

RIVIERA UTILITIES

We are pleased to provide you with this year's Annual Water Quality Report. This report provides information concerning the source of your drinking water, treatment techniques, and testing results, as well as an explanation of the numbers and terms contained in it.

Riviera Utilities works diligently to provide high quality water at the lowest possible price. We are committed to providing a quality drinking water that meets or exceeds all state and federal drinking water standards.

General Information



All drinking water, including bottled 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. Maximum Contaminant Levels (MCL's) 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 level for a lifetime to have a one-in-a-million chance of having the described health effect.

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 from urban storm water run-off, wastewater discharges, oil/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, the Environmental Protection Agency (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.

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.

Definitions

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

Locational Running Annual Average (LRAA)-yearly average of all the DPB 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 (MCL)- The 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 (MCLG)- The 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
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 (µg/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.

Riviera Utilities	
Water Sources	Seven groundwater wells producing from the Miocene Group undifferentiated
Treatment	Chlorination, fluoridation, corrosion control, and pH adjustment
Storage Capacity	Four tanks - 3,150,000 gallons
Customers	Approximately 13,016
Interconnections	Summerdale Water, Perdido Bay Water, and Orange Beach Water

Operations Team	
Tony Schachle	Chief Engineer
Lee Kibler	Plant Operations Superintendent
Tony Darling	Plant Operations Supervisor

For information on customer piping and issues that result from backflow prevention, hot water tanks, water hammer, installation or material defects, please visit our website at www.rivierautilities.com and go to "water", and then to "facts on customer piping".

Management Team	
Thomas DeBell	General Manager & CEO
James Wallace	Operations Manager
Miles McDaniel	Public Affairs & Communication

Utilities Board	
John Koniar	Chairman
Ralph Hellmich	Vice-Chairman
Barbara Ingram	Director
Robert Schreiber	Director
Michael Werneth	Director

The Utilities Board meets on the third Tuesday of each month at 1:00 p.m. in the office of the Board.

If you have any questions about this report or our monitoring requirements, please call Tony Schachle at Riviera Utilities at 251-943-5001.

2019 Annual Water Quality Report

RIVIERA UTILITIES



Water Quality Testing
Performed in 2018

Monitoring Schedule

Riviera Utilities 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. ADEM allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Constituent Monitored	Date Monitored
Inorganic Contaminants	2016
Lead/Copper	2016
Microbiological Contaminants	current
Nitrates	2018
Radioactive Contaminants	2010
Synthetic Organic Contaminants	2016
Volatile Organic Contaminants	2016
Disinfection By-products	2018
UCMR4 contaminants	2018

Water Quality Protection

In compliance with the 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. A copy of the report is available in the Gas, Water and Wastewater Manager's office for review during regular business hours, or you may purchase a copy upon request for a nominal reproduction fee.

Riviera Utilities continuously monitors the water production and water treatment facilities that deliver safe drinking water to you. We utilize a Bacteriological Monitoring Plan to ensure we monitor for potential contamination from locations throughout our distribution system. Chlorine residual is routinely tested by our technicians and bacteriological tests are run to ensure adequate disinfection is available 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.

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. We are 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 on the EPA's website (www.epa.gov/safewater). 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).

Primary Drinking Water Contaminants

Below is a list of *Primary Drinking Water Contaminants* and some *Unregulated Contaminants* for which our water system monitors according to a schedule assigned to us by the Alabama Department of Environmental Management (ADEM). 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			trans-1,2-Dichloroethylene	100	ppb
Total Coliform Bacteria	<5%	present/absent	Dichloromethane	5	ppb
Fecal Coliform and E. coli	0	present/absent	1,2-Dichloropropane	5	ppb
Turbidity	TT	NTU	Di (2-ethylhexyl)adipate	400	ppb
Cryptosporidium	TT	Calc.organ-isms/l	Di (2-ethylhexyl)phthalate	6	ppb
Radiological Contaminants			Dinoseb	7	ppb
Beta/photon emitters	4	mrem/yr	Dioxin [2,3,7,8-TCDD]	30	ppq
Alpha emitters	15	pCi/l	Diquat	20	ppb
Combined radium	5	pCi/l	Endothall	100	ppb
Uranium	30	pCi/l	Endrin	2	ppb
Inorganic Chemicals			Epichlorohydrin	TT	TT
Antimony	6	ppb	Ethylbenzene	700	ppb
Arsenic	10	ppb	Ethylene dibromide	50	ppt
Asbestos	7	MFL	Glyphosate	700	ppb
Barium	2	ppm	Heptachlor	400	ppt
Beryllium	4	ppb	Heptachlor epoxide	200	ppt
Cadmium	5	ppb	Hexachlorobenzene	1	ppb
Chromium	100	ppb	Hexachlorocyclopentadiene	50	ppb
Copper	AL=1.3	ppm	Lindane	200	ppt
Cyanide	200	ppb	Methoxychlor	40	ppb
Fluoride	4	ppm	Oxamyl [Vydate]	200	ppb
Lead	AL=15	ppb	Polychlorinated biphenyls	0.5	ppb
Mercury	2	ppb	Pentachlorophenol	1	ppb
Nitrate	10	ppm	Picloram	500	ppb
Nitrite	1	ppm	Simazine	4	ppb
Selenium	.05	ppm	Styrene	100	ppb
Thallium	.002	ppm	Tetrachloroethylene	5	ppb
Organic Contaminants			Toluene	1	ppm
2,4-D	70	ppb	Toxaphene	3	ppb
Acrylamide	TT	TT	2,4,5-TP (Silvex)	50	ppb
Alachlor	2	ppb	1,2,4-Trichlorobenzene	.07	ppm
Atrazine	3	ppb	1,1,1-Trichloroethane	200	ppb
Benzene	5	ppb	1,1,2-Trichloroethane	5	ppb
Benzo(a)pyrene [PAHs]	200	ppt	Trichloroethylene	5	ppb
Carbofuran	40	ppb	Vinyl Chloride	2	ppb
Carbon tetrachloride	5	ppb	Xylenes	10	ppm
Chlordane	2	ppb	Disinfectants & Disinfection Byproducts		
Chlorobenzene	100	ppb	Chlorine	4	ppm
Dalapon	200	ppb	Chlorine Dioxide	800	ppb
Dibromochloropropane	200	ppt	Chloramines	4	ppm
o-Dichlorobenzene	600	ppb	Bromate	10	ppb
p-Dichlorobenzene	75	ppb	Chlorite	1	ppm
1,2-Dichloroethane	5	ppb	HAA5 [Total haloacetic acids]	60	ppb
1,1-Dichloroethylene	7	ppb	TTHM [Total trihalomethanes]	80	ppb
cis-1,2-Dichloroethylene	70	ppb			

