

Annual Drinking Water Quality Report

January – December 2023

City of Flora

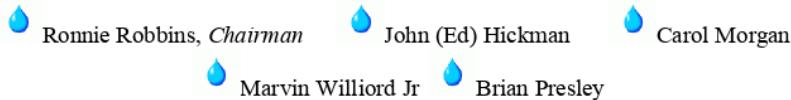
We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water source is ground water drawn through a series of two wells. Well #3, which is located at the Flora Airport, pumps at a rate of 580 gallons per minute and is set at a depth of 316 feet. This well pumps from the Crystal River Formation and Oligocene Undifferentiated. Well #2 is located across from the Water Department Warehouse on E. 6th Avenue. It pumps at the rate of 300 gallons per minute and is set at a depth of 495 feet. This well pumps from the Tallahatta Formation of the Hatchitigbee Formation Lisbon Formation and Moody's Branch Formation. Water from both wells is then treated with chlorine for disinfection purposes.

In compliance with the Alabama Department of Environmental Management (ADEM), Flora Water Works and Sewer Board has developed a Source Water Assessment 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 source. The report has been completed and approved by ADEM. A copy of the report is available in our office for review, or you may purchase a copy upon request for a nominal reproduction fee. Flora Water Works and Sewer Board utilizes a Bacteriological Monitoring Plan and a Cross Connection Control Policy is in place to insure good safe drinking water for our customers.

We're pleased to report our drinking water is safe and meets federal and state requirements. Please help us make this effort 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.

If you have questions about this report or concerning your water quality, please contact Chris Jackson at (334) 858-6722. We want our valued customers to be informed about their water quality. If you want to learn more, please attend our regularly scheduled meetings held on the Second (2nd) Monday of every month at 11:00 A.M. at the Flora Utilities Board office.

Board Members



Important Drinking Water Definitions:

Action Level (AL) - The concentration of a contaminant that triggers treatment or other requirements that a water system shall follow.

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. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Millirems per year (mrem/yr) - Measure of radiation absorbed by the body.

Nephelometric Turbidity Unit (NTU) - Nephelometric turbidity unit is 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.

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 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 trillion (ppt) or Nanograms per liter (ng/L) - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (pg/L) - One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.

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

Threshold Odor Number (T.O.N.) - The greatest dilution of a sample with odor-free water that still yields a just-detectable odor.

Variances & Exemptions - ADEM or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Explanation of reasons for variance/exemptions

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.

Flora Water Works and Sewer Board routinely monitors for contaminants in your drinking water according to Federal and State laws. Unless otherwise noted, the data presented in the following tables show the results of our monitoring period of January 1st to December 31st, 2023.

Table of Primary Contaminants

At high levels some primary contaminants are known to pose a health risks to humans. This table provides a quick glance of any primary contaminant detections.

