

2023 Annual Water Quality Report
(Testing Performed January through December 2022)

**WATER WORKS & SEWER BOARD
OF THE CITY OF SELMA**

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Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and Alabama Department of Environmental Management (ADEM) drinking water health standards. We diligently safeguard your water supplies, and once again we are proud to report that our system has not violated any water quality standard. We are pleased to present to you this year's Annual Water Quality Report.

Water Sources	Seven (7) groundwater wells producing from the Coker, Eulaw, and Gordo aquifers
Number of Customers	Approximately 7200
Water Treatment	Chlorination, flocculation, pressure & rapid sand filtration, fluoridation, lime added for pH adjustment, and potassium permanganate for iron and manganese removal
Storage Capacity	4,400,000 gallons
Interconnections	N. Dallas Co. WW for contingency purposes
Board of Directors	Roderick West, Chairman James Ware, Vice Chairman Robert Allen, Member Christie Thomas, Member George Evans, Member
Superintendent	Mayor James Perkins, Jr.

Announcement

We are pleased to announce we received a grant from the Bipartisan Infrastructure Law (BIL) to assist in the cost of our Lead Service Line Replacement Plan to inventory, remove, and replace all Lead service lines in our distribution system.

Source Water Protection

In compliance with the Alabama Department of Environmental Management (ADEM), The Water Works & Sewer Board of the City of Selma developed a Source Water Assessment plan that assists in protecting our water sources. This plan provides 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. All of the potential contaminants sited in our study area were rated as low or moderately susceptible to contaminating the water source. The assessment was performed and was approved by ADEM. A copy of the report is available in our office for review during normal business hours, or you may purchase a copy upon request for a nominal reproduction fee. 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.

Questions

If you have any questions about this report or concerning your water utility, please contact Robert Bridges. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the third Monday of each month at 9:30 a.m. at the main office, 1600 Selma Avenue. 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.

General Information

All 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. Maximum Contaminant Levels (MCLs - defined in the 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 radioactive material, and it 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, which can be naturally occurring or result from urban storm water run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water 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 storm water runoff, and septic systems.
- Radioactive contaminants, which 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 which limit the levels of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water.

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. People at risk should seek advice about drinking water from their health care providers.

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.

Your water system 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. Never use warm tap water in baby formula.

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, 1-800-426-4791, or at the EPA's website at www.epa.gov/safewater/lead.

Definitions

Action Level-the concentration of a contaminant that, if exceeded, triggers other requirements for the water system.

ADEM- Alabama Department of Environmental Management.

Coliform Absent (ca)- Analysis indicates that the contaminant is not present.

Disinfection byproducts (DBPs)- are formed when disinfectants used in water treatment plants react with bromide and/or natural organic matter present in the source water.

Distribution System Evaluation (DSE)-a four quarter study conducted by water systems to identify locations with high concentrations of DBPs.

Maximum Contaminant Level- the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal- 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.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health.

Micrograms per liter (µg/L) - Equivalent to parts per billion (ppb) since one liter of water is equal in weight to one billion micrograms.

Milligrams per liter (mg/L) - Equivalent to parts per million.

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

Nephelometric Turbidity Unit (NTU)-a measure of the clarity of water.

Non-Detect (ND)- laboratory analysis indicates that the constituent is not present above detection limits of lab equipment.

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.

Running Annual Average (RAA)-yearly average of results at each specific sampling site.

Standard Units (S.U.)-pH of water measures the water's balances of acids and bases and is affected by temperature and carbon dioxide gas.

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

Variations & Exemptions (V&E)-State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Water Quality Parameters (WQP) - corrosivity characteristics

Monitoring Schedule

The Water Works & Sewer Board of the City of Selma *routinely* monitors for constituents 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. We are pleased to report that our drinking water meets or exceeds federal and state requirements.

Constituent Monitored	Date Monitored
Inorganic Contaminants	2022
Lead/Copper	2022
Microbiological Contaminants	current
Nitrates	2022
Radioactive Contaminants	2010
Synthetic Organic Contaminants	2020
Volatile Organic Contaminants	2022
Disinfection By-products	2022
UMCR4 Contaminants	2020
PFAS Contaminants	2022

Reporting Non-compliance 2022

Selma Water Works incurred a reporting non-compliance during 2022 resulting from a failure to submit the October-December 2022 disinfection byproduct results by January 10, 2023.

