



2014 Annual Water Quality Report



Water Quality Testing Performed in 2013

2014 Annual Water Quality Report (Testing Performed January - December 2013)

Dear Customer,

This annual report is designed to keep you informed about the quality of water that is supplied to your home and/or business in Phenix City, Alabama. 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. Once again, we are proud to report that our system has not violated a maximum contaminant level or any other water quality standard. We are committed to ensuring the quality of your water. If you have any questions or concerns regarding your water or this report, please contact Roger Conner, Utilities Director, at the water office at 334-448-2880.

Water Source and Treatment

Our water source is surface water from the Chattahoochee River. Water is pumped almost continuously to the Filtration Plant for treatment and subsequent delivery to approximately 14,000 taps.

The water treatment process involves coagulation/flocculation, sedimentation, chlorination and filtration, plus the addition of fluoride and a corrosion control agent. The water is then stored before reaching your tap. Please refer to the Water Treatment Diagram inside this report, adjacent to the Water Filtration Plant Excellence Awards, for more detail.

How do I get involved?

If you want to learn more about this report or about our utility, please attend one of our regularly scheduled meetings. They are held at 9 a.m. on the first and third Tuesday of each month in the Council Chambers of the Public Safety Building at 1111 Broad Street, Phenix City, Alabama.

Special Precautions

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 positive or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Center for Disease Control (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).

Why are there contaminants in my drinking water?

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. 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). 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.

This water system tests our source water 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 or from the Safe Drinking Water Hotline at 800-426-4791. This language does not indicate the presence of *cryptosporidium* in our drinking water. All test results were well within state and federal standards.

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.

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).

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City of PHENIX CITY *Alabama*
Phenix City Department of Public Utilities
1119 Broad Street
Phenix City, AL 36867

Monitoring Schedule

Our water system monitors for contaminants according to a schedule assigned to us by the Alabama Department of Environmental Management (ADEM), using EPA approved methods and a State certified laboratory. This report contains results from the most recent monitoring which was performed in accordance with the State and Federal regulatory schedule. Note: ADEM allows us to monitor for some contaminants *less than once per year* because the concentrations of these contaminants do not change frequently.

Contaminants Monitored	Year
Inorganic Contaminants	2013
Lead/Copper	2013
Microbiological Contaminants	current
Nitrates	2013
Radioactive Contaminants	2007
Synthetic Organic Contaminants (including herbicides & pesticides)	2013
Volatile Organic Contaminants	2013
Disinfection Byproducts	2013

Monitoring Results

As you can see by the *Water Quality Data Table* in this report, our system had no violations. We have learned through our monitoring and testing that some constituents have been detected. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Maximum Contaminant Levels (MCL) are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two liters of water every day at the MCL for a lifetime to have a one-in-a-million chance of having an adverse health effect.

WATER QUALITY DATA TABLE

Contaminants	Violation	Level	Unit	Likely Source		
				Y/N	Detected	MCLG
Total Organic Carbon	NO	41.2%	Percent	NA	TT >	Soil runoff
Turbidity (filtered)	NO	Highest 0.27	NTU	NA	0.3	Soil runoff
Chlorine, as Cl ₂	NO	1.25-2.19	ppm	MRDLG=4	MRDL=4	Water additive used to control microbes
Copper	NO	0.103 *	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	NO	0.67	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from factories
Lead	NO	<0.005**	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	NO	0.78	ppm	10	10	Fertilizer runoff; leaching from septic tanks, erosion of natural deposits
TTHM [Total trihalomethanes]	NO	RAA 40.2	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	RAA 24.6	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants						
Chloroform	NO	3.77	ppb	none	none	By-product of drinking water chlorination
Bromodichloromethane	NO	4.35	ppb	none	none	By-product of drinking water chlorination
Chlorodibromomethane	NO	2.98	ppb	none	none	By-product of drinking water chlorination
Secondary Contaminants						
Chloride	NO	23.3	ppm	none	250	Naturally occurring in the environment or from discharge or runoff
Hardness	NO	23.5	ppm	none	none	Naturally occurring in the environment or from discharge or runoff
pH	NO	6.79	S.U.	none	none	Naturally occurring in the environment or from discharge or runoff
Sodium	NO	17.6	ppm	none	none	Naturally occurring in the environment
Sulfate	NO	18.3	ppm	none	250	Naturally occurring in the environment or from discharge or runoff
Total Dissolved Solids	NO	104	ppm	none	500	Naturally occurring in the environment or from discharge or runoff

