

Annual Water Quality Report

Testing Performed January - December 2013



Smiths Water & Sewer Authority

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Our Mission

Smiths Water & Sewer Authority is an organization of dedicated professionals who are united in one goal: to continuously provide an efficient, cost effective supply of clean, safe drinking water to the residents of Smiths Station and surrounding Lee County communities while being responsive to growth within our community and ensuring the long-term reliability of the system.

We are pleased to present to you this year's Annual Water Quality Report. We take great pride in producing and transmitting high quality drinking water, and we strive to meet and exceed the water quality standards set forth by state and federal regulations. **Smiths Water & Sewer Authority** has won several water treatment plant and distribution system awards over the past decades. We are proud of our facilities and of our employees who helped earn these awards.



During the past year we have taken hundreds of water samples in order to determine the presence of contaminants in your drinking water. Our water samples are analyzed by an outside drinking water laboratory that is certified by the Alabama Department of Environmental Management.

Please feel free to share with us your thoughts about the information in this report. After all, well-informed customers are our best allies in our mission to produce clean, healthy water for the people of our community. Smiths Water and Sewer Authority invites you to visit us on the web at www.smithswater.com. You will find important information such as this Annual Water Quality Report, rules and regulations, and certain forms that are required for various transactions. Go paperless! Click our Web Pay link to make your payment on line, and you can have your bill e-mailed to you by clicking on the E-Bill link. Web Pay and E-Bill are convenient, secure, and free.

Water Sources	Surface water from Lake Oliver Reservoir of the Chattahoochee River		
	Purchased surface water from Opelika Water (Halawakee Creek & Saugahatchee Lake)		
Water Treatment	Sedimentation, flocculation, filtration, chlorination, fluoridation and corrosion control		
Storage Capacity	Seven tanks with a total capacity of 5.15 million gallons		
Number of Customers	Approximately 9438		
Project Manager	Andy Morris	Water Board	Kenneth Vann, Chairman
Office Manager	Joanna Franklin		Dick Key, Vice Chairman
Distribution Foreman	Billy Morris		Mary Henry, Sec. / Treasurer
Treatment Plant Manager	Jamen Blair		Joe Walden, Director
			Richard Terry, Director

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), **Smiths Water & Sewer Authority** has developed a Source Water Assessment plan 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. Five potential contaminant sites were identified within the source water protection area. Based on the susceptibility analysis, each of the five sites had a low-susceptibility ranking and thus do not represent an applicable risk to the source water. The Source Water Assessment report can be reviewed at the Smiths Water and Sewer Authority office during normal business hours. A copy of the report can be obtained upon request at the business office. (Contact the Opelika Water Works Board for information on their assessment.)

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 by the Alabama Department of Environmental Management. 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.

An outside laboratory tests our water source for pathogens, such as *Cryptosporidium* and *Giardia*. These pathogens can enter the water from animal or human waste. This language does *not* indicate the presence of cryptosporidium in our drinking water. All test results were well within state and federal standards.

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.

Lead and Drinking Water



As required by federal and state agencies, we also have an outside laboratory monitor our distribution system for lead. Levels of lead in our system have always been well below the minimum standard. Even though we do not have a problem with lead, the following information about lead is required to be in this report:

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

Tap vs. Bottled

Are you aware that about 25 percent of bottled water you purchase is actually just bottled *tap water* (40 percent, according to government estimates)? The Food and Drug Administration's regulations on bottled water are less rigorous than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.



People spend 10,000 times more per gallon for bottled water than for tap water! If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water. For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. Here are a few tips:

- *Automatic dishwashers use 15 gallons for every cycle, so make sure you have loaded it to capacity each wash.*
- *Turn off the tap when brushing your teeth.*
- *Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.*
- *Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.*
- *Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.*

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive. The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence. *Serratia* will not survive in chlorinated drinking water.

Frequency of Monitoring

The table below shows only those contaminants that were detected. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases the most recent sample data are included.

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.