The ADEM Admin. Code states, "the supplier of water shall report to the Department the results of any test, measurement or analysis within the first 10 days following the month in which the result is received or the first 10 days following the end of the required monitoring period as stipulated by the Department, whichever is shortest."

We did monitor for the contaminants during the correct time frame and results were in compliance; however, the lab failed to report the results before the 10th day of the month following the sample period. If you have any questions about this non-compliance or your water quality, please contact please call Robert Bridges at our office at 334-872-6205.

Below is a table of contaminants for which the Environmental Protection Agency and the Alabama Department of Environmental Management require testing. These contaminants were not detected in your drinking water unless they are also listed in the Detected Drinking Water Contaminants table elsewhere in this report.

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
Focal Coliform and E. coli	0	present/absent	1,2-Dichloropropane	5	ppb
Turbidity	TT	NTU	Di (2-ethylhexyl)adipate	400	ppb
Cryptosporidium	TT	Calc. organisms/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-TPI(Silvex)	50	ppb
Alachlor	2	ppb	1,2,4-Trichlorobenzene	.07	ppm
Benzene	5	ppb	1,1,1-Trichloroethane	200	ppb
Benzo(a)pyrene (PAHs)	200	ppt	1,1,2-Trichloroethane	5	ppb
Carbofuran	40	ppb	Trichloroethylene	5	ppb
Carbon tetrachloride	5	ppb	Vinyl Chloride	2	ppb
Chlordane	2	ppb	Xylenes	10	ppm
Chlorobenzene	100	ppb	Disinfectants & Disinfection Byproducts		
Dalapon	200	ppb	Chlorine	4	ppm
Dibromochloropropane	200	ppt	Chlorine Dioxide	800	ppb
1,2-Dichlorobenzene	1000	ppb	Chloramines	4	ppm
1,4-Dichlorobenzene (para)	75	ppb	Bromate	10	ppb
o-Dichlorobenzene	600	ppb	Chlorite	1	ppm
1,2-Dichloroethane	5	ppb	HAA5 (Total haloacetic acids)	80	ppb
1,1-Dichloroethylene	7	ppb	TTHM (Total trihalomethanes)	80	ppb
cis-1,2-Dichloroethylene	70	ppb			
LIST OF UNREGULATED CONTAMINANTS					
1,1-Dichloropropane	Aldicarb	Chloroform	Metolachlor		
1,1,1,2-Tetrachloroethane	Aldicarb Sulfone	Chloromethane	Metribuzin		
1,1,2,2-Tetrachloroethane	Aldicarb Sulfoxide	Dibromochloromethane	N-Butylbenzene		
1,1-Dichloroethane	Aldrin	Dibromomethane	Naphthalene		
1,2,3-Trichlorobenzene	Bromobenzene	Dicamba	N-Propylbenzene		
1,2,3-Trichloropropane	Bromochloromethane	Dichlorodifluoromethane	O-Chlorotoluene		
1,2,4-Trimethylbenzene	Bromodichloromethane	Dieldrin	P-Chlorotoluene		
1,3-Dichloropropane	Bromoform	Hexachlorobutadiene	P-Isopropyltoluene		
1,3-Dichloropropane	Bromomethane	Isopropylbenzene	Propachlor		
1,3,5-Trimethylbenzene	Bulachlor	M-Dichlorobenzene	Sec-Butylbenzene		
2,2-Dichloropropane	Carbaryl	Methomyl	Tert-Butylbenzene		
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorofluoromethane		
LIST OF SECONDARY CONTAMINANTS					
Alkalinity, Total (as CA, Co ₃)	Copper	Magnesium	Silver		
Aluminum	Corrosivity	Manganese	Sodium		
Calcium, as Ca	Foaming agents (MBAS)	Odor	Sulfate		
Chloride	Hardness	Nickel	Total Dissolved Solids		
Color	Iron	pH	Zinc		

