

2023

Annual Drinking Water Quality Report

GUIN WATER DEPARTMENT

We're pleased to present to you this year's Annual Quality Water 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 safe and 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 Purgatory Creek, which is treated at the Guin Water Treatment Facility. We also purchase water from the Hamilton Water Department. Their water is taken from the Buttahatchee River and is treated at the Hamilton Water Plant. To make your water drinkable, contaminants such as water borne viruses and pesticides are removed through a complex process that includes settling basins, filtration, and disinfection. Both of our water sources use chlorine for disinfection, aluminum sulfate and hydrated lime for coagulation, and fluoride to build strong teeth. This year we have installed a GAC system which uses granulated carbon to take out PFOS and PFOA's plus other harmful chemicals. We are very pleased with test results showing non detect on these chemicals.

We have a source water protection plan available from our office that provides more information such as potential sources of contamination.

I'm 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 **Terri Dennis at 468-3835**. 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 which are held on the second Monday of each month at the Water and Sewer Board Office at 5:30 p.m.

Board Members: Steve Lolley (Chairman)
Ronald McDonald
Melissa Akers
Mike Spears

The **Guin Water Department** routinely monitors for constituents 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. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

PLAIN LANGUAGE DEFINITIONS

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following 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* - 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 (nanograms/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 (picograms/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.
- Millirems per year (mrem/yr)* - measure of radiation absorbed by the body.
- Million Fibers per Liter (MFL)* - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
- 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.
- Action Level* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT)* - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- Maximum Contaminant Level* - The "Maximum Allowed" (MCL) is 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* - 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.

Table of Detected Contaminants				
Contaminate	MCLG	MCL	Amount Detected	UNIT
Barium	2	2	0.035	mg/l
Chloride	n/a	250	ND	mg/l
Copper	n/a	1.3	ND	mg/l
Manganese	n/a	0.05	0.027	mg/l
Sulfate	n/a	500	17.3	mg/l
Sodium	n/a	n/a	ND	mg/l
PFOA				
PFOS				

PFAS: See Below

PFAS Contaminants

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that were used in manufacturing and in other industrial and consumer applications. The U.S. Environmental Agency (EPA) has not established national primary drinking water regulations for PFAS substances. The lifetime health advisory level for PFOA and PFOS is a combined 70 parts per trillion. Below is a list of PFAS chemicals for which our system monitored in 2022 as required and the results off that monitoring.

Contaminant	Unit Msmt	Max Level Detected	Avg	Range	
11Cl-PF3OUdS	ppt	ND			
9Cl-PF30NS	ppt	ND			
ADONA	ppt	ND			
HFPO-DA	ppt	ND			
PFOS	ppt	73	2	0 - 73	
PFBA	ppt	1	0	0-1	
PFDA	ppt	ND			
PFDoA	ppt	ND			
PFHpA	ppt	ND			
PFHxA	ppt	2	0	0-2	
PFNA	ppt	ND			
PFTeA	ppt	ND			
PFTriA	ppt	ND			
PFUnA	ppt	ND			
PFHxS	ppt	16	0	0-16	
PFOA	ppt	4	0	0-4	
Total PFOA/PFOS Combined	ppt	9	0	0-9	EPA Health Advisory 70 ppt

TEST RESULTS

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
1. Total Coliform Bacteria	N	0%	Coliform Per Sample	0	presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
2. Fecal coliform and <i>E.coli</i>	N	0%	Coliform Per Sample	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	Human and animal fecal waste
3. Turbidity	N	0.04 range .01- .19	NTU	n/a	TT	Soil runoff
Radioactive Contaminants						
4. Beta/photon emitters			mrem/yr	0	4	Decay of natural and man-made deposits
5. Alpha emitters	N	1.9 range 1.9	pCi/l	0	15	Erosion of natural deposits
6. Combined radium		.76	pCi/l	0	5	Erosion of natural deposits
Inorganic Contaminants						
7. Antimony	N	ND	ppb	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
8. Arsenic	N	ND	ppb	n/a	50	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
9. Asbestos			MFL	7	7	Decay of asbestos cement water mains; erosion of natural deposits
10. Barium	N	0.03 range 0-.03	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
11. Beryllium	N	ND	ppb	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
12. Cadmium	N	ND	ppb	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
13. Chromium	N	ND	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
14. Copper	N	ND	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

15. Cyanide	N	ND	ppb	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
16. Fluoride	N	0.7 range .2-9	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
17. Lead	N	ND	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
18. Mercury (inorganic)	N	ND	ppb	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
19. Nitrate (as Nitrogen)	N	0.42	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
20. Nitrite (as Nitrogen)	N	ND	ppm	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
21. Selenium	N	ND	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
22. Thallium	N	ND	ppb	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