The table below contains results from the most recent monitoring which was performed in accordance with State and Federal regulations. The table shows only those contaminants that were detected. We are pleased to report that our drinking water meets or exceeds federal and state requirements.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS

Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Alpha emitters	NO	1.2 ± 0.5	PCi/l	0	15	Erosion of natural deposits
Chlorine	NO	McAlily plant 0.94-2.20 South plant 0.90-1.95	ppm	MRDL=4	MRDL= 4	Water additive used to control microbes
Fluoride	NO	0.38-0.79	ppm	4	4	Erosion of natural deposits; water additive to promote strong teeth; discharge from factories
Nitrate (as Nitrogen)	NO	1.18-1.19	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	LRAA Range ND-7.89	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	LRAA Range ND-4.08	ppb	0	60	By-product of drinking water chlorination
Secondary Contaminants *				Secondary MCL		
Chloride	NO	8.33	ppm	none	250	Naturally occurring in the environment or from runoff
Hardness	NO	8.48-21.2	ppm	none	none	Naturally occurring or from water treatment
Manganese	NO	ND-0.03	ppm	none	none	Naturally occurring in the environment; dissolved minerals
pH	NO	6.81-6.89	S.U.	none	6.5-8.5	Naturally occurring or from water treatment
Sodium	NO	3.61-8.17	ppm	none	none	Naturally occurring in the environment
Sulfate	NO	ND-4.17	ppm	none	250	Naturally occurring in the environment or as a result of industrial discharge or runoff
Total Dissolved Solids	NO	76.0-96.0	ppm	none	500	Naturally occurring in the environment or from industrial discharge or agricultural runoff
Zinc	NO	0.11-0.14	ppm	none	5	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills

* Secondary contaminants have non-enforceable guidelines relating to cosmetic or aesthetic effects in drinking water.

UCMR4 Contaminants

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4) requires some systems to monitor for 30 unregulated contaminants during January 2018 through December 2020 on an assigned schedule. The table below shows the results of our monitoring during 2018.

UCMR 4 Contaminants					
Contaminant	Unit Msmt	Level Detected	Contaminant	Unit Msmt	Level Detected
Germanium	ppb	ND	Tribufos	ppb	ND
Manganese	ppb	ND-12.5	1-butanol	ppb	ND
Alpha-hexachlorocyclohexane	ppb	ND	2-methoxyethanol	ppb	ND
Chlorpyrifos	ppb	ND	2-propen-1-ol	ppb	ND
Dimethipin	ppb	ND	Butylated hydroxyanisole	ppb	ND
Ethoprop	ppb	ND	O-toluidine	ppb	ND
Oxyfluorfen	ppb	ND	Quinoline	ppb	ND-0.02
Profenofos	ppb	ND	Total organic carbon (TOC)	ppb	ND
Tebuconazole	ppb	ND	Bromide	ppb	21.3-28.2
Total permethrin (cis- & trans-)	ppb	ND		ppb	ND
Bromochloroacetic	ppb	0.62-2.69	Monobromoacetic	ppb	ND
Bromodichloroacetic	ppb	0.52-3.52	Monochloroacetic	ppb	ND
Chlorodibromoacetic	ppb	ND-0.48	Tribromoacetic	ppb	ND
Dibromoacetic	ppb	ND-0.51	Trichloroacetic	ppb	0.69-19.1
Dichloroacetic	ppb	1.04-19.3		ppb	ND