

Green River Valley Water District - Water Quality Report-2014

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89 E.Les Turner Rd. Cave City, Ky
3rd Thursday Of Each Month, 2:00pm



This report is designed to inform the public about the quality of water and services provided on a daily basis. Our commitment is to provide a safe, clean, and reliable supply of drinking water. We want to assure that we will continue to monitor, improve, and protect the water system and deliver a high quality product.

We treat surface water from the Green River and Rio Springs, GRVWD also purchases treated water from the Glasgow Water Company. Glasgow utilizes surface water from Barren River Reservoir and Beaver Creek. The following is the Summary for the Green River Valley Water District: The source of raw water for the Green River Valley Water District is the Green River and Rio Springs in Hart County. An analysis of the overall susceptibility to contamination of the Green River Valley Water District's water supply indicated that this susceptibility is high. Sources of high potential impact include: Highway 31E and Route 569, underground storage tanks, agricultural land use, domestic water wells, and septic systems. This source assessment for GRVWD raw water supply is available through Barren River Development

Barren River Lake: An analysis of the overall susceptibility to contamination of the Barren River Lake water supply indicated that his susceptibility is generally moderate. Sources of high potential impact include: underground storage tanks, agriculture land use, oil and gas wells, and septic systems. This source assessment for Barren River Lake is available through Barren River Area Development District P.O. 90005 Bowling Green, Ky., 42192, (270) 781-2381 or through David Goodrum (270) 664-2042. Beaver Creek: An Analysis of the overall susceptibility to contamination of the Beaver Creek water supply indicated that this susceptibility is generally moderate. Sources of high potential impact include: two bridges located near the intake, underground storage tanks, agricultural land use, active oil and gas wells, and septic systems. This source assessment for Beaver Creek is available through Barren River Area Development District P.O. Box 90005 Bowling Green, Ky., 42102, (270) 781-2381

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. More information about contaminants and potential health effects may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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, in some cases, radioactive material, and may 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, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as

salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities). In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water to provide the same protection for public health.

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

Some or all of these definitions may be found in this report:

Maximum Contaminant Level (MCL) - 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 (MCLG) - 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. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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.

Below Detection Levels (BDL) - laboratory analysis indicates that the contaminant is not present.

Not Applicable (N/A) - does not apply.

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, ($\mu\text{g/L}$). One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) - 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) - 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) - a measure of the radioactivity in water.

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

Million Fibers per Liter (MFL) - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity has no health effects. However, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

Variations & 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 that a water system shall follow.

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

Information About Lead:

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 local public 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. 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>.



Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old. Unless otherwise noted, the report level is the highest level detected.

A=Green River Valley Water District B= Beaver Creek Water plant (Glasgow) C= Barren River Water Plant (Glasgow)

	Allowable Levels	Source	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT	No more than 1 NTU*	A=	0.205	100%	No	Soil runoff
* Representative samples of filtered water	Less than 0.3 NTU in 95% monthly samples	B=	0.311	99%	No	
		C=	0.29	100%	No	

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Radioactive Contaminants								
Combined radium (pCi/L)	5	0	A=	3.0	3.0 to 3.0	2014	No	Erosion of natural deposits
			B=	1.5	1.5 to 1.5	Jan.-14	No	
			C=	1.5	1.5 to 1.5	Jan.-14	No	
Inorganic Contaminants								
Arsenic [1005] (ppb)	10	N/A	B=	4.6	0 to 4.6	Mar-14	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
			C=	4.1	0 to 4.1	Mar-14	No	
			A=	0.041	0.041 to 0.041	Feb-14	No	
Barium [1010] (ppm)	2	2	B=	0.02	0.02 to 0.02	Mar-14	No	Drilling wastes; metal refineries; erosion of natural deposits
			C=	0.021	0.021 to 0.021	Mar-14	No	
			A=	2	2 to 2	Feb-14	No	
Chromium [1020] (ppb)	100	100	A=	2	2 to 2	Feb-14	No	Discharge from steel and pulp mills; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL= 1.3	1.3	A=	0.044 (90 th percentile)	0.001 to 0.161	Aug.-13	No	Corrosion of household plumbing systems
Cyanide [1024] (ppb)	200	200	A=	30	30 to 30	Feb-14	No	Discharge from steel/metal factories; plastic and fertilizer factories
Fluoride [1025] (ppm)	4	4	A=	1.1	1.1 to 1.1	Aug.-14	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL= 15	0	A=	3 (90 th percentile)	0 to 8	Aug-13	No	Corrosion of household plumbing systems
Mercury			A=	0.2	0.2 to 0.2	Feb-14	No	Erosion of natural deposits; refineries and
Nickel (ppm)			A=	2	2 to 2	Feb-14	No	N/A
Nitrate [1040] (ppm)	10	10	A=	1.1	1.1 to 1.1	Feb-14	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
			B=	2	0.1 to 2	Mar-14	No	
			C=	2.7	0.1 to 2.7	Mar-14	No	
Selenium [1045] (ppb)	50	50	B=	1.9	1.9 to 1.9	Mar-14	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
			C=	2.4	2.4 to 2.4	Mar-14	No	

