

Where Our Water Comes From

In 2022 the Fairhope Water Department pumped 2,224,244,000 gallons of water to you, our customers, for an average of 6,093,819 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. These wells have a capacity range 600-1,000 gpm.

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.

For more information about your drinking water and for an opportunity to get involved, please contact Daryl Morefield, Water & Wastewater Department Superintendent, or Mike Davis, Chief Water Operator at 251-928-8003 or by writing to the City of Fairhope, P.O. Drawer 429 Fairhope, AL 36533

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 endless efforts we make to improve the quality of the water through the treatment process and in protecting all our water resources.

2022 Annual Water Quality Report



City of Fairhope Mayor
Mayor Sherry Sullivan

Council Members

- Kevin Boone
- Jimmy Conyers
- Jack Burrell
- Corey Martin
- Jay Robinson

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; and finally, we add a liquid polyphosphate to control deposition of iron and manganese.

Carbon Tetrachloride	Bromochloromethane
Toxaphene	1,2,4-Trimethylbenzene
Toluene	Isopropylbenzene
PCB's	1,3,5-Trimethylbenzene
n-Propylbenzene	4-Chlorotoluene
2,4-D	Bromobenzene
1,2,4-Trichlorobenzene	Benzene
Dalapon	n-Butylbenzene
1,1,1-Trichloroethane	Bromomethane
Dicamba	sec-Butylbenzene
1,1,2-Trichloroethane	tert-Butylbenzene
Dinoseb	Chloroethane
Trichloroethene	2-Chlorotoluene
Pentachlorophenol	Chloromethane
Trichlorofluoromethane	Dibromomethane
Picloram	1,2-Dichlorobenzene
1,2,3-Trichloropropane	1,3-Dichlorobenzene
2,4,5-TP (silvex)	1,4-Dichlorobenzene
1,2,3-Trichlorobenzene	Dichlorodifluoromethane
Aldicarb	1,1-Dichloroethane
Vinyl Chloride	1,2-Dichloroethane
Aldicarb sulfone	1,1-Dichloroethene
gamma-BHC (Lindane)	Heptachlor
Heptachlor epoxide	Heptachlor epoxide
Xylene	1,2-Dichloropropane
Glyphosate	cis-1,3-Dichloropropene
Carbaryl	trans-1,3-Dichloropropene
Oxamyl	Ethylbenzene
Carbopuran	1,3-Dichloropropane
Endothal	2,2-Dichloropropane
3-Hydroxycarbofuran	1,1-Dichloropropane
Diquat	Methylene Chloride
Methomyl	Methyl-tert-butyl ether
Monochloroacetic Acid	Naphthalene
Dibromoacetic Acid	Hexachloro-1,3-butadiene
Coliform	Styrene
	Silver
	Thallium
	1,2-Dibromo-3-chloropropane
	1,1,2,2-Tetrachloroethane
	Cyanide
	1,2-Dibromoethane (EDB)
	Chlorodane

CONTAMINANTS TESTED FOR BUT NOT DETECTED IN OUR SYSTEM

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.

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that were used in the manufacture of nonstick cookware, stain-resistant carpet and textiles, firefighting foams, food wrappers, and other industrial and consumer applications. The U.S. Environmental Protection Agency (EPA) has not established primary drinking water MCLs for PFAS substances. For more information on PFA's contaminants, please consult www.epa.gov/pfa

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	1.39	0 to 5.7	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	8.7	4.7 to 10.6	Erosion of natural deposits, TT from adding lime to the drinking water	N/A
Turbidity (NTU)	N	0.4	0.2 to 0.75	Soil run off	N/A
Phosphate (mg/L)	N	2.105	1.33 to 2.88	Water additive to control the corrosion rate	TT
Magnesium (mg/L)	N	2.78	0.94 to 9.2	Erosion of natural deposits	N/A
Zinc (mg/L)	N	0.015	0 to 0.09	Erosion of natural deposit	5 mg/L
Specific conductance	N	91.2	58.5 to 150	Substance that form ions when in water	N/A
INORGANICS					
Barium (mg/L)	N	0.043	0.016 to 0.099	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits	2 mg/L
Aluminum (mg/L)	N	0.028	0 to 0.09	Erosion of natural deposits	0.2 mg/L
SECONDARY CONTAMINANTS					
Hardness	N	29.1	15.6 to 49.4	Leaching from natural deposits	N/A
Sodium (mg/L)	N	5.25	3.5 to 8.7	Erosion of natural deposits	N/A
Chlorine (mg/L)	N	1.775	1.20 to 2.35	Water Additive used to control microbes.	MRDL = 4 mg/L
pH	N	7.33	6.61 to 8.85	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	21.35	11.2 to 29.0	A measure of water's capacity to neutralize acids. Also the buffer capacity of the water.	N/A
Iron (mg/L)	N	0.13	0.0 to 0.852	Corrosion of household plumbing; Erosion of natural deposits	0.3 mg/L
Fluoride (mg/L)	N	0.96	0.38 to 1.54	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer.	4 mg/L
Manganese (mg/L)	N ¹	0.047	0.026 to 0.068	Erosion of natural deposits	0.05 mg/L
Carbon dioxide, free	N			Naturally occurring in water	N/A
Sulfate (mg/L)	N	3.64	0.6 to 7.8	Erosion of natural deposits	500 mg/L
Total Dissolved Solids (mg/L)	N	71.14	53 to 98	Constituents in the water	500 mg/L
Chloride (mg/L)	N	7.9	0 to 18.1	Erosion of natural deposits	250 mg/L
RADIONUCLIDES					
Gross Alpha	N	-0.315 ± 0.499	-0.315 ± 0.499	Erosion of natural deposits	15 pCi/L
Gross Beta	N	1.86 ± 0.874	1.86 ± 0.874	Erosion of natural deposits	15 pCi/L
Radium - 226	N	0.0846 ± 0.323	0.0846 ± 0.323	Erosion of natural deposits	5 pCi/L
Radium - 228	N	0.433 ± 0.363	0.433 ± 0.363	Erosion of natural deposits	5 pCi/L
DISINFECTION BYPRODUCTS					
Bromodichloromethane (mg/L)	N	0.000375	0.0 to 0.0015	By-product of drinking water disinfection	0.060 mg/L
TTHM [Total trihalomethanes] (mg/L)	N	0.0097	0.0 to 0.031	By-product of drinking water disinfection	0.080 mg/L
HAA5 [Total Haloacetic 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	0.001575	0.0 to 0.0027	By-product of drinking water disinfection	0.60 mg/L
Bromoform (mg/L)	N	0.0007	0.0 to 0.0015	By-product of drinking water disinfection	N/A
Chloroform (mg/L)	M	0	0	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) During the 2022 year, The City of Fairhope was required to perform 2 rounds of SOC sampling. The first round was performed, but due to some staffing changes, the second round of testing was not completed within the time frame required by ADEM. As soon as the City was notified regarding this oversight, the second round of sampling was performed and all samples were in compliance for SOC limits
- 3) The City tested for PFAS at all our water sources. One well had a detection of 0.0000162 mg/L. As stated, there is currently no MCL for PFAS. However, the City is investigating this and working to resolve the contamination.

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, which a water system must follow.

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

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

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	

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

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.

NR Not regulated

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 at 251-928-8003 or visit our office at 161 N. Section Street.