

ANNUAL DRINKING WATER QUALITY REPORT

Carbon Hill Utilities Board

January-December 2016

We're pleased to present to you this year's Annual Drinking Water Quality 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. Our suppliers have a Source Water Protection Plan available for review 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. Please help us make this effort worthwhile by protecting our source water. Carefully follow instructions on pesticides and herbicides you use for your lawn, garden and by properly dispose of household chemicals, paints and waste oil. We are committed to ensuring the quality of your water. The water we supply to our customers comes from the Mulberry Fork of the Warrior River, which is purchased from the Jasper Water Works and Sewer Board, and the Eldridge Water System. Eldridge produces their water from two wells which withdraws water from the Pottsville Formation aquifer. Chlorine is added to the water as disinfectant and the required residual is maintained to protect your drinking water from any possible outside contaminants.

Carbon Hill Utilities Board routinely monitors for 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, 2016. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

If you have questions about this report or concerning your water utility, please contact Jackie Stough, phone 205-924-9313. 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 Board meetings. They are held on the fourth Tuesday of each month at 4:00 P.M. in the Utility Office.

BOARD OF DIRECTORS

♦ Bill Hurst, Chairman

Charles Tune

Terry Mason

Anita Wood

Joey Wright

PLAIN LANGUAGE DEFINITION

- ♦ **Not Required (NR)** – Laboratory analysis not required due to waiver granted by the Environmental Protection Agency for the State of Alabama.
- ♦ **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.
- ♦ **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.
- ♦ **Variances & Exemptions (V&E)** - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
- ♦ **Action Level – (AL)** the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- ♦ **Treatment Technique (TT)** - (mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- ♦ **Maximum Contaminant Level - (mandatory language)** 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 - (mandatory language)** 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 or 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 or 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.

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 run-off, and septic systems.
- ♦ **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. 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.

Table of Primary Contaminants

At high levels some primary contaminants are known to pose a health risks to humans. This table provides a quick glance of any primary contaminant detections.

CONTAMINANT	MCL	AMOUNT DETECTED	CONTAMINANT	MCL	AMOUNT DETECTED
Bacteriological			Dalapon(ppb)	200	ND
Total Coliform Bacteria	< 5%	ND	Dibromochloropropane(ppt)	200	ND
Turbidity (Jasper 2016)	TT	.14	0-Dichlorobenzene(ppb)	600	ND
Turbidity (Eldridge 2016)	TT	ND	p-Dichlorobenzene(ppb)	75	ND
Fecal Coliform & E. coli	0	ND	1,2-Dichloroethane(ppb)	5	ND
Fecal Indicators (enterococci or coliphage)	None	ND	1,1-Dichloroethylene(ppb)	7	ND
Radiological			Cis-1,2-Dichloroethylene(ppb)	70	ND
Beta/photon emitters (mrem/yr)	4	ND	trans-1,2-Dichloroethylene(ppb)	100	ND
Alpha emitters (pci/l)(Jasper)	15	ND	Dichloromethane(ppb)	5	ND
Combined radium (pci/l) (Jasper)	5	ND	1,2-Dichloropropane(ppb)	5	ND
Uranium(pci/l)	30	ND	Di-(2-ethylhexyl)adipate(ppb)	400	ND
			Di(2-ethylhexyl)phthalates(ppb)(Jasper 2010)	6	ND
Inorganic					
Antimony (ppb)	6	ND	Dinoseb(ppb)	7	ND
Arsenic (ppb)	10	ND	Dioxin[2,3,7,8-TCDD](ppq)	30	ND
Asbestos (MFL)	7	ND	Diquat(ppb) (Jasper 2010)	20	ND
Barium (ppm)	2	ND	Endothall(ppb)	100	ND
Beryllium (ppb)	4	ND	Endrin(ppb)	2	ND
Bromate(ppb)	10	ND	Epichlorohydrin	TT	ND
Cadmium (ppb)	5	ND	Ethylbenzene(ppb)	700	ND
Chloramines(ppm)	4	ND	Ethylene dibromide(ppt)	50	ND
Chlorine(ppm) (Carbon Hill)	4	1.80	Glyphosate(ppb)	700	ND
Chlorine dioxide(ppb)	800	ND	Haloacetic Acids(ppb)(Carbon Hill)	60	18.4
Chlotite(ppm)	1	ND	Heptachlor(ppt)	400	ND
Chromium (ppb)	100	ND	Heptachlor epoxide(ppt)	200	ND
Copper (ppm) (Carbon Hill 2016)	AL=1.3	0.08	Hexachlorobenzene(ppb)	1	ND
Cyanide (ppb)	200	ND	Hexachlorocyclopentadiene(ppm)	50	ND
Fluoride (ppm)(Jasper)	4	.65	Lindane(ppt)	200	ND
Lead (ppb) (2016)	AL=15	ND	Methoxychlor(ppb)	40	ND
Mercury (ppb)	2	ND	Oxamyl [Vydate](ppb)	200	ND
Nitrate (ppm) (Carbon Hill 2016)	10	7.60	Pentachlorophenol(ppb)	1	ND
Nitrate (ppm) (Jasper)	10	.56	Picloram(ppb)	500	ND
Nitrate (ppm) (Eldridge)	10	0.19			
Nitrite (ppm)	1	ND	PCBs(ppt)	500	ND
Total Nitrate & Nitrite	10	ND	Simazine(ppb)	4	ND
Selenium(ppb)	50	ND	Styrene(ppb)	100	ND
Thallium(ppb) (Jasper 2010)	2	ND	Tetrachloroethylene(ppb)	5	ND
			Toluene(ppm)	1	ND
Organic Chemicals					
Acrylamide	TT	ND	TOC (Jasper)	TT	2.2
Alachlor(ppb)	2	ND	TTHM(ppb)(Carbon Hill)	80	31.2
Atrazine(ppb) (Jasper 2010)	3	ND	Toxaphene(ppb)	3	ND
Benzene(ppbv)	5	ND	2,4,5-TP (Silvex)(ppb)	50	ND
Benzo(a)pyrene[PHAs](ppt)	200	ND	1,2,4-Trichlorobenzene(ppb)	70	ND
Carbofuran(ppb)	40	ND	1,1,1-Trichloroethane(ppb)	200	ND
Carbon Tetrachloride(ppb)	5	ND	1,1,2-Trichloroethane(ppb)	5	ND
Chlordane(ppb)	2	ND	Trichloroethylene(ppb)	5	ND

Chlorobenzene(ppb)	100	ND	Vinyl Chloride(ppb)	2	ND
2,4-D	70	ND	Xylenes(ppm)	10	ND

Table of Detected Drinking Water Contaminants

CONTAMINANT	MCLG	MCL	Range			Amount Detected	Likely Source of Contamination	
Bacteriological Contaminants						January - December 2016		
Turbidity (Jasper 2016)	0	TT				.14	NTU	Soil runoff
Inorganic Contaminants						January - December 2016		
Chlorine (Carbon Hill)	MRDLG 4	MRDL 4	0.60	-	1.80	1.80	ppm	Water additive used to control microbes
Copper (Carbon Hill) (2014)	1.3	AL=1.3	No. of Sites above action level 0			0.08	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Nitrate (as N)(Eldridge)	10	10	0	-	.19	.19	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate (as N)(Jasper)	10	10	ND	-	.56	.56	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Turbidity (Eldridge 2016)	N/A	TT		-		ND	NTU	Soil runoff
Organic Contaminants						January - December 2016		
Haloacetic Acids (HAA5) (Carbon Hill)	N/A	60	1.63	-	28.5	18.4	ppb	By-product of drinking water chlorination
Total Organic Carbon (TOC) (Jasper)	N/A	TT	1.2	-	2.2.0	2.20		Naturally present in the environment
Total trihalomethanes (TTHM)(Carbon Hill)	0	80	16.7	-	43.3	31.2	ppb	By-product of drinking water chlorination
Secondary Contaminants						January - December 2016		
Chloride (Eldridge 2016)	N/A	250	5.10	-	8.30	8.30	ppm	Naturally occurring in the environment or as a result of agricultural runoff
Chloride (Jasper)	N/A	250	ND	-	13.7	13.7	ppm	Naturally occurring in the environment or as a result of agricultural runoff
Iron (Eldridge)	N/A	0.3	ND	-	0.12	0.12	ppm	Erosion of natural deposits
Manganese (Eldridge 2015)	N/A	0.05	ND	-	0.03	0.03	ppm	Erosion of natural deposits
Odor (Eldridge 2015)	N/A	3	ND	-	1.00	1.00	T.O.N.	Naturally occurring in the environment or as a result of treatment with water additives
Sulfate (Jasper)	N/A	250	ND	-	26.0	26.0	ppm	Naturally occurring in the environment
Total Dissolved Solids (Eldridge 2016)	N/A	500	212.00	-	276.00	276.00	ppm	Erosion of natural deposits