DETECTED DRINKING WATER CONTAMINANTS						
Contaminants	Violation?	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Alpha emitters	NO	4.8	PCI/l	0	15	Erosion of natural deposits
Barium	NO	0.06-0.49	ppm	2	2	Metal refinery & drilling discharge; erosion
Copper	NO	0.051 * 0>AL	ppm	1.3	AL=1.3	Household plumbing corrosion; erosion; leaching from wood preservatives
Fluoride	NO	ND-0.76	ppm	4	4	Erosion; water additive; discharge from fertilizer and aluminum factories
TTM [Total trihalomethanes]	NO	ND-16.0	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	ND-3.30	ppb	0	60	By-product of drinking water chlorination
Secondary Contaminants						
Chloride	NO	4.20-11.9	ppm	n/a	250	Naturally occurring, industrial discharge, runoff
Hardness	NO	73.3-107	ppm	n/a	n/a	Naturally occurring or from water additives
pH	NO	7.7-7.8	S.U.	n/a	n/a	Naturally occurring or from water additives
Sodium	NO	2.3-8.0	ppm	n/a	none	Naturally occurring in the environment
Sulfate	NO	4.5-9.3	ppm	n/a	250	Naturally occurring, industrial discharge, runoff
Total Dissolved Solids	NO	103-162	ppm	n/a	500	Naturally occurring, industrial discharge, runoff

* Figure shown is 90th percentile from most recent sampling in June and July 2022. No sample sites exceeded the Action Level.

Corrosivity Characteristics: Water Quality Parameters			
Contaminant	Violation?	Range	Unit of Msmt
Copper (wells)	NO	.0005-0.012	ppm
Lead (wells)	NO	ND	ppm
Alkalinity, Total (as CaCO ₃)	NO	ND-10.4	ppm
Calcium (as Ca)	NO	2.1-4.3	ppm
Carbon Dioxide, free	NO	16.7-46.0	ppm
pH (field)	NO	5.5-6.0	pH units
Specific Conductance	NO	36.6-54.0	µmhos/cm

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4) required PWSs serving more than 10,000 people to monitor for 30 unregulated contaminants over a three-year span, with each PWS assigned a monitoring period. The following table shows the UCMR4 contaminants for which we tested and the results of our monitoring from our assigned period in 2020.

Unregulated Contaminant Monitoring Rule 4 (UCMR4) Contaminants					
Contaminants	Unit Msmt	Level Detected	Contaminant	Unit Msmt	Level Detected
Germanium	ppb	ND	1-butanol	ppb	ND
Manganese	ppb	ND-9.3	2-methoxyethanol	ppb	ND
Alpha-hexachlorocyclohexane	ppb	ND	2-propen-1-ol	ppb	ND
Chlorpyrifos	ppb	ND	Butylated hydroxyanisole	ppb	ND
Dimethipin	ppb	ND	O-toluidine	ppb	ND
Ethoprop	ppb	ND	Quinoline	ppb	ND
Oxyfluorfen	ppb	ND	Total organic carbon (TOC)	ppb	ND
Profenofos	ppb	ND	Bromide	ppb	ND
Tebuconazole	ppb	ND	HAA9	ppb	ND
Total permethrin (cis- & trans-)	ppb	ND	HAA6Br	ppb	ND
Tribufos	ppb	ND	HAA5	ppb	ND

Below is a list of PFAS contaminants our system monitored during 2022 and the results of that monitoring. PFAS was not detected in our drinking water. For more information on PFAS contaminants, please refer to www.epa.gov/pfas.

PFAS Contaminants			
Contaminant	Level Detected	Contaminant	Level Detected
11Cl-PF3OUtS (11-chlorooctadecafluoro-3-oxaundecane-1-sulfonic acid)	ND	Perfluoroheptanoic acid	ND
9Cl-PF3ONS (9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid)	ND	Perfluorohexanesulfonic acid	ND
ADONA (4,8-dioxa-3H-perfluorononanoic acid)	ND	Perfluorononanoic acid	ND
HFPO-DA (Hexafluoropropylene oxide dimer acidA)	ND	Perfluorooctanesulfonic acid	ND
NEtFOSAA (N-ethylperfluorooctanesulfonamidoacetic acid)	ND	Perfluorooctanoic acid	ND
NMeFOSAA (N-methylperfluorooctanesulfonamidoacetic acid)	ND	Perfluorotetradecanoic acid	ND
Perfluorobutanesulfonic acid	ND	Perfluorotridecanoic acid	ND
Perfluorodecanoic acid	ND	Perfluoroundecanoic acid	ND
Perfluorohexanoic acid	ND	Total PFAS	ND
Perfluorododecanoic acid	ND		