HUNTSVILLE UTILITIES is pleased to provide you with this year's Annual Water Quality Report. This publication is our commitment to keep you, our customer, informed on issues related to water service. This report provides information concerning the source of your drinking water, treatment techniques, test results, as well as an explanation of the numbers and terms used in it. Huntsville Utilities works diligently to provide high quality water at the lowest possible price. We are committed to providing a quality drinking water that meets or exceeds all state and federal drinking water standards.

OUR WATER SOURCES: Huntsville Utilities supplies drinking water to approximately 100,000 customers from both surface water and groundwater sources. Surface water from the Tennessee River and Guntersville Lake is processed through three conventional surface water treatment plants, the South Parkway facility, Southwest Treatment Plant, and the Southeast Treatment Plant. Groundwater is supplied from the Lincoln and Dallas Well Treatment Plant and Williams Well. All the groundwater wells produce from limestone aquifers. Our source is also supplemented by treated water purchased from Limestone County Water Authority's Turner Water Treatment Plant. 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.

SOURCE WATER ASSESSMENT: Huntsville Utilities has developed a Source Water Assessment plan that assists in protecting our water sources. This plan provides information about potential sources of contamination and classifies potential contaminants as high, moderate, or non-susceptible to contaminating the water source. In 2021 we updated the Source Water Assessment. These reports are available for review in our office during normal business hours by appointment. Please help us make these efforts worthwhile by doing what you can to protect our source water. For example, carefully follow instructions on pesticides and herbicides you use for your lawn and garden, and properly dispose of household chemicals, paints and waste oil. Please inform us if you observe actions that might compromise the quality of our drinking water.

LEAD AND DRINKING WATER: As required by federal and state agencies, we also have an outside laboratory monitor our distribution system for lead. Levels of lead in our system have always been well below the minimum standard. Even though we do not have a problem with lead, the following information about lead is required to be in this report: 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.

Huntsville Utilities 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, lead testing methods, and steps you can take to minimize exposure to lead is available on the EPA website at *www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water* or by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

QUESTIONS: Public interest in decisions affecting drinking water or other utility issues is encouraged. If you have any questions about this report or concerning your water utility, please contact Jim Reynolds in the Huntsville Utilities Water Quality Lab at (256)650-6374 or by email at *waterlab@hsvutil.org*. More information about contaminants in drinking water and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800)426-4791.

If you would like to attend one of our regularly scheduled board meetings, you may check our website (www.hsvutil.org) for the meeting schedule. They are usually held on the last Tuesday of each month at 8:30 a.m. at Huntsville Utilities, 112 Spragins Street. Board members include Mr. Jim Batson, Dr. Dorothy W. Huston, and Mr. Max (Gripp) Luther.

Definitions

Action Level - the concentration of a contaminant that, if exceeded, triggers some follow-up action
ADEM - Alabama Department of Environmental Management - Alabama's environmental regulatory agency
AWPCA - Alabama Water Pollution Control Association
Disinfection byproducts - produced when disinfectants used in water treatment react with natural organic matter present in the source water
Distribution System Evaluation (DSE) - a one-year study conducted by water systems to monitor disinfection byproducts.
EPA - the United States Environmental Protection Agency.
Maximum Contaminant Level (MCL) - highest level of contaminant allowed in drinking water.
Maximum Contaminant Level Goal (MCLG) - the level of a contaminant in drinking water below which there is no known or expected risk to health.
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.
Millirems per year (mrem/yr) - measure of radiation absorbed by the body.
Minimum Reporting Limit (MRL) – either not detected or is smallest measured concentration that can be measured by using a given analytical method
Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water.
Not Applicable (NA) - Not applicable to water system because not required.
Non-Detect (ND) - laboratory analysis indicates that the contaminant is not present at a detectable level; less than the MRL.
Not Required (NR) - laboratory analysis not required due to waiver.
Parts per billion (ppb) or Micrograms per liter (µg/l) - 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) - corresponds to one minute in two years or a single penny in $10,000.
Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - 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) - corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
Picocuries per liter (pCi/L) - a measure of the radioactivity in water.
Running annual average (RAA) - the required method of calculating compliance on disinfection byproducts, TTHM and HAA5.
Treatment Technique (TT) - a required process to reduce a contaminant.
UCMR – Unregulated Contaminant Monitoring Rule.
Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

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www.hsvutil.org

Huntsville Utilities 2023 Water Quality Report
Esta información acerca de su agua potable es muy importante.
Le recomendamos que alguien traducirlo para usted.

