2021 Annual Water Quality Report

We are pleased to bring you this year's Water Quality Report. This Report is designed to inform you about the water quality and services we deliver to you every day.

We strive to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to improve the quality of the water through the treatment process and in protecting all our water resources.

For more information about your drinking water and for an opportunity to get involved, please contact Jason Langley, Water & Wastewater Department Superintendent, Joe Webber, Chief Water Operator or Sherry Sullivan, Mayor/ Utilities Director at 251-928-8003 or by writing to the City of Fairhope, P.O. Drawer 429 Fairhope, AL 36533. You are our valued customer, and we want you to be informed about the water that we provide you. Also, you are welcome and encouraged to attend the City of Fairhope Council meetings which also serve as the utilities board meetings. The Council meets on the second and fourth Monday of the month at 6:00 p.m. at City Hall, located at 161 N Section Street in Fairhope.

City of Fairhope Mayor and Council

Mayor Sherry Sullivan

Council Members

Kevin Boone

Jimmy Conyers

Jack Burrell

Corey Martin

Jay Robinson

Where Our Water Comes From

In 2021 the Fairhope Water Department pumped 2,018,280,000 gallons of water to you, our customers, for an average of 5,529,534 gallons per day. The City of Fairhope pumps water from ten well sources, all of which are groundwater systems. The wells are located throughout our system: Wells #1, #7, and #8 are on Fairhope Avenue; wells #2 and #9 are on Highway 48, just east of Highway 181; wells #3 and #10 are on Highway 33; well #4 is on South Section Street at Dairy Road; well #5 is on Highway 32 by the Fairhope Airport; and well #6 is on Manley Road near Fairhope High School.

How We Treat Our Water

The Fairhope Water Department treats your water first by pre-aeration before pumping it into a containment basin, which reduces the CO2. This also is important in the removal of two minerals, iron and manganese. The rest of the treatment process continues in the contact basin. First, we add chlorine for the disinfecting process to remove and or reduce harmful contaminants that comes from the water source; second, we add a solution of hydrated lime to raise the pH level to a stable point; third, we add fluoride to help reduce tooth decay; fourth, we add phosphate to reduce the corrosion rate of the water.

The U.S. Environmental Protection Agency (EPA) wants you to know: Drinking water, including bottled water, may reasonably be 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 and potential health effects can be obtained at the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Sources of drinking water (both tap and bottled) 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, in some cases, radioactive material, and can pick up substances resulting in 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, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Radioactive contaminants that can be naturally occurring or be the result of oil and gas production and mining activities. Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by- products of industrial processes and petroleum production, and can come from gas stations, urban storm water runoff, and septic systems. Pesticides and herbicides that may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses. Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

To ensure that tap water is safe to drink, EPA prescribes regulations, that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. 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.

These people 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 microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791)

Radon is a naturally occurring radio- active gas that may cause cancer, and may be found in drinking water and indoor air. Some people who are exposed to radon in drinking water may have increased risk of getting cancer over the course of their lifetime, especially lung cancer. Radon in soil under homes is the biggest source of radon in indoor air, and presents a greater risk of lung cancer than radon in drinking water.

Cryptosporidium is a parasite commonly found in lakes and rivers, especially when the water is contaminated with sewage and animal wastes. **Cryptosporidium** is very resistant to disinfection, and even a well-operated water treatment system cannot ensure that drinking water will be completely free of this parasite.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months of age. High nitrate levels in drinking water can cause Blue Baby Syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Lead, if present in elevated levels, 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.

The City of Fairhope Water Department 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.**