Total Dissolved Solids (Jasper)	N/A	500	ND	-	76.0	76.0	ppm	Erosion of natural deposits
Zinc (Jasper)	N/A	5	0.375	-	0.375	0.375	ppm	Erosion of natural deposits
		Special Contaminants		January - December 2016				
Calcium (Jasper)	N/A	N/A	ND	-	19.0	19.0	ppm	Erosion of natural deposits
Calcium (Eldridge 2015)	N/A	N/A	1.59	-	1.97	1.97	ppm	Erosion of natural deposits
Carbon Dioxide (Jasper)	N/A	N/A	ND	-	2.20	2.20	ppm	Erosion of natural deposits
Magnesium (Jasper)	N/A	N/A	ND	-	5.60	5.60	ppm	Erosion of natural deposits
Magnesium (Eldridge 2015)	N/A	N/A	ND	-	0.53	0.53	ppm	Erosion of natural deposits
pH (Eldridge 2016)	N/A	N/A	8.37	-	8.58	8.58	SU	Naturally occurring in the environment or as a result of treatment with water additives
pH (Jasper)	N/A	N/A	7.20	-	7.60	7.60	SU	Naturally occurring in the environment or as a result of treatment with water additives
Sodium (Jasper)	N/A	N/A	ND	-	6.41	6.41	ppm	Naturally occurring in the environment
Sodium (Eldridge 2016)	N/A	N/A	80.3	-	110.0	110.0	ppm	Naturally occurring in the environment
Specific Conductance (Jasper)	N/A	<500	ND	-	191.00	191.00	umhos	Naturally occurring in the environment or as a result of treatment with water additives
Specific Conductance (Eldridge 2015)	N/A	<500	358.00	-	475.00	475.00	umhos	Naturally occurring in the environment or as a result of treatment with water additives
Sulfate (Jasper)	N/A	N/A	ND	-	26.0	26.0	ppm	Naturally occurring in the environment
Total Alkalinity (Jasper)	N/A	N/A	18.0	-	65.0	65.0	ppm	Erosion of natural deposits
Total Alkalinity (Eldridge 2015)	N/A	N/A	183.00	-	242.00	242.00	ppm	Erosion of natural deposits
Total Hardness (as CaCO ₃)(Eldridge 2016)	N/A	N/A	3.89	-	5.40	5.40	ppm	Naturally occurring in the environment or as a result of treatment with water additives
Total Hardness (as CaCO ₃)(Jasper)	N/A	N/A	21.0	-	70.5	70.5	ppm	Naturally occurring in the environment or as a result of treatment with water additives
Unregulated Contaminants			January - December 2016					

Bromodichloromethane (Carbon Hill)	N/A	N/A	ND	-	.89	.89	ppb	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff; by-product of chlorination
Dibromochloromethane (Carbon Hill)	N/A	N/A	ND	-	.85	.85	ppb	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff; by-product of chlorination
Chloroform (Carbon Hill)	N/A	N/A	ND	-	73.0	73.0	ppb	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff; by-product of chlorination

Secondary Drinking Water Standards are guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. ADEM has Secondary Drinking Water Standards established in state regulations applicable to water systems required to monitor for the various components.

GENERAL INFORMATION

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.

As you can see by the tables, our system had no violations of allowable limits of contaminants in drinking water. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

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 activities.

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 (Environmental Protection Agency)/CDC (Center of Disease Control) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline. All Drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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.

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. The Carbon Hill Utilities Board 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>.

Thank you for allowing us to continue providing your family with clean, quality water this year. We at the Carbon Hill Utilities Board work around the clock to provide top quality 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.