

**2018 Annual Drinking Water Quality Report**  
(For period January through December 2017)

**HALE COUNTY WATER AUTHORITY**

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We are pleased to present to you this year's Annual Water Quality Report. Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and Alabama Department of Environmental Management (ADEM) drinking water health standards. We diligently safeguard your water supplies, and once again we are proud to report that our system has not violated any water quality standard.

<b>Water Sources</b>	4 groundwater wells producing from the Eutaw and Coker aquifers and Purchased water from City of Greensboro (4 groundwater wells)		
<b>Additional Connections</b>	Sell water to Akron Water Department and City of Linden Emergency connections with Town of Moundville, Perry County, and Faunsdale		
<b>Water Treatment</b>	Chlorination for disinfection and lime for pH balance		
<b>Storage Capacity</b>	6 tanks with a total capacity of 1,700,000 gallons		
<b>Number of Customers</b>	Approximately 3100		
<b>Water Board Members</b>	Ronnie Thomas, Chairman	<b>Staff Members</b>	Paula Brame, Manager/Operator
	Terry Hamilton, Secretary-Treasurer		Latanya Watkins, Office Manager
	Elouise George, Member		
	Richard Moore, Member		
	Charles Hall, Member		

**Water Quality Protection**

In compliance with the Alabama Department of Environmental Management (ADEM), **Hale County Water Authority** has developed a Source Water Assessment plan that will assist in protecting our water sources. The assessment has been performed, public notification has been completed, and the plan has been approved by ADEM. A copy of the report is available in our office for review during regular business hours, or you may purchase a copy upon request for a nominal reproduction fee.

**Hale County Water Authority** routinely completes a water storage facility inspection plan and utilizes a Bacteriological Monitoring Plan. The required chlorine residual is maintained throughout our distribution system to protect your drinking water from possible outside contaminants.

Please help us make these efforts 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. We ask that all our customers help us protect our valuable water sources, which are the heart of our community, our way of life, and our children's futures.

**Monitoring Schedule**

We routinely monitor for contaminants in your drinking water according to Federal and State laws. 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.

<b>Constituents Monitored</b>	<b>Hale Co.</b>	<b>Greensboro</b>
Inorganic Contaminants	2016	2016
Lead/Copper	2015	2016
Microbiological Contaminants	current	current
Nitrates	2016	2017
Radioactive Contaminants	2011	2010
Synthetic Organic Contaminants (including herbicides and pesticides)	2015	2016
Volatile Organic Contaminants	2016	2017
Disinfection By-products	2016	2017

## General 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. 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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](http://www.epa.gov/safewater/lead).

## Questions?

If you have any questions about this report or concerning your water utility, please contact **Paula Brame**. 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 third Thursday of each month at 5:00 p.m. at the water office.**

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).

As you can see by the table below, our system had no violations. We have learned through our monitoring and testing that some constituents have been detected. We are pleased to report that our drinking water meets or exceeds federal and state requirements. This report shows our water quality and what it means.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS							
Contaminants	Violation Y/N	Hale Co. Detected	Greensboro Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Alpha emitters	NO	3.2 ± 1.3	1.3 ± 0.5	PCi/l	0	15	Erosion of natural deposits
Barium	NO	ND – 0.17	ND	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper	NO	0.604 * 2 > AL	0.682 * 0 > AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Nitrate (as Nitrogen)	NO	0.19-0.24	0.19	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	1.96-2.10	ND-1.30	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	1.68-1.88	ND	ppb	0	60	By-product of drinking water chlorination
<b>Secondary Contaminants</b>							
Chloride	NO	2.83-5.49	3.34-3.74	ppm	n/a	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Hardness	NO	2.11-54.1	10.7-24.3	ppm	n/a	n/a	Naturally occurring in the environment or as a result of treatment with water additives
Iron	NO	ND	0.11-0.14	ppm	n/a	0.30	Naturally occurring in the environment; erosion of natural deposits; leaching from pipes
pH	NO	6.57-8.17	7.03-7.21	S.U.	n/a	n/a	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	NO	1.12-44.6	1.50-15.1	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	0.94-4.05	4.30-4.47	ppm	n/a	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Total Dissolved Solids	NO	24.0-136	56.0-68.0	ppm	n/a	500	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff

\* Figure shown is 90<sup>th</sup> percentile and # of sites above 136action level (1.3 ppm) = 2

#### 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 (DBPs)- 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).

Locational Running Annual Average (LRAA)-yearly average of all the DBP results at each specific sampling site in the distribution system. The highest distribution site LRAA is reported in the Table of Detected Contaminants.

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.

Maximum Residual Disinfectant Level (MRDL)-the highest level of a disinfectant allowed in drinking water

Micrograms per liter (ug/L) – Equivalent to parts per billion (ppb) since one liter of water is equal in weight to one billion micrograms.

