

**2015 Annual Drinking Water Quality Report**  
**Testing Performed January – December 2014**



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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 are committed to ensuring the quality of your water.

<b>Water Source</b>	3 groundwater wells producing from a carbonate aquifer in the Cambrian-Ordovician undifferentiated	
	Purchased water from Bessemer Water Service (surface water from the Warrior River)	
<b>Treatment</b>	Helena well water: Chlorine and Zinc Orthophosphate	
	Bessemer purchased water: Fluoride	
<b>Number of Customers</b>	Approximately 6200	
<b>Water Board</b>	Mark Hall, Chairman	Ken McGinnis
	Teresa Amos, Secretary/ Treasure	Josh Gray
	Chris Nelson	Garry Garzarek

**Source Water Assessment**

In compliance with the Alabama Department of Environmental Management (ADEM), **The Helena Utility Board** has completed a Source Water Assessment plan that will assist in protecting our water sources. The plan is composed of four distinct components: delineation of the source water assessment areas, contaminant inventory, susceptibility analysis, and public awareness. The ADEM-approved report is available for review in the water office, or you may request a copy of the report for a nominal 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.

**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. 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. 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. 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).

Your surface source water is also tested for pathogens, such as *Cryptosporidium* and *Giardia*. These pathogens can enter the water from animal or human waste. For people who may be immuno-compromised, a guidance document developed jointly by the Environmental Protection Agency and the Center for Disease Control is available online at [www.epa.gov/safewater/crypto.html](http://www.epa.gov/safewater/crypto.html) or from the Safe Drinking Water Hotline at 800-426-4791. This language does not indicate the presence of cryptosporidium in our drinking water.

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).

This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule. As you can see by the following tables, our system met all federal and state requirements, although some constituents have been detected.

Contaminant Monitored	Helena	Bessemer (buys from GUSC)
Inorganic Contaminants	2013	2014
Lead/Copper	2013	N/A
Microbiological Contaminants	current	current
Nitrates	2014	2014
Radioactive Contaminants	2011	2012
Synthetic Organic Contaminants (including pesticides and herbicides)	Partial 2014	2013
Volatile Organic Contaminants	2014	2013
Disinfection By-products	2014	2014
Cryptosporidium	N/A	2008
Unregulated Contaminants Monitoring Rule 3 (UCMR3)	2013	--

TABLE OF DETECTED DRINKING WATER CONTAMINANTS							
Contaminants	Violation Y/N	Helena Detected	GUSC Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Copper	NO	0.147 * 0 > AL	--	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	NO	ND	0.53	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	NO	0.76-1.17	0.88	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	RAA 37.2 12.6-78.0	RAA 34.7 10.1-76.4	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	RAA 23.8 10.7-33.3	RAA 13.5 6.16-27.6	ppb	0	60	By-product of drinking water chlorination
<b>Unregulated Contaminants</b>							
Chloroform	NO	ND-29.1	9.39	ppb	n/a	n/a	Naturally occurring in the environment or as a result of runoff
Bromodichloromethane	NO	ND	2.99	ppb	n/a	n/a	Naturally occurring in the environment or as a result of runoff
Chlorodibromomethane	NO	ND	ND	ppb	n/a	n/a	Naturally occurring in the environment or as a result of runoff
Bromoform	NO	ND	ND	ppb	n/a	n/a	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
<b>Secondary Contaminants</b>							
Chloride	NO	3.79	5.19	ppm	n/a	250	Naturally occurring in the environment or as a result of runoff
Hardness	NO	155	79.7	ppm	n/a		Naturally occurring in the environment or result of treatment
pH	NO	8.07	7.47	S.U.	n/a	n/a	Naturally occurring in the environment or result of treatment
Sodium	NO	1.38	12.8	ppm	none	none	Naturally occurring in the environment
Sulfate	NO	3.27	72.5	ppm	n/a	500	Naturally occurring in the environment or as a result of runoff
Total Dissolved Solids	NO	292	192	ppm	n/a	500	Naturally occurring in the environment or as a result of runoff

\* Figure shown is 90<sup>th</sup> percentile and # of sites above action level (1.3 ppm) = 0

Unregulated Contaminant Rule 3 (UCMR3) Contaminants Detected 2013				
Contaminants	Violation Y/N	Level Detected	Unit Msmt.	Likely Source of Contamination
Chromium	NO	ND-0.20	ppb	Naturally occurring in the environment or as a result of industrial discharge
Strontium	NO	24.0-120	ppb	Naturally occurring in the environment or as a result of discharge
Vanadium	NO	0.20-0.90	ppb	Naturally occurring in the environment or as a result of runoff from mining or industrial discharge
Chromium, Hexavalent	NO	0.04-0.20	ppb	Naturally occurring in the environment or as a result of industrial discharge
Chlorate	NO	ND-660	ppb	Naturally occurring in the environment or byproduct of disinfection

