712-3990
	Jane Burnett, Member, District 3: 205-695-3284
	James Rogers, Member, District 4: 205-712-8376
Management	Sam Rogers, Manager
	Tina Quinn, Office Manager

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), **Vernon Water Works** has developed a Wellhead Protection Plan (Source Water Assessment) that will assist in protecting our water sources. This plan provides additional information such as potential sources of contamination. It includes a Susceptibility Analysis, which classifies potential contaminants as high, moderate, or non-susceptible to contaminating the water source. The report has been completed and approved by ADEM. A copy of the report is available in our office for review, or you may purchase a copy upon request for a nominal reproduction fee.

Please help us make this effort worthwhile by protecting our source water. Carefully follow instructions on pesticides and herbicides you use for your lawn and garden, and properly dispose of household chemicals, paints and waste oil.

Monitoring Schedule

We routinely monitor for contaminants in your drinking water according to Federal and State laws, using EPA approved methods and a State certified laboratory. The Alabama Department of Environmental Management (ADEM) allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule. All test results were well within state and federal standards.

Constituent Monitored	Vernon	Kennedy	Sulligent
Inorganic Contaminants	2016	2016	2016
Lead/Copper	2016	2017	2016
Microbiological Contaminants	monthly	monthly	monthly
Nitrates	2017	2017	2017
Radioactive Contaminants	2013	2010	2010
Synthetic Organic Contaminants (including pesticides and herbicides)	Partial 2017	2017	2017
Volatile Organic Contaminants	2016	2017	2017
Disinfection By-products	2017	2017	2017

Water Quality Information

All drinking water, including bottled drinking 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.

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. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water run-off, and residential uses.
- 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.
- Radioactive contaminants, which can be naturally occurring or be 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 amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS 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.

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.

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. Your water system 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 www.epa.gov/safewater/lead.

Questions?

If you have any questions about this report or concerning your water utility, please contact **Sam Rogers, General Manager**, at the office at 205-695-9274, Monday through Friday between the hours of 8:00 a.m. and 4:00 p.m. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on **the last Thursday of each month at the Water Works office at 1318 County Road 9 at 4:00 p.m.**

More information about contaminants to drinking water and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (1-800-426-4791).

We have learned through our monitoring and testing that some constituents have been detected. This report shows our water quality and what it means.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Vernon Water Works						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Alpha emitters	NO	0.6 ± 0.6	PCI/l	0	15	Erosion of natural deposits
Total Trihalomethanes (TTHM)	NO	ND-45.0	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	ND-22.1	ppb	0	60	By-product of drinking water chlorination
Secondary Contaminants						
Aluminum	NO	0.11	ppm	none	0.2	Erosion of natural deposits or as a result of treatment with water additives
Chloride	NO	3.40	ppm	none	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Hardness	NO	34.3	ppm	none	none	Naturally occurring in the environment or as a result of treatment with water additives
Iron	NO	0.17	ppm	none	0.30	Naturally occurring in the environment; erosion of natural deposits; leaching from pipes
Manganese	NO	0.02	ppm	none	none	Naturally occurring in the environment; dissolved minerals
pH	NO	7.63	S.U.	none	none	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	NO	1.89	ppm	none	none	Naturally occurring in the environment
Sulfate	NO	4.67	ppm	none	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Total Dissolved Solids	NO	36.0	ppm	none	500	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff

TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Sulligent Water Works						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Copper – at Consumer's tap	NO	0.486*	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Nitrate (as Nitrogen)	NO	0.59-0.81	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Secondary Contaminants						
Chloride	NO	3.38-3.69	ppm	none	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Hardness	NO	2.87-31.5	ppm	none	none	Naturally occurring in the environment or as a result of treatment with water additives
Iron	NO	ND-0.06	ppm	none	0.30	Naturally occurring in the environment; erosion of natural deposits; leaching from pipes
pH	NO	6.51-8.16	S.U.	none	none	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	NO	1.17-1.36	ppm	none	none	Naturally occurring in the environment
Total Dissolved Solids	NO	40.0-60.0	ppm	none	500	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff

* Figure shown is 90th percentile and # of sites above Action Level (1.3 ppm) = 0

DETECTED DRINKING WATER CONTAMINANTS						
Kennedy Water Works						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Total Trihalomethanes (TTHM)	NO	ND-2.17	ppb	0	80	By-product of drinking water chlorination
Secondary Contaminants						
Chloride	NO	19.6	ppm	none a	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Hardness	NO	44.6	ppm	none	none	Naturally occurring in the environment or as a result of treatment with water additives
pH	NO	8.87	S.U.	none	none	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	NO	3.46	ppm	none	none	Naturally occurring in the environment
Sulfate	NO	8.57	ppm	none	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Total Dissolved Solids	NO	88.0	ppm	none	500	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff

Definitions

Action Level - the concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.

Coliform Absent (ca) - Laboratory analysis indicates that the contaminant is not present.

Disinfection byproducts - are formed when disinfectants used in water treatment plants react with bromide and/or natural organic matter (i.e., decaying vegetation) present in the source water. Different disinfectants produce different types or amounts of disinfection byproducts. Disinfection byproducts for which regulations have been established include trihalomethanes (TTHM), haloacetic acids (HAA5), bromate, and chlorite.

Initial Distribution System Evaluation (IDSE) - a one-time study conducted by water systems to identify distribution system locations with high concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs). Water systems will use results from the IDSE, in conjunction with their Stage 1 DBPR compliance monitoring data, to select compliance monitoring locations for the Stage 2 DBPR.