CONTAMINANT	MCL	AMOUNT DETECTED	CONTAMINANT	MCL	AMOUNT DETECTED	CONTAMINANT	MCL	AMOUNT DETECTED
Bacteriological			Selenium(ppb)	50	ND	Epichlorohydrin	TT	ND
Total Coliform Bacteria	< 5%	ND	Thallium(ppb)	2	ND	Ethylbenzene(ppb)	700	ND
Turbidity	TT	0.30	Organic Chemicals			Ethylene dibromide(ppt)	50	ND
Fecal Coliform & E. coli	0	ND	Acrylamide	TT	ND	Glyphosate(ppb)	700	ND
Radiological			Alachlor(ppb)	2	ND	Haloacetic Acids(ppb)	60	ND
Beta/photon emitters (mrem/yr)	4	ND	Atrazine(ppb)	3	ND	Heptachlor(ppt)	400	ND
Alpha emitters (pci/l)	15	00.186+1.11	Benzene(ppb)	5	ND	Heptachlor epoxide(ppt)	200	ND
Combined radium (pci/l)	5	0.731+0.359	Benzo(a)pyrene[PHAs](ppt)	200	ND	Hexachlorobenzene(ppb)	1	ND
Uranium (pci/l)	30	ND	Carbofuran(ppb)	40	ND	Hexachlorocyclopentadiene(ppb)	50	ND
Inorganic			Carbon Tetrachloride(ppb)	5	ND	Lindane(ppt)	200	ND
Antimony (ppb)	6	ND	Chlordane(ppb)	2	ND	Methoxychlor(ppb)	40	ND
Arsenic (ppb)	10	1.20	Chlorobenzene(ppb)	100	ND	Oxamyl [Vydate](ppb)	200	ND
Asbestos (MFL)	7	ND	2,4-D	70	ND	Pentachlorophenol(ppb)	1	ND
Barium (ppm)	2	7.30	Dalapon(ppb)	200	ND	Picloram(ppb)	500	ND
Beryllium (ppb)	4	0.12	Dibromochloropropane(ppt)	200	ND	PCBs(ppt)	500	ND
Bromate(ppb)	10	ND	0-Dichlorobenzene(ppb)	600	ND	Simazine(ppb)	4	ND
Cadmium (ppb)	5	ND	p-Dichlorobenzene(ppb)	75	ND	Styrene(ppb)	100	ND
Chloramines(ppm)	4	ND	1,2-Dichloroethane(ppb)	5	ND	Tetrachloroethylene(ppb)	5	ND
Chlorine(ppm)	4	1.22	1,1-Dichloroethylene(ppb)	7	ND	Toluene(ppm)	1	ND
Chlorine dioxide(ppb)	800	ND	Cis-1,2-Dichloroethylene(ppb)	70	ND	TOC	TT	ND
Chlorite(ppm)	1	ND	trans-1,2-Dichloroethylene(ppb)	100	ND	TTMH(ppb)	80	4.00
Chromium (ppb)	100	2.50	Dichloromethane(ppb)	5	ND	Toxaphene(ppb)	3	ND
Copper (ppm)	AL=1.3	0.02	1,2-Dichloropropane(ppb)	5	ND	2,4,5-TP (Silvex)(ppb)	50	ND
Cyanide (ppb)	200	ND	Di-(2-ethylhexyl)adipate(ppb)	400	ND	1,2,4-Trichlorobenzene(ppb)	70	ND
Fluoride (ppm)	4	0.11	Di(2-ethylhexyl)phthalates(ppb)	6	ND	1,1,1-Trichloroethane(ppb)	200	ND
Lead (ppb)	AL=15	0.05	Dinoseb(ppb)	7	ND	1,1,2-Trichloroethane(ppb)	5	ND
Mercury (ppb)	2	ND	Dioxin[2,3,7,8-TCDD](ppq)	30	ND	Trichloroethylene(ppb)	5	ND
Nitrate (ppm)	10	0.23	Diquat(ppb)	20	ND	Vinyl Chloride(ppb)	2	ND
Nitrite (ppm)	1	ND	Endothall(ppb)	100	ND	Xylenes(ppm)	10	ND
Total Nitrate & Nitrite	10	ND	Endrin(ppb)	2	ND			

Table of Secondary and Unregulated Contaminants

Secondary Drinking Water Standards are guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. ADEM has Secondary Drinking Water Standards established in state regulations applicable to water systems required to monitor for the various components. **Unregulated contaminants** are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