2023 ANNUAL WATER QUALITY REPORT

Testing Performed January - December 2022

HUNTSVILLE UTILITIES

ELECTRICITY • NATURAL GAS • WATER

P. O. Box 2048
Huntsville, AL 35804
Phone (256) 881-6281

Excellence Awards

Huntsville Utilities has been recognized numerous times over the past two decades for outstanding service, receiving several excellence awards over the years. The most recent awards are:

- *AWPCA 2022 Best Operated Plant for the Southwest Plant (3rd consecutive year)*
- *AWPCA 2022 Best Operated Plant for the Southeast Plant (2nd consecutive year)*
- *AWPCA 2022 Best Operated Plant for the Lincoln-Dallas Plant*
- *AWPCA 2022 Best Operated Distribution System*
- *ADEM 2021 Plant Optimization Award for the Southeast Plant (4th consecutive year)*
- *ADEM 2021 Plant Optimization Award for the Southwest Plant (2nd consecutive year)*

Office Hours: Monday-Friday, 8 a.m. to 5 p.m.
www.hsvutil.org

DRINKING WATER INFO: All drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. To ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water. The presence of contaminants does not necessarily indicate that water poses a health risk. MCL's, 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 for a lifetime to have a one-in-a-million chance of having the described health effect. 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 from urban storm water run-off, wastewater discharges, oil/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.

Huntsville Utilities takes at least 150 samples monthly throughout our distribution system to analyze for Coliform bacteria. Coliform organisms are commonly found in humans, animals, and the environment and are generally harmless to humans; however, the presence of Coliforms is an indication that other harmful micro-organisms may be present. Public water systems must not find total Coliforms in over 5.0% of all samples taken in a month, where the number of samples collected per month is based on the population served.

Huntsville Utilities also tests your source water for *Cryptosporidium* and *Giardia*. *Cryptosporidium* was detected in the raw source water in a range of 0 - 0.40 and *Giardia* in a range of 0 - 0.30 organisms/Liter. These pathogens can enter the water from animal or human waste. 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/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) or from *www.cdc.gov/parasites/crypto/gen_info/infect_ic.html*. This language does not indicate the presence of Cryptosporidium in your drinking water.

Water systems using surface sources or groundwater under the influence of surface water must provide a filtration process to produce filtered water turbidity no greater than 0.3 turbidity units (NTU) in 95% of filtered water samples analyzed each month and at no time exceeds 1.0 NTU. Groundwater sources must produce treated water which at no time exceeds 5.0 NTU. 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.

MONITORING SCHEDULE & RESULTS: 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. This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule.

Constituents Monitored	Huntsville	LCWSA
Inorganic Contaminants	2022	2022
Lead/Copper	2020	2020
Microbiological Contaminants	current	current
Nitrates	2022	2022
Radioactive Contaminants	2020	2022
Synthetic Organic Contaminants	2021	Partial 2022
Volatile Organic Contaminants	2022	2022
Disinfection By-products	2022	2022
Cryptosporidium	2019	2017
UCMR4 Contaminants	2020	2020
PFAS Contaminants	2022	2022

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4) requires some systems to monitor for 30 unregulated contaminants during January 2018 through December 2020 on an assigned schedule. The table below shows the results of our monitoring during 2019 and 2020.

UCMR4 Table (in ppb)			
Contaminants	Level Detected	Contaminant	Level Detected
Germanium	ND	1-butanol	ND
Manganese	ND-4.7	2-methoxyethanol	ND
Alpha-hexachlorocyclohexane	ND	2-propen-1-ol	ND
Chlorpyrifos	ND	Butylated hydroxyanisole	ND
Dimethipin	ND	O-toluidine	ND
Ethoprop	ND	Quinoline	ND
Oxyfluorfen	ND	Total organic carbon (TOC)	1310-2430
Profenofos	ND	Bromide	ND
Tebuconazole	ND	HAA9	10.5-46.0
Total permethrin (cis- & trans-)	ND	HAA6Br	3.0-5.5
Tribufos	ND	HAA5	7.57-42.7
Cyanotoxins			
Anatoxin-A	ND	Total Microcystins	ND
Cylindrospermopsin	ND		

PFAS are a group of man-made chemicals used in the past for some manufacturing processes. Below is a list of PFAS contaminants our sources were monitored during 2022 and the results of that monitoring. For more information , please refer to the EPA's website *https://www.epa.gov/pfas*.

PFAS Contaminants (in ppb)		
Contaminant	Huntsville	LCWSA
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND	ND
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	ND	ND
4,8-dioxa-3H-perfluorononanoic acid	ND	ND
Hexafluoropropylene oxide dimer acidA	ND	ND
N-ethylperfluorooctanesulfonamidoacetic acid	ND	ND
N-methylperfluorooctanesulfonamidoacetic acid	ND	ND
Perfluorobutanesulfonic acid	ND-.005	ND-0.009
Perfluorodecanoic acid	ND	ND
Perfluorohexanoic acid	ND	ND-0.007
Perfluorododecanoic acid	ND	ND
Perfluoroheptanoic acid	ND	ND
Perfluorohexanesulfonic acid	ND-.002	ND-0.006
Perfluorononanoic acid	ND	ND
Perfluorooctanesulfonic acid	ND-.006	ND-0.010
Perfluorooctanoic acid	ND-.002	ND-0.009
Perfluorotetradecanoic acid	ND	ND-0.030
Perfluorotridecanoic acid	ND	ND
Perfluoroundecanoic acid	ND	ND
Total PFAS	0.015	0.071

As you can see by the Table of Detected Drinking Water Contaminants below, our system had no violations. We have learned through our monitoring and testing that some constituents have been detected. We are pleased to report that our drinking water meets federal and state requirements.