Maximum Contaminant Level - (mandatory language) The Maximum Allowed (MCL) is 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 Contaminant Level Goal - (mandatory language) The Goal (MCLG) is 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.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Not Applicable (NA) - Not applicable to water system because not required to perform the referenced monitoring.

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Not Required (NR) - laboratory analysis not required due to waiver granted by the Environmental Protection Agency for the State of Alabama.

Parts per billion (ppb) or Micrograms per liter (µg/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years, or a single penny in \$10,000,000,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Threshold Odor Number (TON) - The greatest dilution of a sample with odor-free water that yields a barely detectable odor.

Treatment Technique (TT) - (mandatory language) a required process intended to reduce the level of a contaminant in drinking water.

Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

At the end of this report a list of *Primary Drinking Water Contaminants* and a list of *Unregulated Contaminants* for which our water system routinely monitors. These contaminants were *not* detected in your drinking water unless they are listed in the *Table of Detected Drinking Water Contaminants*.

STANDARD LIST OF PRIMARY DRINKING WATER CONTAMINANTS					
Contaminant	MCL	Unit of Msmt	Contaminant	MCL	Unit of Msmt
Bacteriological Contaminants			trans-1,2-Dichloroethylene	100	ppb
Total Coliform Bacteria	<5%	present or absent	Dichloromethane	5	ppb
Fecal Coliform and E. coli	0	present or absent	1,2-Dichloropropane	5	ppb
Turbidity	TT	NTU	Di (2-ethylhexyl)adipate	400	ppb
Cryptosporidium	TT	Calculated organisms/liter	Di (2-ethylhexyl)phthalate	6	ppb
Radiological Contaminants			Dinoseb	7	ppb
Beta/photon emitters	4	mrem/yr	Dioxin [2,3,7,8-TCDD]	30	ppq
Alpha emitters	15	pCi/l	Diquat	20	ppb
Combined radium	5	pCi/l	Endothall	100	ppb
Uranium	30	pCi/l	Endrin	2	ppb
Inorganic Chemicals			Epichlorohydrin	TT	TT
Antimony	6	ppb	Ethylbenzene	700	ppb
Arsenic	10	ppb	Ethylene dibromide	50	ppt
Asbestos	7	MFL	Glyphosate	700	ppb
Barium	2	ppm	Heptachlor	400	ppt
Beryllium	4	ppb	Heptachlor epoxide	200	ppt
Cadmium	5	ppb	Hexachlorobenzene	1	ppb
Chromium	100	ppb	Hexachlorocyclopentadiene	50	ppb
Copper	AL=1.3	ppm	Lindane	200	ppt
Cyanide	200	ppb	Methoxychlor	40	ppb
Fluoride	4	ppm	Oxamyl [Vydate]	200	ppb
Lead	AL=15	ppb	Polychlorinated biphenyls (PCBs)	0.5	ppb
Mercury	2	ppb	Pentachlorophenol	1	ppb
Nitrate	10	ppm	Picloram	500	ppb
Nitrile	1	ppm	Simazine	4	ppb
Selenium	.05	ppm	Styrene	100	ppb
Thallium	.002	ppm	Tetrachloroethylene	5	ppb
Organic Contaminants			Toluene	1	ppm
2,4-D	70	ppb	Toxaphene	3	ppb
Acrylamide	TT	TT	2,4,5-TP (Silvex)	50	ppb
Alachlor	2	ppb	1,2,4-Trichlorobenzene	.07	ppm
Benzene	5	ppb	1,1,1-Trichloroethane	200	ppb
Benzo(a)pyrene [PAHs]	200	ppt	1,1,2-Trichloroethane	5	ppb
Carbofuran	40	ppb	Trichloroethylene	5	ppb
Carbon tetrachloride	5	ppb	Vinyl Chloride	2	ppb
Chlordane	2	ppb	Xylenes	10	ppm
Chlorobenzene	100	ppb	Disinfectants & Disinfection Byproducts		
Dalapon	200	ppb	Chlorine	4	ppm
Dibromochloropropane	200	ppt	Chlorine Dioxide	800	ppb
o-Dichlorobenzene	600	ppb	Chloramines	4	ppm
p-Dichlorobenzene	75	ppb	Bromate	10	ppb
1,2-Dichloroethane	5	ppb	Chlorite	1	ppm
1,1-Dichloroethylene	7	ppb	HAA5 [Total haloacetic acids]	60	ppb
cis-1,2-Dichloroethylene	70	ppb	TTHM [Total trihalomethanes]	80	ppb
UNREGULATED CONTAMINANTS					
1,1 - Dichloropropene	Aldicarb	Chloroform	Metolachlor		
1,1,1,2-Tetrachloroethane	Aldicarb Sulfone	Chloromethane	Metribuzin		
1,1,2,2-Tetrachloroethane	Aldicarb Sulfoxide	Dibromochloromethane	N - Butylbenzene		
1,1-Dichloroethane	Aldrin	Dibromomethane	Naphthalene		
1,2,3 - Trichlorobenzene	Bromobenzene	Dicamba	N-Propylbenzene		
1,2,3 - Trichloropropane	Bromochloromethane	Dichlorodifluoromethane	O-Chlorotoluene		
1,2,4 - Trimethylbenzene	Bromodichloromethane	Dieldrin	P-Chlorotoluene		
1,3 - Dichloropropene	Bromoform	Hexachlorobutadiene	P-Isopropyltoluene		
1,3 - Dichloropropene	Bromomethane	Isopropylbenzene	Propachlor		
1,3,5 - Trimethylbenzene	Butachlor	M-Dichlorobenzene	Sec - Butylbenzene		
2,2 - Dichloropropane	Carbaryl	Methomyl	Tert - Butylbenzene		
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorofluoromethane		