

Clay Water Works 2018 Water Quality Report

Manager: Franklin A Reinhard

CCR Contact: Franklin A Reinhard

PWSID: KY1170073

Address: P.O. 425 Clay, KY 42404

Phone: (270) 664-2444

Meetings: City Hall ,9100 Hwy. 132 W. / 2nd Tuesday of each month at 6:00 pm

Clay Water Works purchases water exclusively from Webster County Water District. Surface water is withdrawn from the Green River near the water treatment plant at Onton. A susceptibility analysis of the water supply at the intake indicates a moderate risk of contamination. There are some higher risk land use activities of concern which stem from the contaminant type, proximity to the intake and likelihood of release. These activities include oil production, pesticide & fertilizer application, wastewater discharges, landfills and fuel & chemical transportation by river and along roadways / rail that transect the watershed. 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 even get into your drinking water. These activities and how they are conducted, are of interest to our customers because they potentially affect your health and the cost of treating your water. The complete source water assessment can be reviewed at Wester County Water District Office (270) 639-9010.

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

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.

WEBSTER COUNTY WATER DISTRICT

	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	0.11	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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Inorganic Contaminants

Barium [1010] (ppm)	2	2	0.026	0.026 to 0.026	May-18	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.9	0.9 to 0.9	May-18	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.99	0.99 to 0.99	May-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

Disinfection Byproducts Precursor

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.54 (lowest average)	1.12 to 2.93 (monthly ratios)	2018	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.

Other Contaminants

Cryptosporidium [oocysts/L]	0	TT (99% removal)	2 (positive samples)	12 (no. of samples)	2018	See note below	Human and animal fecal waste
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Cryptosporidium. We are required to monitor the source of your drinking water for Cryptosporidium in order to determine whether treatment at the water treatment plant is sufficient to adequately remove Cryptosporidium from your drinking water.

Cryptosporidium is a microbial pathogen found in surface water. Cryptosporidium was detected in 2 sample of 12 collected from the raw water source for our water system. It was not detected in the finished water. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

CLAY WATER WORKS

Inorganic Contaminants

Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.024 (90 th percentile)	0.0015 to 0.0252	Jul-17	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	2 (90 th percentile)	0 to 7	Jul-17	No	Corrosion of household plumbing systems

Disinfectant(s) & Disinfection Byproducts

Chlorine (ppm)	MRDL = 4	MRDLG = 4	0.84 (highest average)	0.25 to 1.7	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	61 (high site average)	36 to 86.5 (range of individual sites)	2018	YES	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	73 (high site average)	23 to 110 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

Clay Water Works Violation: Disinfection By-Product Rule (2018-9621936 & 2019-9621939)

We received two violations for exceeding the MCL for Haloacetic Acid. We routinely monitor for the presence of drinking water contaminants. Testing results from 1/1/2018 – 3/30/2018 and 10/1/2018 through 12/31/2018 show that our system exceeded the standard or maximum contaminant level (MCL), for haloacetic acids (HAA). The standard for HAA is 0.060 mg/L. Compliance is determined on a quarterly basis and is calculated on a 12 month running annual average. The level of HAA averaged 0.061 mg/L for each compliance period. Our system has adopted a flushing program and we are working with our water provider, Webster County Water District minimize the formation of HAA5 while ensuring adequate disinfection residual. We anticipate resolving the problem within six months.

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

Clay Water Works Violation: Disinfection By-Product Rule (2018-9621937 & 2019-9621938)

We received two violations for failing to submit an Operational Evaluation Level (OEL) report for the 1/1/2018 - 3/30/2018 and 7/1/2018 - 9/30/2018 compliance periods as required by the Disinfection By-product Rule. A calculation of analytical results is part of an OEL report to determine the potential of exceeding these standards. The operational evaluation requirements are intended as an indicator of operational performance and to allow systems to identify proactive steps to remain in compliance. Failing to submit the OEL reports was due to an administrative oversight. We have taken compliance assessment measures to prevent this from occurring in the future. We have submitted the OEL reports to the Division of Water.

Health Effects: There are no health effects associated with this violation

This report will not be mailed unless requested. Please contact our office if you would like to receive a copy.