DETECTED DRINKING WATER CONTAMINANTS							
Contaminants	Violation Y/N	Huntsville	Limestone Co Turner WTP	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Chlorine	NO	2.0-3.7	1.0-2.2	ppm	MRDLG=4	MRDL=4	Water additive used to control microbes
Total Organic Carbon	NO	0.81-1.70	0.92-2.30	ppm	n/a	TT	Soil runoff
Total Coliform bacteria	NO	3 [1]	4 [3]	Present/ Absent	0	presence in 5% of monthly samples	Naturally present; indicator that other types of bacteria may be present
Turbidity (filtered)	NO	Highest 0.33	0.62	NTU	n/a	TT	Soil runoff; Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth.
Barium	NO	0.02-0.03	ND-0.02	ppm	2	2	Drilling & refinery discharge; erosion
Copper	NO	0.15 [2]	0.046 [2]	ppm	1.3	AL=1.3	Plumbing corrosion; erosion; leaching from preservatives
Fluoride - WTP	NO	ND-0.76	ND	ppm	4	4	Erosion; water additive for teeth; discharge from factories
Mercury	NO	ND	0.003	ppm	0.002	0.002	Erosion; factory & refinery discharge; landfill & crop runoff
Nitrate (as Nitrogen)	NO	ND-2.0	0.57-3.50	ppm	10	10	Fertilizer runoff; sewage and septic leachate; erosion
TTHM [Total trihalomethanes]	NO	Max LRAA 47.8 Range 19.1-77.0	Max LRAA 36.5 Range 13.9-58.5	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	Max LRAA 37.5 Range 21.8-48.1	Max LRAA 38.9 Range 7.3-52.3	ppb	0	60	By-product of drinking water chlorination
Tetrachloroethylene	NO	ND-0.51	ND	ppb	0	5	PVC pipe leaching; factory & dry cleaner discharge
Unregulated Contaminants							
Chloroform	NO	ND-20.0	21.0	ppb	n/a	n/a	Naturally occurring in the environment or from runoff
Bromodichloromethane	NO	ND-4.90	5.1	ppb	n/a	n/a	Naturally occurring in the environment or from runoff
Chloromethane	NO	ND-14.0	ND	ppb	n/a	n/a	Naturally occurring in the environment or from runoff
Secondary Contaminants							
Aluminum	NO	ND-0.03	0.035	ppm	n/a	0.2	Erosion of natural deposits; treatment with water additives
Chloride	NO	6.8-12.0	7.0-11.4	ppm	n/a	250	Naturally occurring in the environment or from runoff
Hardness, as $CaCO_3$	NO	63.6-141	115-139	ppm	n/a	n/a	Naturally occurring in the environment or from runoff
Manganese	NO	ND-0.01	ND	ppm	n/a	0.05	Erosion of natural deposits; leaching from pipes
pH	NO	7.0-7.2	6.8-8.6	S.U.	n/a	n/a	Naturally occurring in the environment or from runoff
Sodium	NO	2.5-15.6	ND	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	ND-29.3	3.91-11.6	ppm	n/a	250	Naturally occurring in the environment or from runoff
Total Dissolved Solids	NO	102-171	94-172	ppm	n/a	500	Naturally occurring in the environment or from runoff
Zinc	NO	ND	0.063	ppm	n/a	5.0	Erosion; factory & refinery discharge; landfill runoff

[1] Three positive samples detected in 2022: May (1) and August (2). These detects were *not* MCL violations since Coliform was not present in 5% of samples collected. All follow-up samples were negative for Coliform bacteria.

[2] Figure shown is 90th percentile and number of sites exceeding the Action Level (AL) = 0.

[3] Four positive samples detected in 2022. These detects were *not* MCL violations since Coliform was not present in 5% of samples collected. All follow-up samples were negative for Coliform bacteria.

Huntsville Utilities has chosen to provide our water customers with a table of all 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 Table of Detected Drinking Water Contaminants 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 or absent	Dichloromethane	5	ppb
Fecal Coliform and E. coli	0	present or absent	1,2-Dichloropropane	5	ppb
Turbidity	TT	NTU	Di (2-ethylhexyl)adipate	400	ppb
Cryptosporidium	TT	Calculated organisms/liter	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 (PCBs)	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-TP(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
o-Dichlorobenzene	600	ppb	Chloramines	4	ppm
p-Dichlorobenzene	75	ppb	Bromate	10	ppb
1,2-Dichloroethane	5	ppb	Chlorite	1	ppm
1,1-Dichloroethylene	7	ppb	HAA5 [Total haloacetic acids]	60	ppb
cis-1,2-Dichloroethylene	70	ppb	TTHM [Total trihalomethanes]	80	ppb

UNREGULATED CONTAMINANTS			
1,1 – Dichloropropene	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 – Dichloropropene	Bromomethane	Isoprpylbenzene	Propachlor
1,3,5 - Trimethylbenzene	Butachlor	M-Dichlorobenzene	Sec - Butylbenzene
2,2 – Dichloropropane	Carbaryl	Methomyl	Tert - Butylbenzene
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorfluoromethane