



Water - Essential for Life

# Hazard Water Plant Water Quality Report for year 2013

KY0970184

P.O. Box-420  
Hazard, KY, 41701  
Meetings: Hazard City Hall  
Meeting Dates and Time: First Monday of the month 4:00 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.

Our raw water source is 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).*

**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, (ug/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.

**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>.

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.

	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	0.21	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
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**Microbiological Contaminants**

Total Coliform Bacteria # or % positive samples	1	0	1	N/A	Jan-13	No	Naturally present in the environment
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**Inorganic Contaminants**

Barium [1010] (ppm)	2	2	0.033	0.033 to 0.033	Feb-13	No	Drilling wastes, metal refineries, erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.054 (90 <sup>th</sup> percentile)	0.004 to 0.093	Sep-11	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.80	0.8 to 0.8	Feb-13	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	3 (90 <sup>th</sup> percentile)	0 to 9	Sep-11	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	0.500	0.5 to 0.5	Feb-13	No	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
Selenium [1045] (ppb)	50	50	2.000	2 to 2	Feb-13	No	Discharge from petroleum and metal refineries, erosion of natural deposits, discharge from mines

**Disinfectants/Disinfection Byproducts and Precursors**

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.38 (lowest average)	1.00 to 1.88 (monthly ratios)	N/A	No	Naturally present in environment
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\*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	2.02 (highest average)	0.88 to 2.75	N/A	No	Water additive used to control microbes
HAA (ppb) (all sites) [Haloacetic acids]	60	N/A	69 (system average)	20 to 196 (range of system sites)	N/A	Yes	Byproduct of drinking water disinfection
HAA (ppb) [Haloacetic acids] (Individual Sites)	60	N/A	N/A (high site average)	29 to 43 (range of individual sites)	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) (all sites) [total trihalomethanes]	80	N/A	79 (system average)	29 to 128 (range of system sites)	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) [total trihalomethanes] (Individual Sites)	80	N/A	N/A (high site average)	43 to 68 (range of individual sites)	N/A	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.

**Violation: Consumer Confidence Report (CCR)**

We were issued a violation on 11/6/2013 for failing to submit the 2012 CCR and certification to the Division of Water by July 1, 2013. We have since submitted the certification and made provisions to comply with the CCR rule in the future.

**Health Effects:** There are no effects associated with this violation.

**Violation: Total Haloacetic Acids MCL**

We were issued a violation on 11/6/2013 for exceeding the MCL for Haloacetic Acids (HAA) during the 7/1/2013 - 9/30/2013 compliance period. Compliance for HAA is based on an annual running average that is calculated quarterly. The MCL for HAA is 0.060 mg/l, our result was 0.069 mg/l. We will not be in violation of this drinking water rule again since it has been replaced with the Stage II disinfection By-products Rule beginning 10/10/2013.

**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.