CONTAMINANT	MCL	DETECT	CONTAMINANT	MCL	DETECT	CONTAMINANT	MCL	DETECT
Secondary								
Aluminum	0.2	118.00	Foaming Agents	0.5	ND	Silver	7	ND
Chloride	250	7.00	Iron	0.3	100.00	Sulfate	70	ND
Color (PCU)	15	ND	Magnesium	75	14.60	Total Dissolved Solids	500	150
Copper	1	ND	Odor (T.O.N.)	5	ND	Zinc	5	18.5
Special								
Calcium	N/A	35600.00	pH (SU)	N/A	7.70	Temperature (*C)	N/A	25.40
Carbon Dioxide	N/A	130	Sodium	N/A	4.51	Total Alkalinity	N/A	150
Manganese	0.05	4.50	Specific Conductance (umhos)	<500	298.00	Total Hardness (as CaCO3)	N/A	149
Unregulated								
1,1 - Dichloropropene	N/A	ND	Bromobenzene	N/A	ND	Hexachlorobutadiene	N/A	ND
1,1,2,2-Tetrachloroethane	N/A	ND	Bromochloromethane	N/A	ND	Isopropylbenzene	N/A	ND
1,1-Dichloroethane	N/A	ND	Bromodichloromethane	N/A	0.10	M-Dichlorobenzene	N/A	ND
1,2,3 - Trichloroethane	N/A	ND	Bromoform	N/A	ND	Methomyl	N/A	ND
1,2,3 - Trichloropropane	N/A	ND	Bromomethane	N/A	ND	Metolachlor	N/A	ND
1,2,4 - Trimethylbenzene	N/A	ND	Butachlor	N/A	ND	Metribuzin	N/A	ND
1,2,4-Trichlorobenzene	N/A	ND	Carbaryl	N/A	ND	MTBE	N/A	-
1,3 - Dichloropropane	N/A	ND	Chloroethane	N/A	ND	N - Butylbenzene	N/A	ND
1,3 - Dichloropropene	N/A	ND	Chlorodibromomethane	N/A	ND	Naphthalene	N/A	ND
1,3,5 - Trimethylbenzene	N/A	ND	Chloroform	N/A	0.20	N-Propylbenzene	N/A	ND
2,2 - Dichloropropane	N/A	ND	Chloromethane	N/A	ND	O-Chlorotoluene	N/A	ND
3-Hydroxykarbafuran	N/A	ND	Dibromochloromethane	N/A	1.22	P-Chlorotoluene	N/A	ND
Aldicarb	N/A	ND	Dibromomethane	N/A	ND	P-Isopropyltoluene	N/A	ND
Aldicarb Sulfone	N/A	ND	Dichlorodifluoromethane	N/A	ND	Propachlor	N/A	ND
Aldicarb Sulfoxide	N/A	ND	Dieldrin	N/A	ND	Sec - Butylbenzene	N/A	ND
Aldrin	N/A	ND	Fluorotrichloromethan	N/A	ND	Tert - Butylbenzene	N/A	ND
PFAS Compounds								
CONTAMINANT	RESULTS	UNITS	CONTAMINANT	RESULTS	UNITS	CONTAMINANT	RESULTS	UNITS
11Cl-PF3OUdS	ND	ug/L	Perfluorodecanoic Acid	ND	ug/L	Perfluoroctanoic Acid	ND	ug/L
9Cl-PF3ONS	ND	ug/L	Perfluorohexanoic Acid	ND	ug/L	Perfluorotetradecanoic Acid	ND	ug/L
ADONA	Cu	ug/L	Perfluorododecanoic Acid	ND	ug/L	Perfluorotridecanoic Acid	ND	ug/L
HFPO-DA	ND	ug/L	Perfluoroheptanoic Acid	ND	ug/L	Perfluoroundecanoic Acid	ND	ug/L
NEIFOSAA	ND	ug/L	Perfluorohexanesulfonic Acid	ND	ug/L	Total PFAs	ND	ug/L
NMeFOSAA	ND	ug/L	Perfluorononanoic Acid	ND	ug/L			ug/L
Perfluorobutanesulfonic Acid	ND	ug/L	Perfluoroctanesulfonic Acid	ND	ug/L			ug/L