CONTAMINANTS TESTED FOR BUT NOT DETECTED IN OUR SYSTEM

PFOAs	Bromochloromethane	Carbon Tetrachloride
Toxaphene	1,2,4-Trimethylbenzene	Chlorobenzene
Toluene	Isopropylbenzene	Tetrachloroethene
PCB's	1,3,5-Trimethylbenzene	Dichloroacetic acid
n-Proylbenzene	4-Chlorotoluene	Trichloroacetic acid
2,4-D	Bromobenzene	alpha-Chlorodane
1,2,4-Trichlorobenzene	Benzene	Methoxychlor
Dalapon	n-Butylbenzene	Alachlor
1,1,1-Trichloroethane	Bromomethane	Atrazine
Dicamba	sec-Butylbenzene	Benzo[a]pryne
1,1,2-Trichlorethane	tert-Butylbenzene	gamma-Chlorodane
Dinoseb	Chloroethane	bis(2-ethylhexyl)adipate
Trichloroethene	2-Chlorotoluene	Hexachlorobenzene
Pentachlorphenol	Chloromethane	Hexachlorocyclopentadiene
Trichlorofluoromethane	Dibromomethane	Metolachlor
Picloram	1,2-Dichlorobenzene	Metribuzin
1,2,3-Trichloropropane	1,3-Dichlorobenzene	Propachlor
2,4,5-TP (silvex)	1,4-Dichlorobenzene	Simazine
1,2,3-Trichlorobenzene	Dichlorodifluoromethane	Aldrin
Aldicarb	1,1-Dichloroethane	Dieldrin
Vinyl Chloride	1,2-Dichloroethane	Endrin
Aldicarb sulfone	1,1-Dichloroethene	gamma-BHC (Lindane)
Silver	cis-1,2-Dichloroethene	Heptachlor
Aldicarb Sulfoxide	trans-1,2-Dichloroethene	Heptachlor epoxide
Xylene	1,2-Dichloropropane	Monobromoactic Acid
Glyphosate	cis-1,3-Dichloropropene	bis(2-ethylhexyl)phthalate
Carbaryl	trans-1,3-Dichloropropene	Dibromochloromethene
Oxamyl	Ethylbenzene	Antimony
Carbofuran	1,3-Dichloropropane	Arsenic
Endothall	2,2-Dichloropropane	Beryllium
3-Hydroxycarbofuran	1,1-Dichloropropene	Cadmium
Diquat	Methylene Chloride	Chromium
Methomyl	Methyl-tert-butyl ether	Mercury
Monochloroacetic Acid	Naphthalene	
Dibromoacetic Acid	Hexachloro-1,3-butadiene	
Thallium	Styrene	
1,2-Dibromoethane (EDB)	p-Isopropyltoluene	
1,2-Dibromo-3-chloropropane	1,1,2,2-Tetrachoroethane	
Chlorodane	Cyanide	
Selenium	Nickel	

The City of Fairhope routinely monitors for contaminants in your drinking water according to Federal and State laws. This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS

Contaminant	Violation (Y/N)	Average Detected	Range Detected	Likely Source of Contamination	MCL
Nitrate-N (mg/L)	N	2.6	0.75 to 5.4	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	10 mg/L
Lead (mg/L)	N	90% tile) below action level	0 of 30 samples above AL	Corrosion of household plumbing systems; erosion of natural deposits	AL=15ug/L at 90th percentile
Copper (mg/L)	N	90% tile) below action level	0 of 30 samples above AL	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	AL = 1.3 mg/L
UNREGULATED					
Calcium (mg/L)	N	3.3	1.2 to 7.3	Erosion of natural deposits, TT from adding lime to the drinking water	N/A
Turbidity (NTU)	N	1.3	0.2 to 3.8	Soil run off	N/A
Phosphate (mg/L)	N	1.71	1.13 to 3.05	Water additive to control the corrosion rate	TT
Magnesium (mg/L)	N	1.89	0.93 to 4.81	Erosion of natural deposits	N/A
Zinc (mg/L)	N	0.37	0.26 to 0.69	Erosion of natural deposit	5 mg/L
Specific conductance	N	61.3	37.5 to 120.8	Substance that form ions when in water	N/A
INORGANICS					
Barium (mg/L)	N	0.100	0.038 to 0.132	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits	2 mg/L
Aluminum (mg/L)	N	0.026	0.020 to 0.032	Erosion of natural deposits	0.2 mg/L
SECONDARY CONTAMINANTS					
Hardness	N	16.8	8.0 to 29.0	Leaching from natural deposits	N/A
Sodium (mg/L)	N	3.70	2.76 to 5.17	Erosion of natural deposits	N/A
Chlorine (mg/L)	N	1.55	1.00 to 2.19	Water Additive used to control microbes.	MRDL=4 mg/L
pH	N	7.47	6.97 to 8.59	The pH value is defined as the negative logarithm of the concentration of hydrogen ions measured in moles per liter.	N/A
Total Alkalinity (mg/L)	N	9.4	9.4 to 9.4	A measure of water's capacity to neutralize acids. Also the buffer capacity of the water.	N/A
Iron (mg/L)	N	0.04	0.0 to 0.14	Corrosion of household plumbing; Erosion of natural deposits	0.3 mg/L
Fluoride (mg/L)	N	0.74	0.58 to 1.21	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer.	4 mg/L
Manganese (mg/L)	N[1]	0.012	0.0 to 0.054	Erosion of natural deposits	0.05 mg/L
Carbon dioxide, free	N	2.25	0.0 to 7.7	Naturally occurring in water	N/A
Sulfate (mg/L)	N	1.38	0.0 to 8.3	Erosion of natural deposits	500 mg/L
Total Dissolved Solids (mg/L)	N	37.3	27 to 50	Constituents in the water	500 mg/L
Chloride (mg/L)	N	8.26	5.5 to 14.1	Erosion of natural deposits	250 mg/L
RADIONUCLIDES					
Gross Alpha	N	3.6 ± 0.7	2.4 ± 0.9	Erosion of natural deposits	15 pCi/L
Gross Beta	N	2.9 ± 0.6	2.4 ± 1.1	Erosion of natural deposits	15 pCi/L
Radium - 226	N	0.5 ± 0.1	0.2 ± 0.2	Erosion of natural deposits	5 pCi/L
Radium - 228	N	0.5 ± 0.3	0.5 ± 0.3	Erosion of natural deposits	5 pCi/L
MICROBIOLOGICAL					
Total Coliform	Y[2]	0	0 of 520 Samples	Coliforms are naturally present in the environment, as well as in feces, Fecal coliforms and E. coli only come from human and animal fecalwaste.	<5%
DISINFECTION BYPRODUCTS					
Bromodichloromethane (mg/L)	N	0.0013	0.0011 to 0.0016	By-product of drinking water disinfection	0.060 mg/L
TTHM [Total trihalomethanes] (mg/L)	N	0.0042	0.0025 to 0.0059	By-product of drinking water disinfection	0.080 mg/L
HAA5 [Total Haloaectic Acids (mg/L)	N	0.0013	0.0012 to 0.0014	By-product of drinking water disinfection	0.060 mg/L
Dibromochloromethane (mg/L)	N	0.0018	0.0015 to 0.0021	By-product of drinking water disinfection	0.60 mg/L
Bromoform (mg/L)	N	0.0012	0.0012	By-product of drinking water disinfection	N/A
Chloroform (mg/L)	N	0.0011	0.0011	By-product of drinking water disinfection	N/A

