

# Annual Water Quality Report

## January - December 2008

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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 Cryptosporidium and other 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).

### UTILITIES BOARD OF THE CITY OF FOLEY dba RIVIERA UTILITIES

P.O. Box 2050  
413 East Laurel Ave.  
Foley, AL 36536



Phone 251-943-5001  
Fax 251-943-5275

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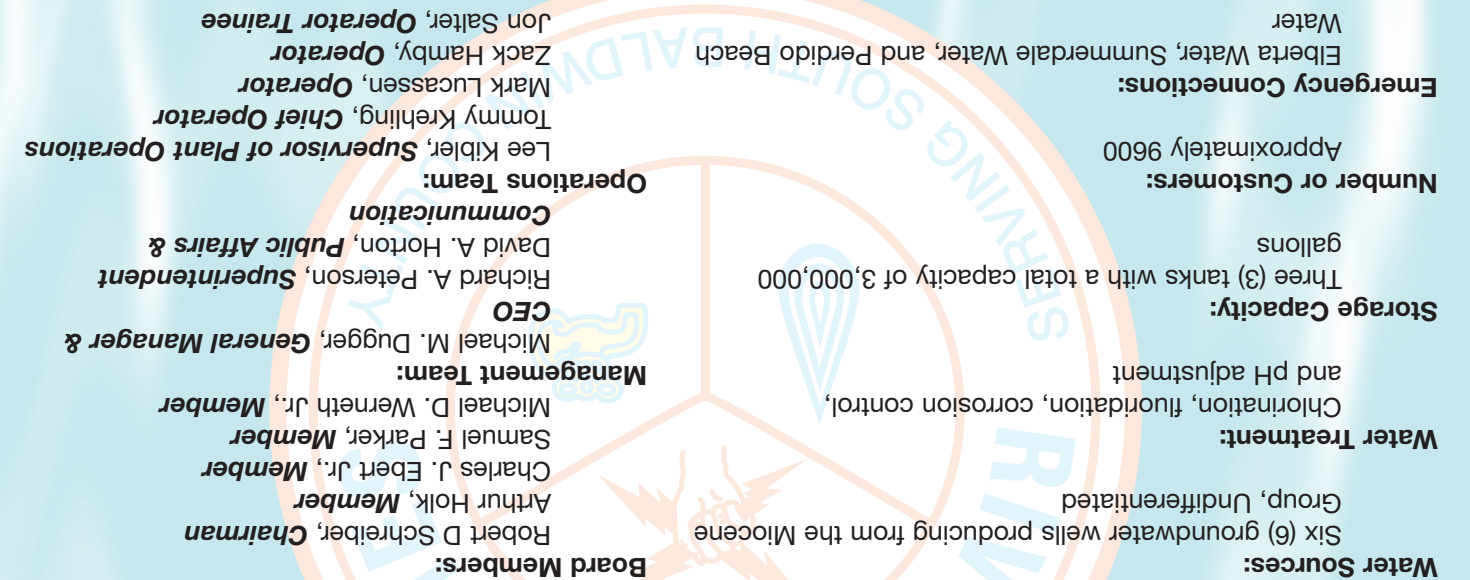
#### DEFINITIONS

In this report you may find terms and abbreviations with which you might not be familiar. To help you better understand these terms we've provided the following 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.
- 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** - 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.
- 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.

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.

## Annual Water Quality Report January - December 2008



Riviera Utilities routinely monitors 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.

Constituent Monitored	Date Monitored
Inorganic Contaminants	2008
Lead / Copper	2007
Microbiological Contaminants	current
Nitrates	2008
Radioactive Contaminants	2008
Synthetic Organic Contaminants (including pesticides and herbicides)	2008
Volatile Organic Contaminants	2008
Disinfection By-products	2008

At the end of this report 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*.

**As you can see by the following table, our system had no violations.** We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels. We are pleased to report that our drinking water is safe and meets federal and state requirements. This report shows our water quality and what it means.

