

RIVIERA UTILITIES

Riviera is pleased to provide the 2020 Annual Water Quality Report. This report provides information concerning the drinking water source, treatment techniques, testing results, and an explanation of the results. Riviera is committed to providing quality drinking water that meets or exceeds all state and federal drinking water standards.

General Information



All drinking water, including bottled water, may contain small amounts of contaminants. The presence of contaminants does not 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, an individual would need to consume two liters of water every day at the MCL level over a lifetime to have a one-in-a-million chance of exhibiting the described health effects. Possible contaminants include:

- Microbial contaminants, such as viruses and bacteria. These may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals. These occur naturally or from urban storm water run-off, wastewater discharges, oil/gas production, mining or farming.
- Pesticides and herbicides. Possible sources for these include agriculture, storm water run-off and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals. These contaminants can be by-products of industrial processes and petroleum production. Possible sources include gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants. These can occur naturally or as a result of oil and gas production and mining activities.

To ensure the safety of tap water, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulates bottled water contaminants. Segments of the general populations are more vulnerable to contaminants in drinking water. Immuno-compromised individuals should seek advice about drinking water from 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. Monitoring for these contaminants is 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 react with bromide and/or natural organic matter (i.e., decaying vegetation) present in source water.

Locational Running Annual Average (LRAA)-yearly average of all the DPB results at each specific sampling site in the distribution system. Reported in a range.

Maximum Contaminant Level (MCL)- the highest level of a contaminant that is 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.

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. Water with <6.5 could be acidic, soft, and corrosive. A pH >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.

Variances & 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 15,564
Interconnections	Summerdale Water, Perdido Bay Water, and Orange Beach Water

Operations Team	
Tony Schachle	Chief Engineer, Water & Wastewater
Lee Kibler	Water Systems Engineer
Brandon Fontaine	Water 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	President, CEO, CAO
Gia Long	Executive Vice President
James Wallace	Chief Operating Officer
Sam Williams	Chief Communications Officer

Utilities Board	
Ralph Hellmich	Chairman
Barbara Ingram	Vice-Chairman
Charlie Ebert	Director
Perry Hand	Director
Robert Schreiber	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.

2022

Annual Water Quality Report

Water Quality Testing Performed in 2021

Riviera Utilities

Monitoring Schedule

Riviera Utilities monitors for contaminants according to a schedule assigned by the Alabama Department of Environmental Management (ADEM), using EPA approved methods and a state certified laboratory. Due to the infrequent change in contaminant concentrations, ADEM allows Riviera to monitor for some contaminants less than once per year.

Constituent Monitored	Date Monitored
Inorganic Contaminants	2019
Lead/Copper	2019
Microbiological Contaminants	current
Nitrates	2021
Radioactive Contaminants	2019
Synthetic Organic Contaminants	2019
Volatile Organic Contaminants	2019
Disinfection By-products	2021
UCMR4 contaminants	2018

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	Avg. 1.90 1.04-2.75	PCi/l	0	15	Erosion of natural deposits
Radium-228	NO	Avg. 2.53 1.49-3.56	PCi/l	0	5	Erosion of natural deposits
Chlorine	NO	McAlily plant South plant 1.18-1.87 1.10-1.81	ppm	MRDL=4	MRDL= 4	Water additive used to control microbes
Fluoride	NO	ND-0.30	ppm	4	4	Erosion; water additive; discharge from factories
Nitrate (as Nitrogen)	NO	1.1	ppm	10	10	Runoff from fertilizer; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	LRAA Range 0.98-10.5	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	LRAA Range ND-1.03	ppb	0	60	By-product of drinking water chlorination
Secondary Contaminants *						
Aluminum	NO	ND-0.04	ppm	n/a	0.2	Erosion of natural deposits or from water treatment
Chloride	NO	7.70-8.60	ppm	none	250	Naturally occurring or from discharge or runoff
Hardness	NO	8.10-17.8	ppm	none	none	Naturally occurring or from water treatment
Iron		ND-0.07	ppm	n/a	0.30	Naturally occurring; erosion; leaching from pipes
Manganese	NO	0.01-0.04	ppm	none	none	Naturally occurring in environment; dissolved minerals
pH	NO	7.2-7.7	S.U.	none	6.5-8.5	Naturally occurring or from water treatment
Sodium	NO	3.4-6.8	ppm	none	none	Naturally occurring in environment
Sulfate	NO	ND-4.6	ppm	none	250	Naturally occurring or from discharge or runoff
Total Dissolved Solids	NO	39.0-61.0	ppm	none	500	Naturally occurring or from discharge or runoff
Zinc	NO	0.11-0.18	ppm	none	5	Erosion; discharge from factories; runoff from landfills
* Secondary contaminants have non-enforceable guidelines relating to cosmetic or aesthetic effects in drinking water.						

Water Quality Protection

In complying with ADEM requirements, Riviera Utilities developed a Source Water Assessment plan that assists in the protection of Riviera's water sources. Riviera performed the appropriate assessment, performed public notification, and received an approved plan from ADEM. A copy of the report is available at the Riviera Utilities Water and Wastewater Department for review during regular business hours, or copies are available for purchase at a nominal reproduction fee.

Riviera Utilities continuously monitors the water production and water treatment facilities that deliver safe drinking water to customers. Riviera utilizes a Bacteriological Monitoring Plan to monitor for potential contamination from locations throughout the distribution system. Chlorine residual is routinely tested and bacteriological tests are run to ensure adequate disinfection is available to protect the drinking water. Results show that the required minimum free chlorine residual level of 0.2 mg/L is maintained. Riviera also has established a Cross-Connection Policy to ensure safe drinking water.

Please help us make these efforts worthwhile by protecting our source water. Carefully following instructions on pesticides and herbicides used for lawn and garden care, properly disposing of household chemicals, paints, and waste oil are all ways customers can help ensure drinking water is safe.

Lead and Drinking Water

As required by federal and state agencies, Riviera uses an outside laboratory to monitor the distribution system for lead. Test results show that lead levels remain well below the minimum standard. 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. Riviera is responsible for providing high quality drinking water. Riviera does not control or maintain plumbing systems beyond the meter connections. To minimize the potential for lead exposure, flush taps for 30 seconds to 2 minutes before using water for drinking or cooking. Testing agencies are available for customers concerned about lead in drinking water. Information on lead in drinking water, testing methods, and steps 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).

UCMR4 Contaminants

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4) required some systems to monitor for 30 unregulated contaminants during January 2018 through December 2020 on an assigned schedule. Our assigned sampling period occurred during 2018, and the results are in the table below.

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

Primary Drinking Water Contaminants

Below is a list of Primary Drinking Water Contaminants and some Unregulated Contaminants that Riviera monitors according to a schedule assigned by the Alabama Department of Environmental Management (ADEM). Unless listed in the Table of Detected Drinking Water Contaminants, these contaminants were not detected in the drinking water.

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.organi-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			