

2022 Annual Drinking Water Quality Report

The Utilities Board of the City of Andalusia

The Utilities Board of the City of Andalusia is very pleased to provide you with this year's Annual Quality Water Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. We want you to understand our efforts to maintain and continually improve the water you receive and to protect our water supply.

Our water source is groundwater drawn from nine (9) wells. Three (3) wells draw from the Tuscahoma Sands/Hatchetigbee aquifer, three (3) wells draw from the Nanafalia aquifer and three (3) well draws from the Clayton Limestone aquifer. Each water system must complete a Source Water Assessment Program (SWAP). The SWAP is comprised of four distinct activities: delineation of the source water assessment area, contaminant inventory, susceptibility analysis and public awareness. The Utilities Board has completed each required component of the source water assessment. A copy of the assessment report is available for review in our office. Chlorine is added at each well as a disinfectant.

The Utilities Board is pleased to report that our drinking water is safe and meets federal and state requirements. If you have any questions about this report or concerning your water utility, please contact the Andalusia Utilities Board at (334) 222-1332.

If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the third Thursday of each month, at 12:00 p.m. in Room 112 of City Hall. The Utilities Board routinely monitors contaminants in your drinking water according to Federal and State laws.

This table shows the results of our monitoring for the period of January 1st to December 31st, 2022. It is important to remember that the presence of these contaminants does not necessarily pose a health risk. This table has many abbreviations you might not be familiar with. To help you better understand these abbreviations we have provided the following definitions:

definitions:

- 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 a single penny in \$10,000,000,000,000.
- Picocuries per liter (pCi/l)** – picocuries per liter is a measure of radioactivity in water.
- Millirems per year (mrem/yr)** – measure of radiation absorbed by the body.
- Nephelometric Turbidity Units (NTU)** – a measure of the clarity of water. Turbidity more than 5 NTU is just noticeable to the average person.
- Maximum Contaminant Level** – The "Maximum Allowed"

- (MCL) is the highest level of a contaminant that is allowed in drinking water.
- Maximum Contaminant Level Goal** – The "Goal" (MCLG) is 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 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.
- 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.
- MFL** – Million Fibers per Liter.
- AL** – Action Level – the concentrations of a contaminant, which, if exceeded, triggers, treatment, or other requirements, which a water system must follow.
- TT** – Treatment Technique – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- Variances and Exemptions** – The Department or EPA permission not to meet and MCL or a treatment technique under certain conditions.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity (2020)	No	.20	NTU	n/a	TT	Soil runoff
Radioactive Contaminants						
Alpha emitters (2020)	No	3.4±-2.0	pCi/l	N/A	15	Erosion of natural deposits
Radium 228 (2020)	No	0.8±-0.4	pCi/l	N/A	5	Erosion of natural deposits
Inorganic Contaminants						
Copper	No	0.33	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride (2020)	No	0.64	ppm	4	4	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate	No	0.19	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Volatile Organic Contaminants						
(TTHM) Total trihalomethanes	No	33	ppb	0	80	By-product of drinking water chlorination
Haloacetic Acids (HAAs)	No	5.8	ppb	N/A	60	By-product of drinking water chlorination
Xylenes (2020)	No	0.74	ppm	10	10	Discharge from petroleum factories; discharge from chemical factories

Table of Primary Contaminants - At high levels some primary contaminants are known to pose a health risk to humans. This table provides a quick glance of any primary contaminant detections.

