Benham Water System
2020 Water Quality Report

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Meetings:	Benham City Hall / 2nd Tuesday each month at 7PM				

Benham withdrawals surface water from the Old Looney Coal Mine where it is processed at our water treatment plant. During the treatment process particulate matter is settled and oxidation is used to remove contaminants after which the water is filtered and disinfected with chlorine to further protect public health. As part of a multi barrier approach to safeguard the public, land uses within the watershed have been assessed to better understand their potential impact to water quality and to assign a susceptibility rating. A susceptibility analysis uses a weighted rating system which evaluates the toxicity, distance, and likelihood of release of contaminants to adversely affect water quality. The rating for the city is moderate however, there are a few areas of concern. Chemical runoff form highways and mine sites, gas production, fuel storage and domestic wastewater. Activities and land use within the watershed can pose potential risks to your drinking water. Under certain circumstances, contaminants could be released that would pose challenges to water treatment or contaminate your drinking water. These activities, and how they are conducted, are of interest to the entire community because they potentially affect your health and the cost of treating your water. The complete source water protection plan is available for review at the Harlan County Public Library.

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).

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.

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, (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) - 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.

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 that a water system shall follow.

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

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

To understand the possible health effects described for many regulated contaminants, 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.

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. **Copies of this report are available upon request by contacting our office during business hours.**

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Radioactive Contaminants							
Uranium (µg/L)	30	0	0.272	0.272 to 0.272	May-20	No	Erosion of natural deposits
Inorganic Contaminants							
Barium [1010] (ppm)	2	2	0.033	0.033 to 0.033	Apr-20	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.28	0.28 to 0.28	Apr-20	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	1.41	1.41 to 1.41	Mar-20	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Selenium [1045] (ppb)	50	50	6	6 to 6	Apr-20	No	Discharge from petroleum and metal refineries or mines; erosion of natural deposits
Thallium [1085] (ppb)	2	0.5	0.55	0.55 to 0.55	Apr-20	No	Leaching from ore-processing sites; discharge from glass, electronics, and drug factories
Disinfectants/Disinfection Byproducts and Precursors							
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.00 (lowest average)	1 to 1 (monthly ratios)	2020	No	Naturally present in environment.
*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.							
Chlorine (ppm)	MRDL = 4	MRDLG = 4	0.81 (highest average)	0.63 to 0.95	2020	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	33 (high site average)	0 to 14 (range of individual sites)	2020	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	26 (high site average)	6 to 13.4 (range of individual sites)	2020	No	Byproduct of drinking water disinfection.
Household Plumbing Contaminants							
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.003 (90^{th} percentile)	0.003 to 0.004	Sep-20	No	Corrosion of household plumbing systems

Other Constituents

Turbidity (NTU) TT * Representative samples	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity is a measure of the clarity of the water and not a contaminant.	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.11	100	No	Soil runoff

Violations: Consumer Confidence Report (2021-9630363)

We received a violation for failing to certify the distribution of the 2019 Consumer Confidence Report (CCR) by July 1, 2020. Specifically, the documentation was submitted to the Division of Water (DOW) however the Certification and Good Faith pages were incomplete. The documents were corrected and submitted on June 4, 2021 following several attempts by DOW to reach the former operator. This violation does not affect public health. We have since been returned to compliance.

Notice by Benham Water Plant – System ID#: KY0480028

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did (are doing) to correct this situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During March 2020 – January 2021, we did not complete all monitoring by failing to report or correctly report testing for chlorine and turbidity. Therefore, we could not verify the quality of your drinking water to the primacy agency during that time.

Each month we are required to complete a Monthly Operation Report (MOR) and submit it to the Kentucky Division of Water by the tenth of the following month. This report includes daily chlorine residual and combined filter effluent turbidity monitoring results along with operational data needed to assess the performance and compliance of the treatment plant and distribution system. The individual violations are listed in the tables below.

Federal Safe Drinking Water Act Violations		
Plant Tap / Entry Point to Distribution Disinfectant Reporting		
Violation Number	**Compliance Period**	**Explanation**
2021-9630374	January 2021	Failed to report the daily chlorine residual to entry point to distribution
2021-9630371	December 2020	Failed to report the daily chlorine residual to entry point to distribution
2021-9630366	November 2020	Failed to report the daily chlorine residual to entry point to distribution
2021-9630362	October 2020	Failed to report the daily chlorine residual to entry point to distribution
2021-9630357	September 2020	Failed to report the daily chlorine residual to entry point to distribution
2020-9630352	March 2020	Failed to report the daily chlorine residual to entry point to distribution
Turbidity Reporting		
Violation Number	**Compliance Period**	**Explanation**
2021-9630375	January 2021	Failed to report the combined filter effluent turbidity samples
2021-9630370	December 2020	Failed to report the combined filter effluent turbidity samples
2021-9630367	November 2020	Failed to report the combined filter effluent turbidity samples
2021-9630361	October 2020	Failed to report the combined filter effluent turbidity samples
2021-9630358	September 2020	Failed to report the combined filter effluent turbidity samples
2020-9630351	March 2020	Failed to report the combined filter effluent turbidity samples

State Drinking Water Violations		
Monthly Operating Report		
Violation Number	**Compliance Period**	**Explanation**
2021-9630372	January 2021	Failed to report the Monthly Operating Report
2021-9630368	December 2020	Failed to report the Monthly Operating Report
2021-9630364	November 2020	Failed to report the Monthly Operating Report
2021-9630359	October 2020	Failed to report the Monthly Operating Report
2021-9630355	September 2020	Failed to report the Monthly Operating Report
2020-9630354	June 2020	Failed to report the Monthly Operating Report
2020-9630350	March 2020	Failed to report the Monthly Operating Report
Daily Distribution Disinfectant Residual Reporting		
Violation Number	**Compliance Period**	**Explanation**
2021-9630373	January 2021	Failed to report the daily distribution chlorine residual
2021-9630369	December 2020	Failed to report the daily distribution chlorine residual
2021-9630365	November 2020	Failed to report the daily distribution chlorine residual
2021-9630360	October 2020	Failed to report the daily distribution chlorine residual
2021-9630356	September 2020	Failed to report the daily distribution chlorine residual
2020-9630353	March 2020	Failed to report the daily distribution chlorine residual

There is nothing you need to do at this time. There are no potential adverse health effects related to the reporting violations, no population is at risk, and there is no need to use alternative water supplies.

These violations occurred because the former water system operator failed to perform their duties. We have since hired a competent licensed operator with 30+ years' experience to manage the system. All missing or overdue reports have been submitted where the information could be located. We have since been returned to compliance.

For more information, please contact Charles T. Allison at 606-848-2914 or PO Box E Benham, KY 40807.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.