

# Hazard Water Department Water Quality Report 2015

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Meeting location and time:  
Hazard City Hall  
Third Monday monthly at 7:00 PM

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, ( $\mu\text{g/L}$ ). 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.

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.

	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
Barium [1010] (ppm)	2	2	0.031	0.031 to 0.031	Feb-15	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.0725 (90 <sup>th</sup> percentile)	0.0012 to 0.112	Aug-14	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.7	0.7 to 0.7	Feb-15	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	0 (90 <sup>th</sup> percentile)	0 to 3	Aug-14	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	0.3	0.3 to 0.3	Feb-15	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	1.18 (lowest average)	0.87 to 1.67 (monthly ratios)	2015	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	1.99 (highest average)	0.34 to 3.16	2015	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	66 (high site average)	19 to 120 (range of individual sites)	2015	Yes	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	76 (high site average)	13 to 121 (range of individual sites)	2015	No	Byproduct of drinking water disinfection.

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
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

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

Fluoride (added for dental health)	Average	Range of Detection
	1.0	0.76 to 2
Sodium (EPA guidance level = 20 mg/L)	33.1	33.1 to 33.1

Secondary contaminants do not have a direct impact on the health of consumers and are not required in the Consumer Confidence Report. 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	0.002	0.002 to 0.002	Feb-15
Chloride	250 mg/l	15.5	15.5 to 15.5	Feb-15
Corrosivity	Noncorrosive	-0.702	N/A	Feb-15
Fluoride	2.0 mg/l	0.8	0.8 to 0.8	Feb-15
Odor	3 threshold odor number	4	4 to 4	Feb-15
pH	6.5 to 8.5	7.31	7.31 to 7.31	Feb-15
Sulfate	250 mg/l	157	157 to 157	Feb-15
Total Dissolved Solids	500 mg/l	264	264 to 264	Feb-15

During the first, second, and fourth quarters of 2015 we exceeded the MCL for 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. We are exploring treatment options to reduce these disinfection by-products.

Our water system violated drinking water requirements over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we are doing (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 February 2015 we did not complete all monitoring or testing for bacteriological sampling or by failing to report or correctly report testing results for Haloacetic Acids (OEL). Therefore, we could not verify the quality of your drinking water during that time.

The table below lists the violations we received during 2015 and the actions taken to rectify the violations.

Violation	Required Sampling Frequency	Number of samples taken	Begin Date	End Date	Explanation/Remedial Measure
2015-9953226 – Bacteriological Sampling	Monthly	15	2/1/2015	2/28/2015	Submitted 15 of 30 required sampling results.
2015-9953227 – Haloacetic Acids MCL exceeded	Quarterly	4	1/1/2015	3/31/2015	Disinfection by-product MCL exceeded. Public notification provided.
2015-9953228 – OEL Report for Haloacetic Acids	Quarterly	N/A	1/1/2015	3/31/2015	Failed to submit OEL for first quarter. Report has been submitted.
2015-9953229 – Haloacetic Acids MCL exceeded	Quarterly	4	4/1/2015	6/30/2015	Disinfection by-product MCL exceeded. Public notification provided.
2016-9953230 – Violation linked to previous violation.	N/A	N/A	12/10/2015	N/A	Failed to perform public notice within 30 days after disinfection by-product violation. Notice distributed and submitted.
2016-9953231 – Violation linked to previous violation.	N/A	N/A	12/10/2015	N/A	Failed to perform public notice within 30 days after disinfection by-product violation. Notice distributed and submitted.
2016-9953232 – Haloacetic Acids MCL exceeded	Quarterly	4	10/1/2015	12/31/2015	Disinfection by-product MCL exceeded. Public notification provided.
2016-9953233 – OEL Report for Haloacetic Acids	Quarterly	N/A	10/1/2015	12/31/2015	Failed to submit OEL for fourth quarter. Report has been submitted.

*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.*

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

This report will not be mailed unless requested. Copies are available at our office. If you desire a copy to be mailed to you please contact our office.