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Contaminant	MCL	Andalusia	Contaminant	MCL	Andalusia
Bacteriological					
Total Coliform Bacteria	<5%	ND	Endrin	2 ppb	ND
Turbidity	5.0 NTU	ND	Epichlorohydrin	TT	ND
Fecal coliform and <i>E. coli</i>	TT	ND	Glyphosate	700 ppb	ND
Radiological					
Beta/Photon Emitters	4	ND	Total Organic Carbon (TOC)	TT ppm	ND
Alpha Emitters	15	ND	Heptachlor	400 ppt	ND
Combined Radium	5	ND	Heptachlor epoxide	200 ppt	ND
Inorganic					
Antimony	6 ppb	ND	Hexachlorobenzene	1 ppb	ND
Arsenic	10 ppb	ND	Hexachloropentadiene	50 ppb	ND
Asbestos (MFL)	7	ND	Lindane	200 ppt	ND
Barium	2 ppm	ND	Methoxychlor	40 ppb	ND
Beryllium	4 ppb	ND	Oxamyl (Vydate)	200 ppb	ND
Cadmium	5 ppb	ND	PCBs	500 ppt	ND
Chromium	100 ppb	ND	Pentachlorophenol	1 ppb	ND
Copper	AL=1.3 ppm	0.33	Picloram	500 ppb	ND
Cyanide	200 ppb	ND	Simazine	4 ppb	ND
Fluoride	4 ppm	ND	Toxaphene	3 ppb	ND
Lead	AL=15 ppb	35	Benzene	5 ppb	ND
Mercury	2 ppb	ND	Carbon tetrachloride	5 ppb	ND
Nitrate	10 ppm	ND	Chlorobenzene	100 ppb	ND
Nitrite	1 ppm	ND	Dibromo chloropropane	200 ppt	ND
Selenium	50 ppb	ND	o-Dichlorobenzene	600 ppb	ND
Thallium	2 ppb	ND	p-Dichlorobenzene	75 ppb	ND
Organic Chemicals					
2,4-D	70 ppb	ND	1,2-Dichloroethane	5 ppb	ND
2,4,5-TB (Silvex)	50 ppb	ND	1,1-Dichloroethylene	7 ppb	ND
Acrylamide	TT	ND	Cis-1,2-Dichloroethylene	70 ppb	ND
Alachlor	2 ppb	ND	trans-1,2-Dichloroethylene	100 ppb	ND
Atrazine	3 ppb	ND	Dichloromethane	5 ppb	ND
Benzo(a)pyrene (PHAs)	200 ppt	ND	1,2-Dichloropropane	5 ppb	ND
Carbofuran	40 ppb	ND	Ethylbenzene	700 ppb	ND
Chlordane	2 ppb	ND	Ethylene dibromide	50 ppt	ND
Dalapon	200 ppb	ND	Styrene	100 ppb	ND
Di-(2-ethylhexyl)adipate	400 ppb	ND	Tetrachloroethylene	5 ppb	ND
Di-(2-ethylhexyl)phthalates	6 ppb	ND	1,2,4-Trichlorobenzene	70 ppb	ND
Dimoseb	7 ppb	ND	1,1,1-Trichloroethane	200 ppb	ND
Diquat	20 ppb	ND	1,1,2-Trichloroethane	5 ppb	ND
Dioxin [2,3,7,8-TCDD]	30 ppq	ND	Trichloroethylene	5 ppb	ND
Endothal	100 ppb	ND	TTHM	80 ppb	33
			HAAs	60 ppb	5.8
			Toluene	1 ppm	ND
			Vinyl Chloride	2 ppb	ND
			Xylenes	10 ppm	ND

The table below list the contaminants that are not regulated by the EPA or ADEM but are tested for in your drinking water. These contaminants pose many of the same health risk as the regulated contaminants but their presence in most drinking water is not frequent enough to warrant regulation. Unregulated contaminants are tested for to provide historical data on components presence in drinking water over time.