Table of Detected Drinking Water Contaminants

CONTAMINANT	MCLG	MCL	Range	Amount Detected		Likely Source of Contamination		
Bacteriological Contaminants						January - December 2023		
Total Coliform Bacteria	0	<5%		ND	Present or Absent	Naturally present in the environment		
Turbidity	0	TT		0.30	NTU	Soil runoff		
Fecal Coliform & E. coli	0	0		ND	Present or Absent	Human and animal fecal waste		
Viruses, Giardia	0	TT		0	Absent	Human and animal fecal waste		
Legionella	0	TT		0	Present or Absent	Found naturally in water, multiplies in heating systems		
Radiological Contaminants						January - December 2022		
Beta particle and photon	0	4		ND	mrem/yr	Decay of natural and man-made deposits		
Alpha emitters	0	15		0.186+1.11	pCi/L	Erosion of natural deposits		
Combined Radium 226 & 228	0	5		0.731+0.35	pCi/L	Erosion of natural deposits		
Uranium	0	30		9	pCi/L	Erosion of natural deposits		
Inorganic Contaminants						January - December 2021-2023		
Arsenic	0	10	0.39	-	1.20	1.20	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2	2	4.40	-	7.30	7.30	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	4	4	ND	-	0.12	0.12	ppb	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Chlorine	MRDLG 4	MRDL 4	0.88	-	1.22	1.22	ppm	Water additive used to control microbes
Chromium	100	100	1.30	-	2.50	2.50	ppb	Discharge from steel and pulp mills erosion of natural deposits
Copper (2012)	1.3	10 Sites AL=1.3	No. of Sites above action level 0		0.02	0.02	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	4	4	0.05	-	0.11	0.11	ppm	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Lead (2012)	0	10 Sites AL=15	No. of Sites above action level 0		0.54	0.54	ppb	Corrosion of household plumbing systems, erosion of natural deposits
Mercury	2	2	ND	-	ND	ND	ppb	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as N)	10	10	0.16	-	0.23	0.23	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Nitrate & Nitrite	10	10	ND	-	ND	ND	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Organic Contaminants						January - December 2023		
Haloacetic Acids (HAA5)	0	60	ND	-	ND	ND	ppb	By-product of drinking water chlorination
Total trihalomethanes (TTHM)	0	80	ND	-	4.00	4.00	ppb	By-product of drinking water chlorination
Secondary Contaminants						January - December 2021		
Aluminum	N/A	0.2	88.20	-	118.00	118.00	ppm	Erosion of natural deposits or as a result of treatment with water additives
Chloride	N/A	250	ND	-	7.00	7.00	ppm	Naturally occurring in the environment or as a result of agricultural runoff
Iron	N/A	0.3	11.90	-	100.00	100.00	ppm	Erosion of natural deposits
Magnesium	N/A	0.05	ND	-	14.60	14.60	ppm	Erosion of natural deposits
Total Dissolved Solids	N/A	500	ND	-	150.00	150.00	ppm	Erosion of natural deposits
Zinc	N/A	5	0.37	-	18.50	18.50	ppm	Erosion of natural deposits
Special Contaminants						January - December 2021		
Calcium	N/A	N/A	19800.00	-	35600.00	35600.00	ppm	Erosion of natural deposits
Carbon Dioxide	N/A	N/A	84.00	-	130.00	130.00	ppm	Erosion of natural deposits
Manganese	N/A	N/A	0.71	-	4.50	4.50	ppm	Erosion of natural deposits
pH	N/A	N/A	7.50	-	7.70	7.70	SU	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	N/A	N/A	1.61	-	4.51	4.51	ppm	Naturally occurring in the environment
Specific Conductance	N/A	<500	174.00	-	298.00	298.00	umhos	Naturally occurring in the environment or as a result of treatment with water additives
Temperature	N/A	N/A	23.50	-	25.40	25.40	°C	Naturally occurring in the environment
Total Alkalinity	N/A	N/A	95.40	-	150.00	150.00	ppm	Erosion of natural deposits
Total Hardness (as CaCO3)	N/A	N/A	97.90	-	149.00	149.00	ppm	Naturally occurring in the environment or as a result of treatment with water additives

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk. The EPA or ADEM requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

General Information

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 activities.

As you can see by the tables, our system had no monitoring violations of allowable limits of contaminants in drinking water. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water IS SAFE at these levels. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, 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.

Total Coliform: The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. To comply with the stricter regulation, we have increased the average amount of chlorine in the distribution system.

Lead in Drinking Water: "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. Florala Water Works and Sewer Board 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 <http://www.epa.gov/safewater/lead>."

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 (Environmental Protection Agency)/CDC (Center of Disease Control) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline. All Drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

We at Florala Water Works and Sewer Board work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

For more information contact:

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