Synthetic Organic Contaminants including Pesticides and Herbicides

23. 2,4-D	N	ND	ppb	70	70	Runoff from herbicide used on row crops
24. 2,4,5-TP (Silvex)	N	ND	ppb	50	50	Residue of banned herbicide
25. Acrylamide	N	ND		0	TT	Added to water during sewage/wastewater treatment
26. Alachlor	N	ND	ppb	0	2	Runoff from herbicide used on row crops
27. Atrazine	N	ND	ppb	3	3	Runoff from herbicide used on row crops
28. Benzo(a)pyrene (PAH)	N	ND	nanograms/l	0	200	Leaching from linings of water storage tanks and distribution lines
29. Carbofuran	N	ND	ppb	40	40	Leaching of soil fumigant used on rice and alfalfa
30. Chlordane	N	ND	ppb	0	2	Residue of banned termiticide
31. Dalapon	N	ND	ppb	200	200	Runoff from herbicide used on rights of way
32. Di(2-ethylhexyl) adipate	N	ND	ppb	400	400	Discharge from chemical factories
33. Di(2-ethylhexyl) phthalate	N	ND	ppb	0	6	Discharge from rubber and chemical factories
34. Dibromochloropropane	N	ND	nanograms/l	0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
35. Dinoseb	N	ND	ppb	7	7	Runoff from herbicide used on soybeans and vegetables
36. Diquat	N	ND	ppb	20	20	Runoff from herbicide use
37. Dioxin [2,3,7,8-TCDD]	N	ND	picograms/l	0	30	Emissions from waste incineration and other combustion; discharge from chemical factories

38. Endothall	N	ND	ppb	100	100	Runoff from herbicide use
39. Endrin	N	ND	ppb	2	2	Residue of banned insecticide
40. Epichlorohydrin	N	ND		0	TT	Discharge from industrial chemical factories; an impurity of some water treatment chemicals
41. Ethylene dibromide	N	ND	nanograms/l	0	50	Discharge from petroleum refineries
42. Glyphosate	N	ND	ppb	700	700	Runoff from herbicide use
43. Heptachlor	N	ND	nanograms/l	0	400	Residue of banned termiticide
44. Heptachlor epoxide	N	ND	nanograms/l	0	200	Breakdown of heptachlor
45. Hexachlorobenzene	N	ND	ppb	0	1	Discharge from metal refineries and agricultural chemical factories
46. Hexachlorocyclopentadiene	N	ND	ppb	50	50	Discharge from chemical factories
47. Lindane	N	ND	nanograms/l	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
48. Methoxychlor	N	ND	ppb	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
49. Oxamyl [Vydate]	N	ND	ppb	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
50. PCBs [Polychlorinated biphenyls]	N	ND	nanograms/l	0	500	Runoff from landfills; discharge of waste chemicals
51. Pentachlorophenol	N	ND	ppb	0	1	Discharge from wood preserving factories
52. Picloram	N	ND	ppb	500	500	Herbicide runoff
53. Simazine	N	ND	ppb	4	4	Herbicide runoff
54. Toxaphene	N	ND	ppb	0	3	Runoff/leaching from insecticide used on cotton and cattle

Volatile Organic Contaminants

55. Benzene	N	ND	ppb	0	5	Discharge from factories; leaching from gas storage tanks and landfills
56. Carbon tetrachloride	N	ND	ppb	0	5	Discharge from chemical plants and other industrial activities
57. Chlorobenzene	N	ND	ppb	100	100	Discharge from chemical and agricultural chemical factories
58. o-Dichlorobenzene	N	ND	ppb	600	600	Discharge from industrial chemical factories
59. p-Dichlorobenzene	N	ND	ppb	75	75	Discharge from industrial chemical factories
60. 1,2 - Dichloroethane	N	ND	ppb	0	5	Discharge from industrial chemical factories
61. 1,1 - Dichloroethylene	N	ND	ppb	7	7	Discharge from industrial chemical factories
62. cis-1,2-ichloroethylene	N	ND	ppb	70	70	Discharge from industrial chemical factories
63. trans - 1,2 - Dichloroethylene	N	ND	ppb	100	100	Discharge from industrial chemical factories
64. Dichloromethane	N	ND	ppb	0	5	Discharge from pharmaceutical and chemical factories

65. 1,2-Dichloropropane	N	ND	ppb	0	5	Discharge from industrial chemical factories
66. Ethylbenzene	N	ND	ppb	700	700	Discharge from petroleum refineries
67. Styrene	N	ND	ppb	100	100	Discharge from rubber and plastic factories; leaching from landfills
68. Tetrachloroethylene	N	ND	ppb	0	5	Leaching from PVC pipes; discharge from factories and dry cleaners
69. 1,2,4 - Trichlorobenzene	N	ND	ppb	70	70	Discharge from textile-finishing factories
70. 1,1,1 - Trichloroethane	N	ND	ppb	200	200	Discharge from metal degreasing sites and other factories
71. 1,1,2 -Trichloroethane	N	ND	ppb	3	5	Discharge from industrial chemical factories
72. Trichloroethylene	N	ND	ppb	0	5	Discharge from metal degreasing sites and other factories
73. TTHM [Total trihalomethanes]	N	AVG 29 RANGE 1-100	ppb	0	100	By-product of drinking water chlorination
74. Toluene	N	ND	ppm	1	1	Discharge from petroleum factories
75. Vinyl Chloride	N	ND	ppb	0	2	Leaching from PVC piping; discharge from plastics factories
76. Xylenes	N	ND	ppm	10	10	Discharge from petroleum factories; discharge from chemical factories
77.HAA5	N	avg 27 range 0-120	ppb	N/A	TT	By-product of drinking water chlorination

