



# Annual Drinking Water Quality Report

Monitoring Performed January – December 2022

## Central Elmore Water & Sewer Authority

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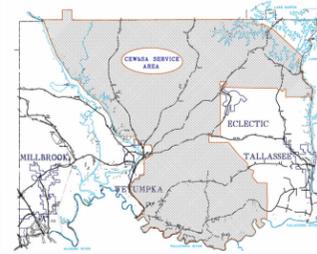
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Central Elmore Water & Sewer Authority maintains and operates a 12 million gallon per day surface water treatment plant at our primary water source on Lake Martin.

Here at CEW&SA, we serve approximately 13,026 customers of our own; along with Rockford (1,343 customers), Friendship (1,352 customers), Eclectic (1,702 customers), and Wetumpka (3,341 customers).

Each customer refers to a meter served, which translates into approximately 62,067 persons CEW&SA serves.

Our territory covers approximately 350 square miles out of the 657 square miles contained in Elmore County. We currently maintain over 750 miles of water lines in our territory along with 12 water storage facilities holding a total of almost 7.7 million gallons.



[Additional Information Regarding Lead & Copper](#)

Lead levels in your drinking water are likely to be higher if:

- Your home or water system has lead pipes, or
- Your home has faucets or fittings made of brass which contains some lead, or
- Your home has copper pipes with lead solder and you have naturally soft water, and
- Water often sits in the pipes for several hours

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](http://www.epa.gov/safewater/lead)

[General Information Regarding Drinking Water Contaminants](#)

All drinking water, including bottled drinking 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. MCLs, defined in a List of Definitions in this report, are set at very stringent levels.

To understand the possible health effects described for many regulated constituents, 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. 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, in some cases, radioactive material, and can pick up substances resulting 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, can be naturally occurring or result from urban stormwater run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides may come from a variety of sources such as agriculture, stormwater 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 stormwater runoff, and septic systems.
- Radioactive contaminants, 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, EPA prescribes regulations that 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 which 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 healthcare providers.

Water systems also test your source water for pathogens, such as Cryptosporidium and Giardia. These pathogens can enter the water from animal or human waste. All test results were well within state and federal standards. For people who may be immuno-compromised, a guidance document developed jointly by the Environmental Protection Agency and the Center for Disease Control is available online at [www.epa.gov/safewater](http://www.epa.gov/safewater) or from the Safe Drinking Water Hotline at 800-426-4791. This language does not indicate the presence of cryptosporidium in our drinking water. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).



### Monitoring Schedule

Our water sources are routinely monitored for contaminants, according to a schedule determined by Federal and State regulations. Every water system has individually assigned monitoring requirements. ADEM allows monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. The following table shows the most recent year and the next monitoring requirement for the contaminant groups.

Constituent Monitored	Date Monitored / Next Monitoring
Inorganic Contaminants	2022 / 2023
Lead/Copper	2022 / 2025
Microbiological Contaminants	Monthly
Nitrates	2022 / 2023
Radioactive Contaminants	2022 / 2027 - 2035
Synthetic Organic Contaminants (including pesticides and herbicides)	2022 / 2025
Volatile Organic Contaminants	2022 / 2023
Disinfection By-products	Quarterly

### Variations and Exemptions

ADEM or the EPA can give permission not to meet an MCL or a treatment technique under certain conditions.

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.

### Lead & Copper Monitoring

Central Elmore Water & Sewer Authority completed monitoring requirements for lead and copper in 2022. Thirty-two sites were sampled without exceeding the Action Level Limits for lead or copper. The system will continue to monitor for lead and copper every three years. The next monitoring period for the system will be the period of June – September 2025.

Our monitoring results in 2022 were as follows:

2022 Results	MCL	90th Percentile Sample	Range of Levels
Lead	AL = 15	0.44 ppb	ND - 1.4
Copper	AL = 1.3	0.0732 ppm	0.0082 - 0.0867

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Central Elmore Water & Sewer Authority is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. These recommended actions are very important to the health of your family:

- Use only water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead.
- 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.

It is an honor to once again present to you this Annual Water Quality Report. This year's report is an overview of last year's water quality. We are committed to providing you with the enclosed information because informed customers are our best allies. We believe that transparency creates trust between our customers and Central Elmore Water & Sewer Authority (CEW&SA).

The report has been prepared to meet the requirements of the 1996 Safe Drinking Water Act (SDWA) adopted by Congress and to provide our customers with information about their water systems.

Employees of CEW&SA have been working on various things that are preparing us for our future in the water industry. First off, is the lead and copper rule from EPA. As part of new EPA regulations, we are building a database that includes all water service material within our service territory. It will include material on both sides of the meter. We do not expect to see any lead pipes on service lines during this process. This database must be compiled and submitted to ADEM by October 2024. We are on track to meet that goal.

Second, CEW&SA has also been closely watching the regulations unfold for PFAS. We are proud to say that with the release of the new regulations in March of 2023, we have and continue to test below those limits. The water provided to you by CEW&SA continues to meet or exceed all state and federal water quality regulations. We are pleased to inform you that CEW&SA has never had a violation of contamination levels in the water we supply you, our valued customers.

Third, the federal government continues to allocate an extreme amount of money through the ADEM SRF program to alleviate some of the burdens on struggling water systems. CEW&SA is doing its part to try and obtain some of that funding. The projects we are proposing to ADEM will allow us to secure the integrity of this system for many years to come. We were not successful in year one to secure funding but will continue to pursue these funding possibilities.

During 2022, CEW&SA and customers saw one of the worst freezes in thirty years. There were several days that the plant produced more potable water in a single twenty-four-hour period than it had previously ever produced. Because of this, you as a customer were never out of water due to supply issues. That is a direct result of a proactive Board of Directors and employees who worked tirelessly during this most difficult time. I am proud to be a part of that team.

I encourage you to take the time to read this report. If you have any questions concerning this report or CEW&SA, please contact me, Chad Shaw, General Manager, at 334-567-6814, Monday - Friday, 7:30 a.m. to 4:30 p.m.

Chadwick E. Shaw, P.E.  
General Manager

Board of Directors  
Bill Newton - Chairman  
Conrad White - Vice Chairman  
Fred Braswell, III - Director  
Chad Shaw - General Manager  
Tina Stanley - Secretary

We want our valued customers to be informed about their water utility. Regularly scheduled Board Meetings are held the third Tuesday of each month at the main office located at 716 US Highway 231.



The tables below contain detected results from the most recent monitoring of primary, secondary, and unregulated contaminants. Unless otherwise noted, the data presented in this table is from the calendar year of this report.

We are pleased to report that our drinking water meets or exceeds Federal and State requirements.

Table of Detected Primary Contaminants						
Primary Standards - Mandatory standards set by the Safe Drinking Water Act used to protect public health. These apply to all public water systems.						
Contaminant & Unit of MSMT	MCL, TT, or MRDL (What's Allowed?)	MCLG (What's the Goal?)	Max Detected	Range of Detected Low - High (MD)	Violation	Major Sources
<b>BACTERIOLOGICAL CONTAMINANTS</b>						
Total Organic Carbon TOC (ppm) †	TT	NA	1.62	0.914 - 1.62	No	Naturally present in the environment
<b>INORGANIC CONTAMINANTS</b>						
Antimony (ppb)	6	6	0.28	0.28	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Barium (ppm)	2	2	0.0117	0.0117	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	0.42	0.42	No	Discharge from steel and pulp mills; Erosion of natural deposits
Copper - action level at consumer taps (ppm)	AL=1.3	1.3	0.0732 90th Percentile Result	0.0082 - 0.0867	No	Corrosion of household plumbing systems; Erosion of natural deposits
Fluoride (ppm)	4	4	0.591	0.591	No	Water additive which promotes strong teeth; erosion of natural deposits; Discharge from fertilizer and aluminum factories
Lead - action level at consumer taps (ppb)	AL=15	0	0.44 90th Percentile Result	ND - 1.4	No	Corrosion of household plumbing systems; Erosion of natural deposits
<b>DISINFECTANTS &amp; DISINFECTION BYPRODUCTS *</b>						
Total Haloacetic Acids HAA (ppb)	60	NA	28.4	LRAA Range 11.0 - 18	No	By-product of drinking water disinfection
Total Trihalomethanes TTHM (ppb)	80	NA	66.2	LRAA Range 14.7 - 41.3	No	By-product of drinking water disinfection

† The percentage of **Total Organic Carbon (TOC)** removal was measured each month and the system met all TOC removal requirements set.   
 \* There is convincing evidence that additional of a **disinfectant** is necessary for control of microbial contaminants.