Following is 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
<b>Bacteriological Contaminants</b>			<b>o-Dichlorobenzene</b>		
Total Coliform Bacteria	<5%	present or absent	p-Dichlorobenzene	75	ppb
Fecal Coliform and E. coli	0	present or absent	1,2-Dichloroethane	5	ppb
Turbidity	TT	NTU	Nitrite	1	ppm
<b>Radiochemical Contaminants</b>			<b>Total Nitrate and Nitrite</b>		
Beta/photon emitters	4	mrem/yr	Selenium	50	ppb
Alpha emitters	15	pCi/l	Thallium	2	ppb
Combined radium	5	pCi/l	<b>Organic Contaminants</b>		
Uranium	30	pCi/l	2,4-D	70	ppb
<b>Inorganic Chemicals</b>			2,4,5-TP (Silvex)	50	ppb
Antimony	6	ppb	Acrylamide	1T	ppm
Arsenic	10	ppb	Alachlor	2	ppb
Asbestos	7	MFL	Benzo(a)pyrene [PAHs]	200	ppt
Barium	2	ppm	Carbofuran	40	ppb
Beryllium	4	ppb	Chlordane	2	ppb
Cadmium	5	ppb	Dalapon	200	ppb
Chromium	100	ppb	Di (2-ethylhexyl)adipate	400	ppb
Copper	AL=1.3	ppm	Di (2-ethylhexyl)phthalate	6	ppb
Cyanide	200	ppb	Dinoseb	7	ppb
Fluoride	4	ppm	Diquat	20	ppb
Lead	AL=15.0	ppb	Dioxin [2,3,7,8-TCDD]	30	Picograms/l
Mercury	2	ppb	Chloramines	4	ppm
Nitrate	10	ppm	Chlorite	1	ppm
Endothal	100	ppb	Total haloacetic acids	60	ppb
Endrin	2	ppb	1,1-Dichloroethylene	7	ppb
Epichlorohydrin	TT	ppm	cis-1,2-Dichloroethylene	70	ppb
Glyphosate	700	ppb	trans-1,2-Dichloroethylene	100	ppb
Heptachlor	400	Nanograms/l	Dichloromethane	5	ppb
Heptachlor epoxide	200	Nanograms/l	1,2-Dichloropropane	5	ppb
Hexachlorobenzene	1	ppb	Ethylbenzene	700	ppb
Hexachlorocyclopentadiene	50	ppb	Ethylene dibromide	50	ppt
Lindane	200	Nanograms/l	Styrene	100	ppb
Methoxychlor	40	ppb	Tetrachloroethylene	5	ppb
Oxamyl [Vydate]	200	ppb	1,1,1-Trichloroethane	200	ppb
Oxamyl [Vydate]	200	PCBs	1,1,2-Trichloroethane	5	ppb
Pentachlorophenol	1	ppb	Trichloroethylene	5	ppb
Picloram	500	ppb	Total trihalomethanes	80	ppb
Simazine	4	ppb	Toluene	1	ppm
Toxaphene	3	ppb	Vinyl Chloride	2	ppb
Benzene	5	ppb	Xylenes	10	ppm
Carbon tetrachloride	5	ppb	Chlorine	4	ppm
Chlorobenzene	100	ppb	Chlorine Dioxide	800	ppb
Dibromochloropropane	200	ppt	Bromate	10	ppb
<b>UNREGULATED CONTAMINANTS</b>					
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	Diieldrin	P-Chlorotoluene		
1,3 - Dichloropropane	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		

#### Definitions

Action Level (AL)- the concentration of a contaminant that, if exceeded, triggers some follow-up action

ADEM - Alabama Department of Environmental Management - Alabama's environmental regulatory agency.

Coliform Absent (ca) - Laboratory analysis indicates coliform bacteria not present.

Disinfection byproducts are formed when disinfectants used in water treatment plants react with natural organic matter present in the source water and produce byproducts.

EPA - Environmental Protection Agency - the nation's environmental regulatory agency.

Initial Distribution System Evaluation (IDSE) - a one-time study conducted by water systems to monitor disinfection byproducts.

LRAA - Locational Running Annual Average

Maximum Contaminant Level (MCL)- highest level of contaminant allowed in drinking water.

Maximum Contaminant Level Goal (MCLG) -the level of a contaminant in drinking water below which there is no known or expected risk to health.

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

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water.

Not Applicable (NA) - Not applicable to water system because not required

Non-Detects (ND) - laboratory analysis indicates that the contaminant is not present at a detectable level.

Not Required (NR) - laboratory analysis not required due to waiver.

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

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

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

Running annual average (RAA)-the required method of calculating compliance on disinfection byproducts, TTHM and HAA5.

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

Treatment Technique (TT)-a required process to reduce a contaminant

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

# the Helena Utility Board

P.O. Box 427

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#### Tips on Becoming Water-Wise

- **Verify that your home is leak free. Read your water meter before and after a two hour period when no water is being used. If the meter does not read exactly the same, there is a leak.**
- **Repair dripping faucets by replacing washers. A drip at the rate of one drop per second could waste 2,700 gallons per year.**
- **Check for toilet leaks by adding food coloring to the tank. If there is a leak, color will appear in the bowl within 30 minutes.**
- **Replace worn out, corroded, or bent parts.**
- **Replace the toilet handle if it frequently sticks in the flush position.**
- **Operate dishwashers and clothes washers only when they are fully loaded and set the water level appropriate to the size of the load.**
- **Store drinking water in the refrigerator instead of running the water until it is cool.**
- **Don't allow water to run needlessly while you are shaving or brushing your teeth.**
- **Adjust sprinklers so that you are not watering sidewalks and driveways as well as your lawn.**
- **Only water your lawn during the cool part of the day to minimize evaporation.**

#### Questions?

If you have any questions about this report or concerning your water utility, please contact Brian Hinds at The Helena Utility Board. 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 second Tuesday of each month at 5:00 p.m. at the Helena Community Center. 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).