#### TABLE OF DETECTED DRINKING WATER CONTAMINANTS

Contaminants	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Chlorine	NO	Range 0.59 - 1.80	ppm	MRDLG =4	MRDL = 4	Water additive used to control microbes
Alpha emitters	NO	2.5 ± 2.6	PCi/l	0	15	Erosion of natural deposits
Fluoride	NO	0.43	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	NO	0.99	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Secondary Contaminants</b>						
Aluminum	NO	0.06	ppm	n/a	0.2	Erosion of natural deposits or as a result of treatment with water additives
Chloride	NO	7.46	ppm	n/a	250	Naturally occurring in the environment or as a result of agricultural runoff
Hardness	NO	48.3	ppm	n/a	n/a	Naturally occurring in the environment or as a result of treatment with water additives
pH	NO	7.52	S.U.	n/a	n/a	Naturally occurring in the environment or as a result of treatment with water additives
Sulfate	NO	0.68	ppm	n/a	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Total Dissolved Solids	NO	140.0	ppm	n/a	500	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff

If you have any questions or concerns regarding your water or this report, please contact **Richard Peterson** at the water office at 251-943-5001. 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 Tuesday of each month at 2:00 p.m. in the office of the utilities board.**

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).

## 2008 Annual Drinking Water Quality Report SOURCE WATER ASSESSMENT

### Water Quality Protection

In compliance with the Alabama Department of Environmental Management (ADEM), Riviera Utilities 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. Of the 67 potential contaminants sited in our assessment area, 41 were ranked as non-susceptible. The others were ranked as medium or high. A copy of the report is available in the superintendent's office for review during regular business hours, or you may purchase a copy upon request for a nominal reproduction fee.

Riviera Utilities routinely completes a water storage facility inspection plan and utilizes a Bacteriological Monitoring Plan. Chlorine residual is routinely tested by our technicians at several locations throughout our distribution system to ensure that there is an adequate disinfection residual to protect your drinking water. Results show that the required minimum free chlorine residual level of 0.2 mg/L is maintained. We have also established a Cross-Connection Policy to insure safe drinking water for our customers. 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.

### 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.

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STANDARD LIST OF PRIMARY DRINKING WATER CONTAMINANTS					
Contaminant	MCL	Unit of Msmt	Contaminant	MCL	Unit of Msmt
<b>Bacteriological</b>			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
<b>Radiological Contaminants</b>			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	<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	TT	
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	HAA5 [Total haloacetic acids]	60	ppb
Endrin	2	ppb	1,1-Dichloroethylene	7	ppb
Epichlorohydrin	TT		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	TTHM [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 Sulfone	Dibromochloromethane	Metribuzin
1,1,1,2-Tetrachloroethane	Aldicarb Sulfoxide	Dibromomethane	N - Butylbenzene
1,1,2,2-Tetrachloroethane	Aldrin	Dicamba	Naphthalene
1,1-Dichloroethane	Bromobenzene	Dichlorodifluoromethane	N-Propylbenzene
1,2,3 - Trichlorobenzene	Bromochloromethane	Dicamba	O-Chlorotoluene
1,2,3 - Trichloropropane	Bromodichloromethane	Dichlorodifluoromethane	P-Chlorotoluene
1,2,4 - Trimethylbenzene	Bromoform	Dieldrin	P-Isopropyltoluene
1,3 - Dichloropropane	Bromomethane	Hexachlorobutadiene	Propachlor
1,3 - Dichloropropene	Butachlor	Isopropylbenzene	Sec - Butylbenzene
1,3,5 - Trimethylbenzene	Carbaryl	M-Dichlorobenzene	Tert - Butylbenzene
2,2 - Dichloropropane	Chloroethane	Methomyl	Trichlorofluoromethane
3-Hydroxycarbofuran	Chloroform	MTBE	
Aldicarb	Chloromethane	Metolachlor	