Test Results - Unregulated Contaminant Table | Monitoring results in ppm

CONTAMINANT	Low Result	High Result	CONTAMINANT	Low Result	High Result
1,1-Dichloropropene	ND	ND	Chloroform	ND	1.2
1,1,1,2-tetrachloroethane	ND	ND	Chloromethane	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	Dibromochloromethane	5.7	8.4
1,1-Dichloroethane	ND	ND	Dibromomethane	ND	ND
1,2,3-Trichlorobenzene	ND	ND	Dicamba	ND	ND
1,2,3-Trichloropropane	ND	ND	Dichlorodifluoromethane	ND	ND
1,2,4-Trimethylbenzene	ND	ND	Dieldrin	ND	ND
1,3-Dichloropropane	ND	ND	Hexachlorobutadiene	ND	ND
1,3-Dichloropropene	ND	ND	Isopropylbenzene	ND	ND
1,3,5-Trimethylbenzene	ND	ND	M-Dichlorobenzene	ND	ND
2,2-Dichloropropane	ND	ND	Methomyl	ND	ND
3-Hydroxycarbofuran	ND	ND	MIB	ND	ND
Aldicarb	ND	ND	Metolachlor	ND	ND
Aldicarb Sulfone	ND	ND	Metribuzin	ND	ND
Aldicarb Sulfoxide	ND	ND	N-Butylbenzene	ND	ND
Aldrin	ND	ND	Naphthalene	ND	ND
Bromobenzene	ND	ND	N-Propyl benzene	ND	ND
Bromochloromethane	1.8	ND	O-Chlorotoluene	ND	ND
Bromodichloromethane	1.8	2.4	P-Chlorotoluene	ND	ND
Bromoform	1.1	2.1	P-Isopropyltoluene	ND	ND
Bromomethane	1.1	ND	Propachlor	ND	ND
Butachlor	ND	ND	Sec-Butylbenzene	ND	ND
Carbaryl	ND	ND	tert-Butylbenzene	ND	ND
Chloroethane	ND	ND	Trichlorofluoromethane	ND	ND

The third Unregulated Contaminant Rule (UCMR3) was initiated by EPA in 2012. UCMR3 requires the monitoring of two viruses and 28 unregulated chemical contaminants. These contaminants pose many of the same health risks as the regulated contaminants but their presence in most drinking water is not frequent enough to warrant regulation. Unregulated contaminants are tested for to provide historical data on components presence in drinking water over time.

Third Unregulated Contaminant Monitoring (UCMR 3) | Monitoring results in ppb

CONTAMINANT	DETECTED	CONTAMINANT	DETECTED
1,2,3-trichloropropane	ND	cobalt	ND
1,3-butadiene	ND	strontium	ND
chloromethane (methyl chloride)	ND	chromium ³⁺	ND
1,1-dichloroethane	ND	chromium-6 ³⁺	ND
bromomethane	ND	chlorate	ND
chlorodifluoromethane (HCFC-22)	ND	perfluorooctanesulfonic acid (PFOS)	ND
bromochloromethane (Halon 101.1)	ND	perfluorooctanoic acid (PFOA)	ND
1,4-dioxane	ND	perfluorononanoic acid (PFNA)	ND
vanadium	ND	perfluorodecane sulfonic acid (PFHxS)	ND
molybdenum	ND	perfluorododecane sulfonic acid (PFDS)	ND
17-β-estradiol	ND	perfluorooheptanoic acid (PFHpA)	ND
17-β-ethynylestradiol	ND	estrone	ND
estriol	ND	testosterone	ND
equilin	ND	4-androstene-3,17 dione	ND
noroviruses	ND	enteroviruses	ND

The fourth Unregulated Contaminant Rule (UCMR4) was initiated by EPA in 2016. UCMR4 requires the monitoring of 10 cyanotoxins and 20 additional unregulated chemical contaminants. These contaminants pose many of the same health risk as the regulated contaminants but their presence in most drinking water is not frequent enough to warrant regulation. Unregulated contaminants are tested for to provide historical data on components present in drinking water over time.

Fourth Unregulated Contaminant Monitoring (UCMR 4) | Monitoring results in ppb

CONTAMINANT	DETECTED	CONTAMINANT	DETECTED
Germanium	ND	Tributofos	ND
Manganese (2020)	ND	1-butanol	ND
Alpha-hexachlorocyclohexane	ND	2-methoxyethanol	ND
Chlorpyrifos	ND	2-propen-1-ol	ND
Dimethipin	ND	Butylated hydroxyanisole	ND
Ethopropr	ND	O-toluidine	ND
Oxyfluorfen	ND	Quinoline	ND
Propiconazole	ND	Total Organic Carbon (TOC)	ND
Ibuprofen	ND	Bromide	ND
Total permethrin (cis- & trans-)	ND	Monobromoacetic Acid	ND
Bromochloroacetic Acid	ND	Monochloroacetic Acid	ND
Bromodichloroacetic Acid	ND	Tribromoacetic Acid	ND
Chlorodibromoacetic Acid	ND	Trichloroacetic Acid	ND
Dibromoacetic Acid	5.8		
Dichloroacetic Acid	ND		