Secondary Standards - Non Mandatory standards established as a guideline to assure good aesthetic qualities such as taste, color, and odor.								
Contaminant & Unit of MSMT	MCL	Max Detected	Range of Detected	Contaminant & Unit of MSMT	MCL	Max Detected	Range of Detected	
Chloride (ppm)	250	8.8	8.8	Alkalinity, Total (as CA, Co3) (ppm)	NA	34	16 - 34	
Copper (ppm)	1	0.0192	0.0192	Calcium, as Ca (ppm)	NA	2.71	2.71	
Iron (ppm)	0.3	0.07	ND - 0.07	Conductivity (umhos)	NA	115	115	
Manganese (ppm)	0.05	0.0033	0.0033	Hardness (ppm)	NA	12	12	
Sulfate (ppm)	250	14.5	14.5	Magnesium (ppm)	NA	1.24	1.24	
Total Dissolved Solids (ppm)	500	58	58	Nickel (ppm)	NA	0.0017	0.0017	
Zinc (ppm)	5	0.0012	0.0012	pH (std units)	6.5 - 8.5	7	7	
				Sodium (ppm)	NA	16.1	16.1	

Filter Plant Daily Testing ‡	Range Low - High (MD)
<b>BACTERIOLOGICAL CONTAMINANTS</b>	
Turbidity (NTU) ‡	0.01 - 0.09
<b>INORGANIC CONTAMINANTS</b>	
Fluoride (ppm)	0.5 - 0.9
<b>DISINFECTANTS &amp; DISINFECTION BYPRODUCTS</b>	
Chlorine (ppm)	1.5 - 2.1
Chlorine Dioxide (ppb)	0.08 - 0.25
Chlorite (ppm)	0.25 - 0.91
<b>SECONDARY &amp; ADDITIONAL CONTAMINANTS</b>	
Alkalinity	16 - 34
Hardness	9 - 24
Iron	ND - 0.07
Manganese	ND - .004
pH	7.3 - 8.5
<b>UNREGULATED CONTAMINANTS</b>	
Corrosion Inhibitor Phosphate	0.82 - 1.67

‡ Tested Daily - result shown is Max Detected during calendar year 2022.

£ **Turbidity** is 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 CONTAMINANTS**

Contaminant & Unit of MSMT	Average Detected	Range of Detected
Bromodichloromethane (ppb)	5.02	2.0 - 8.6
Chloroform (ppb)	23.1	2.8 - 56.1
Dibromochloromethane (ppb)	0.89	ND - 1.7

PFAS Contaminants & Unit of MSMT Ç	Average Detected	Range of Detected
Perfluorobutanesulfonic acid - PFBS (ppm)	0.00000025	ND - 0.00000099
Perfluorohexanoic acid - PFHXA (ppm)	0.00000003	ND - 0.0000013
Perfluorooctanoic acid - PFOA (ppm)	0.00000004	ND - 0.0000014
Perfluorooctanesulfonic acid - PFOS (ppm)	0.00000085	ND - 0.0000018

Ç Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that have properties useful in the manufacture of nonstick cookware, stain-resistant carpet and textiles, firefighting foams, food wrappers, and many more industrial and consumer applications. These chemicals, which have been produced in the United States since the early 1940s, are very persistent in the environment.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of contaminants in water provided by public water systems. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful to our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection for public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels.