* Figure shown is 90th percentile; number of sites greater than the Action Level (AL) of 1.3 ppm = 0

** Figure shown is 90th percentile; number of sites greater than the Action Level (AL) of 15 ppb = 2

MCL Exceedances 2012 and 2013

Phenix City Utilities routinely monitors your drinking water for the presence of contaminants. In doing so, we discovered that we had exceeded the maximum contaminant levels (MCL) for total trihalomethanes (TTHM) during two monitoring periods, October-December 2012 and January-March 2013, at two sampling locations. The table below shows the locations and levels that exceeded the MCL. TTHMs are four volatile organic chemicals which form when disinfectants, such as chlorine, react with natural organic matter in the water.

Location	Contaminant	MCL	Level Detected October-December 2012	Level Detected January-March 2013
County Road 248	TTHM	80 ppb	101 ppb	98 ppb
43 County Road 954	TTHM	80 ppb	93 ppb	92 ppb

This was not an emergency. If it had been, you would have been notified immediately. As our customers, you have a right to know what happened, what you should do, and what we are doing to correct this situation. If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care provider about drinking the water. Immuno-compromised people who drink water containing TTHM in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer. Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Phenix City Utilities has taken considerable measures to improve the quality of your drinking water. Recent improvements have been designed and implemented to reduce Disinfection Byproducts such as TTHMs. In early February 2013 the Water Filtration Plant completed a \$400,000.00 capital project consisting of a Chlorine Dioxide system, which has reduced Disinfection Byproducts to below acceptable levels. Additionally, we have installed a new mixing system within the Glenwood water storage tank, at a cost of approximately \$37,000.00 and completed a \$589,000.00 project that has helped reduced Disinfection Byproducts at the water plant.

We will continue to monitor for TTHMs on a regular basis. If you would like more information, please contact Roger Conner, Utilities Director, at the water office at 334-448-2880 or at our office at 1119 Broad Street, Phenix City, Alabama.

Water Filtration Plant Excellence Awards



- *Area Wide Optimization Program Five Year Award: 2013*
- *Best Operated Plant Award: 1961, 1984-1986, 2001-2003, 2006, 2013*
- *Area Wide Optimization Program award: 2012*
- *Best Operated Plant Three Year Award: 1996-1999 and 2001-2003.*
- *Optimization Plant Award: 2004, 2005, and 2006.*

Abbreviations and Definitions

AL (Action Level): the concentration of a contaminant that, if exceeded, triggers treatment or other requirements.

CA (Coliform Absent): Laboratory analysis indicates that the contaminant is not present.

DBP (Disinfection Byproducts): 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.

IDSE (Initial Distribution System Evaluation): a study conducted by water systems to identify distribution system locations with high concentrations of TTHM and HAA5.

LRAA (Locational Running Annual Average): yearly average of all the DPB results at each specific sampling site

MCL (Maximum Contaminant Level): 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.

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.

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

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

n/a (not applicable)

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

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

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

ppb (parts per billion) or **µg/l** (micrograms per liter): one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

ppm (parts per million) or **mg/l** (milligrams per liter): one part per million corresponds to one minute in two years or a single penny in \$10,000.