Monitoring Data

Contaminants Monitored	Smiths Water	Opelika Utilities
Inorganic Contaminants	2013	2013
Lead/Copper	2013	N/A
Microbiological Contaminants	current	current
Nitrates	2013	2013
Radioactive Contaminants	2012	2013
Synthetic Organic Contaminants (including pesticides and herbicides)	2011	2013
Volatile Organic Contaminants	2011	2013
Disinfection By-products	2013	2013
Cryptosporidium	2008	2013
Unregulated Contaminants Monitoring Rule 3 (UCMR3) contaminants	2013	2013

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 federal and state standards.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS							
Contaminants	Violation Y/N	Smiths	Opelika	Unit Msmt.	MCLG	MCL	Likely Source of Contamination
Chlorine	NO	1.7-2.4	--	ppm	MRDLG=4	MRDL=4	Water additive used to control microbes
Turbidity	ND	0.226	0.03	NTU	n/a	TT	Soil runoff
Total Organic Carbon	NO	1.3-2.3	1.23-1.62	ppm	n/a	TT	Soil runoff
Copper	NO	0.083 * 0>AL	--	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Barium	NO	ND	0.01-0.02	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	NO	0.83	0.73	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth
Nitrate (as Nitrogen)	NO	1.05	ND-0.16	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	RAA 60.6 28.0-108	15.2-163	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	RAA 26.1 11.7-42.4	13.9-56.1	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants							
Chloroform	NO	13.6	16.0-44.9	ppb	n/a	n/a	Naturally occurring in the environment or from runoff
Bromodichloromethane	NO	11.1	3.63-18.3	ppb	n/a	n/a	Naturally occurring in the environment or from runoff
Chlorodibromomethane	NO	4.50	0.69-6.22	ppb	n/a	n/a	Naturally occurring in the environment or from runoff
Secondary Contaminants							
Chloride	NO	16.4	6.50-9.50	ppm	n/a	250	Naturally occurring in the environment or from runoff
Hardness	NO	33.9	10.1-20.1	ppm	n/a		Naturally occurring in the environment or as a result of treatment with water additives
Manganese	NO	ND	ND-0.02	ppm	n/a	0.05	Erosion of natural deposits; leaching from pipes
pH	NO	7.09	5.54-6.16	S.U.	n/a	n/a	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	NO	11.3	7.03-12.9	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	20.1	12.4-13.6	ppm	n/a	250	Naturally occurring in the environment; erosion of natural deposits
Total Dissolved Solids	NO	76.0	14.0-85.0	ppm	n/a	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

Smiths Water and Sewer Authority				
Unregulated Contaminant Rule 3 (UCMR3) Contaminants Detected				
Contaminants	Violation Y/N	Level Detected	Unit Msmt.	Likely Source of Contamination
Molybdenum	NO	1.30-1.40	ppb	Naturally occurring in the environment or as a result of runoff from mining or industrial discharge
Strontium	NO	41.0-42.0	ppb	Naturally occurring in the environment or as a result of discharge
Vanadium	NO	0.30	ppb	Naturally occurring in the environment or as a result of runoff from mining or industrial discharge
Chromium, Hexavalent	NO	0.07-0.13	ppb	Naturally occurring in the environment or as a result of industrial discharge
Chlorate	NO	ND-0.18	ppb	Naturally occurring in the environment or from water treatment techniques
1,4-Dioxane	NO	240-280	ppb	Industrial discharge; leachate from landfills

Questions

If you have any questions about this report or concerning your water utility, please contact **Jamen Blair** at 334-297-8362. If you want to learn more about this report or about our utility, please attend any of our regularly scheduled meetings. **They are held at 3 p.m. (EST) on the third Monday of each month in the Smiths Water and Sewer Authority office, 2848 Lee Road 243, Smiths Station, AL.**

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).

Definitions

Action Level - 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.

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 ($\mu\text{g}/\text{l}$)-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.

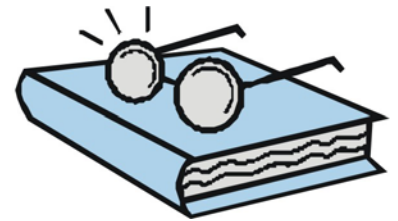
Picocuries per liter (pCi/L)-a measure of the radioactivity in water.

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.



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
Bacteriological Contaminants			o-Dichlorobenzene	600	ppb
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
Radiological Contaminants			Total Nitrate and Nitrite	10	ppm
Beta/photon emitters	4	mrem/yr	Selenium	50	ppb
Alpha emitters	15	pCi/l	Thallium	2	ppb
Combined radium	5	pCi/l	Organic Contaminants		
Uranium	30	pCi/l	2,4-D	70	ppb
Inorganic Chemicals			2,4,5-TP(Silvex)	50	ppb
Antimony	6	ppb	Acrylamide	TT	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
Endothall	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
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	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