**Table of Primary Contaminants**

Contaminant & Unit of MSMT	MCL, TT, or MRDL (What's Allowed?)	Max Detected	Contaminant	MCL, TT, or MRDL (What's Allowed?)	Max Detected	Contaminant	MCL, TT, or MRDL (What's Allowed?)	Max Detected	
<b>BACTERIOLOGICAL CONTAMINANTS</b>			<b>ORGANIC CONTAMINANTS</b>						
Total Coliform Bacteria	< 5% present/absent	Absent	1,1,1-Trichloroethane (ppb)	200	ND	Dalapon (ppb)	200	ND	
Fecal Coliform & E. coli	present/absent	Absent	1,1,2-Trichloroethane (ppb)	5	ND	Dibromochloropropane (ppt)	200	ND	
Total Organic Carbon (TOC)	TT	1.62	1,1-Dichloroethylene (ppb)	7	ND	Di (2-ethylhexyl)adipate (ppb)	400	ND	
Turbidity (NTU)	TT	0.09	1,2,4-Trichlorobenzene (ppb)	0.07	ND	Di (2-ethylhexyl)phthalate (ppb)	6	ND	
<b>RADIOLOGICAL CONTAMINANTS</b>			1,2-Dichloroethane (ppb)	5	ND	Dinoseb (ppb)	7	ND	
Beta/Photon emitters (mrem/yr)	4	ND	1,2-Dichloropropane (ppb)	5	ND	Dioxin [2,3,7,8-TCDD] (ppq)	30	ND	
Alpha emitters (pCi/L)	15	ND	2,4,5-TP [Silvex] (ppb)	50	ND	Diquat (ppb)	20	ND	
Combined radium (pCi/L)	5	ND	2,4-D (ppb)	70	ND	Endothal (ppb)	100	ND	
<b>INORGANIC CONTAMINANTS</b>			Acrylamide (ppb)	TT	ND	Endrin (ppb)	2	ND	
Antimony (ppb)	6	0.28	Alachlor (ppb)	2	ND	Epichlorohydrin (ppb)	TT	ND	
Arsenic (ppb)	10	ND	Atrazine (ppb)	3	ND	Ethylbenzene (ppb)	700	ND	
Asbestos (MFL)	7	NA	Benzene (ppb)	5	ND	Ethylene Dibromide (ppt)	50	ND	
Barium (ppm)	2	0.0117	Beryllium (ppb)	4	ND	Benzo(a)pyrene [PAHs] nanograms/L	200	ND	
Cadmium (ppb)	5	ND	Cadmium (ppb)	5	ND	Carbofuran (ppb)	40	ND	
Chromium (ppb)	100	0.42	Chromium (ppb)	100	0.42	Carbon Tetrachloride (ppb)	5	ND	
Copper - action level at consumer taps (ppm)	AL=1.3	0.0867	Copper - action level at consumer taps (ppm)	AL=1.3	0.0867	Chlordane (ppb)	2	ND	
Cyanide (ppb)	200	ND	Cyanide (ppb)	200	ND	Chlorobenzene (ppb)	100	ND	
Fluoride (ppm)	4	0.591	Fluoride (ppm)	4	0.591	cis-1,2-Dichloroethylene (ppb)	70	ND	
Lead - action level at consumer taps (ppb)	AL=15	1.4	Lead - action level at consumer taps (ppb)	AL=15	1.4	<b>DISINFECTANTS &amp; DISINFECTION BYPRODUCTS</b>			
Nitrate [measured as Nitrogen] NO3 (ppm)	10	ND	Nitrate [measured as Nitrogen] NO3 (ppm)	10	ND	Bromate (ppb)	10	ND	
Nitrite [measured as Nitrogen] NO2 (ppm)	1	ND	Nitrite [measured as Nitrogen] NO2 (ppm)	1	ND	Chloramines (ppm)	4	ND	
Selenium (ppm)	0.05	ND	Selenium (ppm)	0.05	ND	Chlorine (ppm)	4	2.1	
Thallium (ppb)	2	ND	Thallium (ppb)	2	ND	Chlorine Dioxide (ppb)	800	0.25	
						Chlorite (ppm)	1	0.91	
						Total Haloacetic Acids HAA (ppb)	60	28.4	
						Total Trihalomethanes TTHM (ppb)	80	66.2	

**Table of Secondary & Additional Contaminants**

Contaminant & Unit of MSMT	Max Detected
Aluminum (ppm)	ND
Chloride (ppm)	8.8
Color (color units)	ND
Copper (ppm)	0.0192
Foaming agents MBAS (ppm)	ND
Iron (ppm)	0.07
Manganese (ppm)	.004
Odor (threshold odor number)	ND
Silver (ppm)	ND
Sulfate (ppm)	14.5
Total Dissolved Solids (ppm)	58
Zinc (ppm)	0.0012

