



Water - Essential for Life

Village of Buckhorn Water Water Quality Report for year 2015

KY0971007

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Meeting Dates and Time: 3rd Monday each month 5:45 PM

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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 our customers with 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. Water is the most indispensable product in every home and we ask everyone to be conservative and help us in our efforts to protect the water source and the water system.

The Village of Buckhorn purchases water from the City of Hazard and also Breathitt County Water District on an as needed basis. Breathitt County purchases water from the City of Jackson. The water source for both Hazard and Jackson is surface water withdrawn from the North Fork of the Kentucky River. An analysis of the susceptibility of the water source to contamination indicates that susceptibility is generally moderate. However, there are a few areas of concern. Roads and bridges are within close proximity to the intake to pose an immediate threat in the event of a release of hazardous materials. Some logging has occurred and there is potential for more. There is limited mining activity near the intake and substantial mining throughout the watershed. Other areas of concern are close proximity of several underground storage tanks and business activities that have the potential for release of hazardous chemicals. There are a substantial number of oil and gas wells in the protection area but are generally some distance from the intake. The complete source water assessment is available in the Perry and Breathitt County Water Supply Plans. These plans are available for viewing at the Kentucky River Area Development District office in Hazard, Kentucky.

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:

Information About Lead:

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.

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.

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>.

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.

City of Hazard					
	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.28	100	No	Soil runoff

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Inorganic Contaminants							
Barium [1010] (ppm)	2	2	0.031	0.031 to 0.031	Feb-15	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.7	0.7 to 0.7	Feb-15	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.3	0.3 to 0.3	Aug-15	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

Disinfection Byproduct Precursor

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.18 (lowest average)	0.87 to 1.67 (monthly ratios)	2015	No	Naturally present in environment.
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*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.

Village of Buckhorn

Inorganic Contaminants							
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.118 (90th percentile)	0.0026 to 0.181	2013	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	0 (90th percentile)	0 to 2	2013	No	Corrosion of household plumbing systems

Disinfectants/Disinfection Byproducts and Precursors

Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.73 (highest average)	0.62 to 2.20	2015	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	81 (high site average)	54 to 116 (range of individual sites)	2015	Yes	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	71 (high site average)	31 to 104 (range of individual sites)	2015	No	Byproduct of drinking water disinfection.

Maximum Contaminant Levels (MCL's) are set at very stringent levels. 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.

PUBLIC NOTICE from CITY OF HAZARD

Our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. As our customers, you have a right to know that these data are available. If you are interested in examining the results, please contact our office during normal business hours.

Unregulated Contaminants (UCMR 3)	Average	Range (ppb)	Date	EPA has not established drinking water standards for unregulated contaminants. There are no MCL's and therefore no violations if found.
vanadium	0.036	BDL to 0.286	Aug-15	
strontium	30.588	10 to 78.2	Nov-14	
chromium-6	0.015	BDL to 0.06	Feb-15	
chlorate	3.075	BDL to 24.6	Aug-15	

Violation: Disinfection By-Products

We were issued a violation for exceeding the MCL for Haloacetic Acid (HAA) during the 10/1/2015 - 12/31/2015 compliance period. The MCL for HAA is 0.060 mg/L. Our running annual average during the fourth quarter for HAA was 0.081 mg/L. We are working with Hazard to resolve the problem. We expect to be back in compliance within 12 months.

Health Effects:
Haloacetic acids, or HAA. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

PUBLIC NOTIFICATION Village of Buckhorn

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

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 1/01/2015 - 12/31/2015 we did not monitor or test for Disinfection By-Products Operational Evaluation Level (OEL) report and therefore cannot be sure of the quality of your drinking water during that time.

There is nothing you need to do at this time. You do not need to use an alternative (e.g., bottled) water supply.

The table below lists report(s) we did not properly complete or submit during the last year, how often we are supposed to report, when the report was due, when report should have been submitted, and the date on which the report was (or will be) submitted.

Report	Report frequency	Report Due	When report should have been submitted	When report was submitted
OEL	Quarterly if non-compliance is predicted	90 days	by 12/31/16	June 2016

What happened? Who is at risk? What is being done?

We were unaware of this part of the Stage 2 Disinfection By-Product Rule. The OEL is a calculation that predicts potential non compliance with the Stage 2 Rule. When non-compliance is predicted the report must be completed and submitted to the KY Division of Water. We have since reviewed the Stage 2 regulation and made internal reporting changes to ensure that we are in compliance with the rule. There are no health effects associated with this violation.

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.