

Hazard Water Department Water Quality Report 2018

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Following is a summary of the Hazard water systems susceptibility to contamination. The Hazard Water Department treats surface water from the North Fork of the Kentucky River. An analysis of the susceptibility of the Hazard water supply to contamination indicates that susceptibility is generally moderate. However, there are a few areas of concern. A major road runs parallel to the river just upstream of the intake and six 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. 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 is limited mining activity near the intake and substantial mining throughout the watershed. There are substantial amounts 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 County Water Supply Plan. That plan is 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).

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>.

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.

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.

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 request a paper copy call 606-436-3171.)

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.

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.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.36	99	No	Soil runoff

Regulated Contaminant Test Results Hazard Water Department

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Barium [1010] (ppm)	2	2	0.029	0.029 to 0.029	Feb-18	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL= 1.3	1.3	0.027 (90 th percentile)	0.0027 to 0.0407	Jul-17	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.90	0.9 to 0.9	Feb-18	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL= 15	0	0 (90 th percentile)	0 to 2	Jul-17	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	0.38	0.38 to 0.38	Feb-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.45 (lowest average)	1.00 to 2.52 (monthly ratios)	2018	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	1.79 (highest average)	0.32 to 2.95	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	45 (high site average)	17 to 63 (range of individual sites)	2018	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	56 (high site average)	14 to 94 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

	Average	Range of Detection
Fluoride (added for dental health)	0.9	0.65 to 1.12
Sodium (EPA guidance level = 20 mg/L)	20.3	20.3 to 20.3

Secondary contaminants do not have a direct impact on the health of consumers. They are being included to provide additional information about the quality of the water.

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection	Date of Sample
Aluminum	0.05 to 0.2 mg/l	0.02	0.02 to 0.02	Feb-18
Chloride	250 mg/l	20.8	20.8 to 20.8	Feb-18
Corrosivity	Noncorrosive	-1.35	-1.35 to -1.35	Feb-18
Fluoride	2.0 mg/l	0.8	0.8 to 0.8	Feb-18
Odor	3 threshold odor number	2	2 to 2	Feb-18
pH	6.5 to 8.5	7.06	7.06 to 7.06	Feb-18
Sulfate	250 mg/l	96	96 to 96	Feb-18
Total Dissolved Solids	500 mg/l	182	182 to 182	Feb-18

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take one corrective action and we completed one action.

During the past year one Level 2 assessment was required to be completed for our water system. One Level 2 assessment was completed. In addition, we were required to take seven corrective actions and we completed seven of these actions.

Violation 2018-9953242

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 4/1/2018 – 4/30/2018, we did not complete all monitoring by failing to report or correctly report testing for turbidity and chlorine. 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 testing result.

Due to a missing summary sheet in our April 2018 MOR we failed to submit required data to the Division of Water. Our MOR did not contain the individual filter effluent turbidity readings or the combined filter effluent turbidity summary information.

We also failed to include the entry point residual disinfectant (chlorine) summary information in our MOR for April 2018.

We have submitted a corrected MOR for April 2018. There is nothing you need to do.

For more information, please contact Robert Davidson at 606-436-2033 or P.O. Box 420, Hazard, KY 41701.

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.