Contaminant & Unit of MSMT	Max Detected
Alkalinity, Total (as CA, Co3) (ppm)	34
Calcium, as Ca (ppm)	2.71
Carbon Dioxide (ppm)	ND
Conductivity (umhos)	115
Corrosivity (non corrosive)	ND
Hardness (ppm)	24
Magnesium (ppm)	1.24
Nickel (ppm)	0.0017
pH (std units)	8.5
Sodium (ppm)	16.1

**Table of Unregulated Contaminants**

Contaminant	Average Detected	Contaminant	Average Detected
1,1 - Dichloropropene	ND	Dibromochloromethane	0.89
1,1,1,2-Tetrachloroethane	ND	Dibromomethane	ND
1,1,2,2-Tetrachloroethane	ND	Dicamba	ND
1,1-Dichloroethane	ND	Dichlorodifluoromethane	ND
1,2,3 - Trichlorobenzene	ND	Dieldrin	ND
1,2,3 - Trichloropropane	ND	Hexachlorobutadiene	ND
1,2,4 - Trimethylbenzene	ND	Isopropylbenzene	ND
1,3 - Dichloropropane	ND	M-Dichlorobenzene	ND
1,3 - Dichloropropene	ND	Methomyl	ND
1,3,5 - Trimethylbenzene	ND	Metolachlor	ND
2,2 - Dichloropropane	ND	Metribuzin	ND
3-Hydroxycarbofuran	ND	MTBE	ND
Aldicarb	ND	N - Butylbenzene	ND
Aldicarb Sulfone	ND	Naphthalene	ND
Aldicarb Sulfoxide	ND	N-Propylbenzene	ND
Aldrin	ND	O-Chlorotoluene	ND
Bromobenzene	ND	P-Chlorotoluene	ND
Bromochloromethane	5.02	P-Isopropyltoluene	ND
Bromodichloromethane	ND	Propachlor	ND
Bromoform	ND	Sec - Butylbenzene	ND
Bromomethane	ND	Tert - Butylbenzene	ND
Butachlor	ND	Trichlorofluoromethane	ND
Carbaryl	ND		
Chloroethane	ND		
Chloroform	23.1		
Chloromethane	ND		

PFAS Contaminants	2016 Advisory	2022 Advisory	2023 Proposed MCL	Mar-22	May-22	Sep-22	Nov-22
PFOA	70 ppt (combined)	.004 ppt (Interim)	4.0 ppt	No Detect	No Detect	No Detect	1.4
PFOS		.02 ppt (Interim)	4.0 ppt	1.8	No Detect	No Detect	1.6
GEN X	NA	10 ppt (Final)	1.0 Hazard Index ~	No Detect	No Detect	No Detect	No Detect
PFBS	NA	2,000 ppt (Final)		No Detect	No Detect	No Detect	0.99
PFNA	NA	NA		No Detect	No Detect	No Detect	No Detect
PFHxS	NA	NA		No Detect	No Detect	No Detect	No Detect

- A Hazard Index helps to account for the increased risk from mixtures of PFAS that may be found in contaminated drinking water. The Hazard Index is a long-established tool that the EPA regularly uses, for example, to inform risks of chemical mixtures. A Hazard Index considers how toxic each of the four PFAS is and allows a site-specific determination based on the specific drinking water concentrations.

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

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

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

**Lowest Running Annual Average (LRAA):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

**Maximum Contaminant Level (MCL):** The highest level of 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 Detected (MD):** The highest level of contaminant detected in drinking water.

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

**Maximum Residual Disinfection 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.

**Not Applicable (NA)**

**Nephelometric Turbidity Unit (NTU):** A measure of the clarity of the water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**Not Detected (ND):** Laboratory analysis indicates that the constituent is not present above the detection limits of lab equipment.

**pCi/L (picocuries per liter):** a measure of Radioactivity

**ppb (parts per billion):** micrograms per liter (µg/L)

**ppm (parts per million):** milligrams per liter (mg/L)