Milligrams per liter (mg/L) – Equivalent to parts per million

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.

Non-Detects (ND)- laboratory analysis indicates that the constituent is not present above detection limits of lab equipment.

Not Reported (NR)-laboratory analysis, usually Secondary Contaminants, not reported by water system. EPA recommends secondary standards to water systems but does not require systems to comply.

Parts per billion (ppb) or Micrograms per liter (ug/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.

RAA-Running annual average

Standard Units (S.U.)-pH of water measures the water's balances of acids and bases and is affected by temperature and carbon dioxide gas. Water with less than 6.5 could be acidic, soft, and corrosive. A pH greater than 8.5 could indicate that the water is hard.

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

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

The following table is a list of *Primary Drinking Water Contaminants*, *Unregulated Contaminants*, and *Secondary Contaminants* for which our water system routinely monitors according to our regulatory schedule. These contaminants were *not* detected in your drinking water unless they are listed in the *Table of Detected Drinking Water Contaminants*.

REGULATED CONTAMINANTS			
<b>Bacteriological</b>	Mercury	Dichloromethane	Simazine
Total Coliform Bacteria	Nitrate	1,2-Dichloropropane	Styrene
Fecal Coliform and E. coli	Nitrite	Di (2-ethylhexyl)adipate	Tetrachloroethylene
Fecal Indicators	Selenium	Di (2-ethylhexyl)phthalate	Toluene
Turbidity	Thallium	Dinoseb	Toxaphene
Cryptosporidium	<b>Organic Contaminants</b>	Dioxin [2,3,7,8-TCDD]	2,4,5-TP(Silvex)
<b>Radiological</b>	2,4-D	Diquat	1,2,4-Trichlorobenzene
Beta/positron emitters	Acrylamide	Endothall	1,1,1-Trichloroethane
Alpha emitters	Alachlor	Endrin	1,1,2-Trichloroethane
Combined radium	Benzene	Epichlorohydrin	Trichloroethylene
Uranium	Benzo(a)pyrene [PAHs]	Ethylbenzene	Vinyl Chloride
<b>Inorganic Chemicals</b>	Carbofuran	Ethylene dibromide	Xylenes
Antimony	Carbon tetrachloride	Glyphosate	<b>Disinfection Byproducts</b>
Arsenic	Chlordane	Heptachlor	Chlorine
Asbestos	Chlorobenzene	Heptachlor epoxide	Chlorine Dioxide
Barium	Dalapon	Hexachlorobenzene	Chloramines
Beryllium	Dibromochloropropane	Hexachlorocyclopentadiene	Bromate
Cadmium	o-Dichlorobenzene	Lindane	Chlorite
Chromium	p-Dichlorobenzene	Methoxychlor	HAA5 [Total haloacetic acids]
Copper	1,2-Dichloroethane	Oxamyl [Vydate]	TTHM [Total trihalomethanes]
Cyanide	1,1-Dichloroethylene	Polychlorinated biphenyls	
Fluoride	cis-1,2-Dichloroethylene	Pentachlorophenol	
Lead	trans-1,2-Dichloroethylene	Picloram	
UNREGULATED CONTAMINANTS			
1,1 – Dichloropropene	1,1 – Dichloropropene	1,1 – Dichloropropene	1,1 – Dichloropropene
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane
1,1-Dichloroethane	1,1-Dichloroethane	1,1-Dichloroethane	1,1-Dichloroethane
1,2,3 - Trichlorobenzene	1,2,3 - Trichlorobenzene	1,2,3 - Trichlorobenzene	1,2,3 - Trichlorobenzene
1,2,3 - Trichloropropane	1,2,3 - Trichloropropane	1,2,3 - Trichloropropane	1,2,3 - Trichloropropane
1,2,4 - Trimethylbenzene	1,2,4 - Trimethylbenzene	1,2,4 - Trimethylbenzene	1,2,4 - Trimethylbenzene
1,3 – Dichloropropane	1,3 – Dichloropropane	1,3 – Dichloropropane	1,3 – Dichloropropane
1,3 – Dichloropropene	1,3 – Dichloropropene	1,3 – Dichloropropene	1,3 – Dichloropropene
1,3,5 - Trimethylbenzene	1,3,5 - Trimethylbenzene	1,3,5 - Trimethylbenzene	1,3,5 - Trimethylbenzene
2,2 – Dichloropropane	2,2 – Dichloropropane	2,2 – Dichloropropane	2,2 – Dichloropropane
SECONDARY CONTAMINANTS			
Alkalinity, Total (as CA, Co <sub>3</sub> )	Copper	Magnesium	Silver
Aluminum	Corrosivity	Manganese	Sodium
Calcium, as Ca	Foaming agents (MBAS)	Odor	Sulfate
Chloride	Hardness	Nickel	Total Dissolved Solids
Color	Iron	pH	Zinc