1) It was noted that Manganese was above the MCL. This sample was at an isolated well site and not indicative of a system-wide issue. Manganese is a secondary contaminant as defined by ADEM, therefore no formal violation was issued. The City of Fairhope takes any tests outside the MCL very serious; therefore ADEM was notified immediately and additional Manganese testing is being performed at the location to ensure it stays below the MCL. The City of Fairhope will implement additional treatment as necessary.

2) The total coliform violation occurred in January 2021. The violation was not due to the total coliform amount being outside the MCL, but due to a contracted laboratory hold time and failure for to report. This occurred due to COVID and the City of Fairhope has implemented steps to mitigate issues associated with their contracted labs.

Definitions: Terms you may not be familiar with that are used in water testing

PPM (parts per million) Milligrams per liter (mg/l) One part per million corresponds to one minute in two years or a single penny in $10,000

PPB (parts per billion) Micrograms per liter (ug/l) One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

NTU (nephelometric turbidity unit) This is a measurement of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ND Not detectable at testing levels.

Maximum Contaminant Level (MCL) 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 level of a contaminant in drinking water below, which there is no known or expected risk to health. MCLG is to allow for a margin of safety.

Action Level (AL) The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

EPA Environmental Protection Agency

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

UCMR4 CONTAMINANTS

CHEMICAL CONTAMINANTS (ENTRY POINT)		CYANOTOXINS (ENTRY POINT)	DISTRIBUTION SAMPLES
Germanium	Total permethrin (cis- & trans-)	Anatoxin-A	HAA5
Manganese	Tribufos	Cylindrospermopsin	HAA6Br
Alpha-hexachlorocyclohexane	1-butanol	Microcystin-LA	HAA9
Chlorpyrifos	2-methoxyethanol	Microcystin-LF	Total Organic Carbon (TOC)
Dimethipin	O-toluidine	Microcystin-LR	Bromide
Profenofox	Quinoline	Microcystin-LY	
Tebuconazole		Microcystin-RR	
		Microcystin-YR	
		Nodularin	

90th Percentile 90% of samples are equal to or less than the number in the chart.

PCi/L (picocuries per liter) measure of radioactivity

MRDL Maximum Residual Disinfectant Level.

MRDLG Maximum Residual Disinfectant Level Goal.

CDC Center for Disease Control.

ADEM Alabama Department of Environmental Management

NR Not regulated

Variance and Exemption State permission not to meet an MCL or perform a treatment technique under certain circumstances. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.

Turbidity A measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

Unregulated Contaminant Monitoring Rule Contaminants (UCRM) Contaminants which the EPA has not established drinking water standards.

Source Water Assessment

In compliance with the Alabama Department of Environmental Management, the City of Fairhope has completed 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 sources.

A copy of the report is available in our office for review during normal business hours. For further information regarding the Source Water Assessment, please call or visit our office.