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	A=	1.90	1 to 4.44	Year 2014	No	Naturally present in environment.
			B=	1.49	0.86 to 2.13	Year 2014	No	
			C=	2.27	1 to 2.73	Year 2014	No	

*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average of the monthly ratios must be 1.00 or greater for compliance.

Chlorine (ppm)	MRDL = 4	MRDLG = 4	A=	1.71	1.25 to 2.21	Year 2014	No	Water additive used to control microbes.
			B=	1.18	0.37 to 2.05	Year 2014	No	
						Year 2014		
HAA (ppb) (Stage 2) [Haloacetic acids] Individual Sites	60	N/A	A=	24	1 to 51	Year 2014	NO	Byproduct of drinking water disinfection
						Year 2014	NO	
						Year 2014	NO	
TTHM (ppb) (Stage 2) [total trihalomethanes] Individual Sites	80	N/A	A=	28	1 to 62	Year 2014	NO	Byproduct of drinking water disinfection
						Year 2014	NO	
						Year 2014	NO	

Unregulated Contaminants (UCMR 3)

	Average	range (ppb)	date
vanadium	0.33	0.27 to 0.4	Jul. 14
vanadium	0.282	0 to 0.49	Aug. 13
vanadium	0.534	0.201 to 0.769	Aug. 13
molybdenum	0.291	0 to 1.17	Nov. 13
molybdenum	0.291	0 to 1.17	Nov. 13
strontium	101.5	95.7 to 107	Apr-14
strontium	69.725	49.2 to 84.6	Nov.13
strontium	147.9	70.2 to 205	Aug.13
chromium-6	0.059	0 to 0.1	Feb.14
chromium-6	0.114	0.07 to 0.15	Feb.14
chlorate	12.68	0 to 25.5	Mar-14
chlorate	30.95	0 to 87.6	May-13
chlorate	9.925	0 to 41.2	May-13
total chromium	0.62	0.58 to 0.7	Apr-14
total chromium	0.424	0 to 3.39	Aug.13
total chromium	1.609	0 to 11.3	Aug.13

EPA has not established drinking water standards for unregulated contaminants. There are no MCL's and therefore no violations if found.

Public Notice of Availability of Data: In 2013, Green River Valley Water District completed unregulated contaminant monitoring as required by the Unregulated Contaminant Monitoring Rule 3 (UCMR3). In 2014, Green River Valley Water District completed two of four quarters of required monitoring. The last quarter of monitoring was completed in the first quarter of 2015 and those results will appear in the 2015 CCR. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of the unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. The detected contaminants from 2014 monitoring are listed above under the Unregulated Contaminants section of this Water Quality Table.

Our water system violated one or more drinking water standards over the past year. Even though these were not emergencies you, as our customer have the right to know what we did to correct these situations.

Notice of Violation: On 8/5/2014 the Division of Water performed an investigation in response to a complaint about customers being without water in the Three Springs/Hwy. 218 area. Upon the investigation it was found that a heavy equipment operator accidentally hit a 6" water line unknowingly to GRVWD. GRVWD valved off the water line and repaired it by placing a section of pipe and clamping each end. The line was flushed and put back into service without 1. Issuing a boil water advisory 2. Collecting bacteriological samples which is required of all line breaks 3. Notifying the DOW 4. Recording this break in a main break log. Three days after the break the DOW advised the system to collect bacteriological samples upstream and downstream of the break. All samples collected were negative for bacterial born pathogens.

Who is at risk? What is being done?

At this time there is nothing that you need to do, you do not need to use an alternative (e.g., bottled) water supply.

Within 30 days of the violation notice GRVWD submitted a written policy/procedure change on how the system handles line repairs due to breaks or ruptures. The system will also submit a copy of the system's log of all breaks or ruptures, which shall include the : a. Date and location of the break or rupture; b. Time it was discovered; c. Population affected; d. Length of time required to repair the break or rupture; e. Date and time disinfectant residuals are detected; and f. Date and time bacteriological samples are taken.