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

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

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

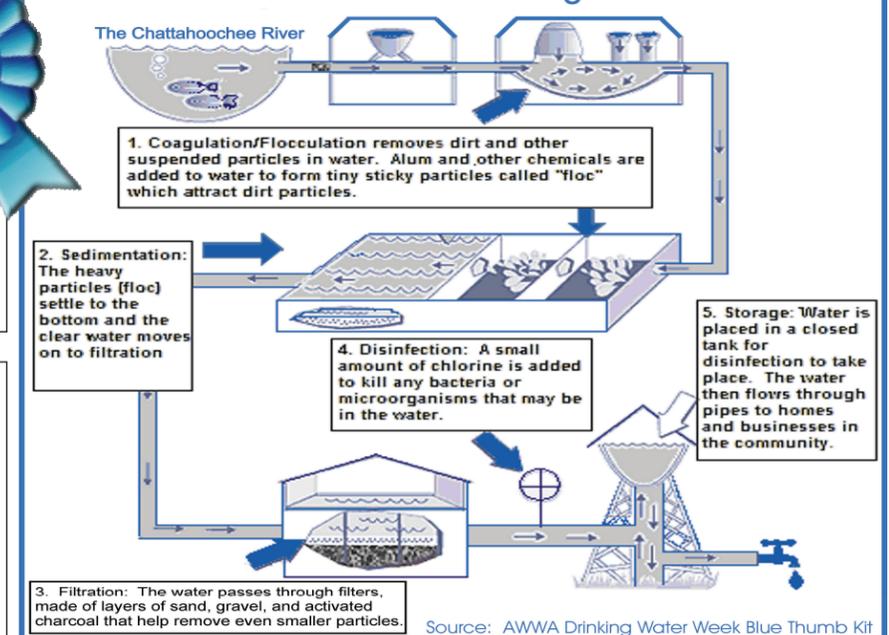
RAA (running annual average): average of DBP results in the water system

S.U. (Standard Units): pH of water measures the water's balances of acids and bases. 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.

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

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

Water Treatment Diagram



The table below is a list of contaminants for which our water system monitors according to the regulatory schedule. These contaminants were *not* detected in your drinking water unless they are listed in the *Water Quality Data Report*.

STANDARD LIST OF PRIMARY DRINKING WATER CONTAMINANTS					
Contaminant	MCL	Unit of Msmt	Contaminant	MCL	Unit of Msmt
Bacteriological Contaminants					
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					
Beta/photon emitters	4	mrem/yr	Dinoseb	7	ppb
Alpha emitters	15	pCi/l	Dioxin [2,3,7,8-TCDD]	30	ppq
Combined radium	5	pCi/l	Diquat	20	ppb
Uranium	30	pCi/l	Endothal	100	ppb
Inorganic Chemicals					
Antimony	6	ppb	Endrin	2	ppb
Arsenic	10	ppb	Epichlorohydrin	TT	TT
Asbestos	7	MFL	Ethylbenzene	700	ppb
Barium	2	ppm	Ethylene dibromide	50	ppt
Beryllium	4	ppb	Glyphosate	700	ppb
Cadmium	5	ppb	Heptachlor	400	ppt
Chromium	100	ppb	Heptachlor epoxide	200	ppt
Copper	AL=1.3	ppm	Hexachlorobenzene	1	ppb
Cyanide	200	ppb	Hexachlorocyclopentadiene	50	ppb
Fluoride	4	ppm	Lindane	200	ppt
Lead	AL=15	ppb	Methoxychlor	40	ppb
Mercury	2	ppb	Oxamyl [Vydate]	200	ppb
Nitrate	10	ppm	Polychlorinated biphenyls (PCBs)	0.5	ppb
Nitrite	1	ppm	Pentachlorophenol	1	ppb
Selenium	.05	ppm	Picloram	500	ppb
Thallium	.002	ppm	Simazine	4	ppb
Organic Contaminants					
2,4-D	70	ppb	Styrene	100	ppb
Acrylamide	TT	TT	Tetrachloroethylene	5	ppb
Alachlor	2	ppb	Toluene	1	ppm
Benzene	5	ppb	Toxaphene	3	ppb
Benzo(a)pyrene [PAHs]	200	ppt	2,4,5-TP (Silvex)	50	ppb
Carbofuran	40	ppb	1,2,4-Trichlorobenzene	.07	ppm
Carbon tetrachloride	5	ppb	1,1,1-Trichloroethane	200	ppb
Chlordane	2	ppb	1,1,2-Trichloroethane	5	ppb
Chlorobenzene	100	ppb	Trichloroethylene	5	ppb
Dalapon	200	ppb	Vinyl Chloride	2	ppb
Dibromochloropropane	200	ppt	Xylenes	10	ppm
o-Dichlorobenzene	600	ppb	Disinfectants & Disinfection Byproducts		
p-Dichlorobenzene	75	ppb	Chlorine	4	ppm
1,2-Dichloroethane	5	ppb	Chlorine Dioxide	800	ppb
1,1-Dichloroethylene	7	ppb	Chloramines	4	ppm
cis-1,2-Dichloroethylene	70	ppb	Bromate	10	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 - Dichloropropane	Bromoforn	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		

Information about lead

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. Phenix City Utilities 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.