Unregulated Contaminants Table

CONTAMINANT	Average	Range			CONTAMINANT	Average	Range		
1,1 - Dichloropropene	ND	0.000	-	<0.005	Chloroform	ND	0.000	-	21
1,1,1,2-Tetrachloroethane	ND	0.000	-	<0.005	Chloromethane	ND	0.000	-	<0.005
1,1,2,2-Tetrachloroethane	ND	0.000	-	<0.005	Dibromochloromethane	ND	0.000	-	<0.005
1,1-Dichloroethane	ND	0.000	-	<0.005	Dibromomethane	ND	0.000	-	<0.005
1,2,3 - Trichlorobenzene	ND	0.000	-	<0.005	Dicamba	ND	0.000	-	<0.005
1,2,3 - Trichloropropane	ND	0.000	-	<0.005	Dichlorodifluoromethane	ND	0.000	-	<0.005
1,2,4 - Trimethylbenzene	ND	0.000	-	<0.005	Dieldrin	ND	0.000	-	<0.005
1,3 - Dichloropropane	ND	0.000	-	<0.005	Hexachlorobutadiene	ND	0.000	-	<0.005
1,3 - Dichloropropene	ND	0.000	-	<0.005	Isoprpylbenzene	ND	0.000	-	<0.005
1,3,5 - Trimethylbenzene	ND	0.000	-	<0.005	M-Dichlorobenzene	ND	0.000	-	<0.005
2,2 - Dichloropropane	ND	0.000	-	<0.005	Methomyl	ND	0.000	-	<0.005
3-Hydroxycarbofuran	ND	0.000	-	<0.005	MTBE	ND	0.000	-	<0.050
Aldicarb	ND	0.000	-	<0.005	Metolachlor	ND	0.000	-	<0.005

Aldicarb Sulfone	ND	0.000	-	<0.005	Metribuzin	ND	0.000	-	<0.005
Aldicarb Sulfoxide	ND	0.00 0	-	<0.00 5	N - Butylbenzene	ND	0.000	-	<0.005
Aldrin	ND	0.00 0	-	<0.00 5	Naphthalene	ND	0.000	-	<0.005
Bromobenzene	ND	0.00 0	-	<0.00 5	N-Propylbenzene	ND	0.000	-	<0.005
Bromochloromethane	ND	0.00 0	-	<0.00 5	O-Chlorotoluene	ND	0.000	-	<0.005
Bromodichloromethane	2.83	0.000	-	8	P-Chlorotoluene	ND	0.000	-	<0.005
Bromoform	ND	0.000	-	<0.005	P-Isopropyltoluene	ND	0.000	-	<0.005
Bromomethane	ND	0.000	-	<0.005	Propachlor	ND	0.000	-	<0.005
Butachlor	ND	0.000	-	<0.005	Sec - Butylbenzene	ND	0.000	-	<0.005
Carbaryl	ND	0.000	-	<0.005	Tert - Butylbenzene	ND	0.000	-	<0.005
Chloroethane	ND	0.000	-	<0.005	Trichlorfluoromethane	ND	0.000	-	<0.005

What does this mean?

As you can see by the table, our system had no violations concerning the water quality. We did have two violations. The first one was failing to turn in a PFAS monitoring report on time. The second one was in August of 2022, The Guin Water and Sewer Board agreed to the entry of a Consent Order with ADEM. The violations which were contained in the Consent Order consisted of the Water Board allowing non-certified individuals to operate a Grade IV surface water treatment plant and the failure of the Board to properly notify the Department, in writing, within 30 days, of all personnel changes affecting its certification compliance. Pursuant to the Consent Order, the Guin Water and Sewer Board agreed to immediately ensure a Grade IV certified water operator was in responsible charge at all times the plant was operating and agreed to submit to the Department a list of all Grade IV operators assigned to work at the treatment plant and to provide the Department with a copy of the contract for the private contractor that was to be utilized until additional certified operators could be hired. The Board and the Department agreed to the imposition of a civil penalty in the amount of \$150,000.00 for said violations.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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 service lines and household plumbing. The Guin 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 <http://www.epa.gov/safewater/lead>.

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 microbiological contaminants are available from the **Safe Drinking Water Hotline (800-426-4791)**.

MCL's 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.

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.

Please call our office if you have questions.

The employees of the GUIN WATER DEPARTMENT work around the clock to provide the best possible 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.

Thank you for allowing us to serve you!

