

Paintsville Municipal Water Works Water Quality Report 2019



Water System ID: KY0580340
General Manager: Bob Pack
606-789-2630
CCR Contact: Bob Pack
606-789-2630

Mailing address:
137 Main Street
Paintsville, KY 41240

Meeting location and time:
Utilities Building, 137 Main Street
First Monday each month at 5:00 PM

This report is designed to inform the public about the quality of water and services provided on a daily basis, specifically our testing results and violations between January 1-December 31, 2019. Our commitment is to

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.

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.

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.

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

provide 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.

Our water is drawn from Paintsville Lake and it is a surface water source. The treatment plant is located at 304 Lake View Road and has the capacity to treat four million gallons in 16 hours of operation.

A Source Water Assessment Plan is available at the Paintsville Utilities office during business hours. The plan is an assessment of the delineated area around our source through which contaminants, if present, could migrate and reach our source water. It includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by that inventory. A total of five potential sources of contamination are located within the protection area, including abandoned oil and gas wells and gasoline storage tanks. The overall risk to contamination is considered medium. At the present time, the water supply is not impacted by point sources. The greatest impact, although very slight, occurs from non-point source sedimentation.

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>.



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.

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.**

Regulated Contaminant Test Results Paintsville Municipal Water Works

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	0.017	0.017 to 0.017	Aug-19	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.60	0.6 to 0.6	Aug-19	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.176	0.176 to 0.176	Feb-19	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	1.05 (lowest average)	1.00 to 1.27 (monthly ratios)	2019	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	1.71 (highest average)	1.07 to 2.19	2019	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	25 (high site average)	13 to 33 (range of individual sites)	2019	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	33 (high site average)	14 to 48 (range of individual sites)	2019	No	Byproduct of drinking water disinfection.

Household Plumbing Contaminants

Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.303 (90 th percentile)	0 to 0.503	Aug-18	No	Corrosion of household plumbing systems
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	0 (90 th percentile)	0 to 12	Aug-18	No	Corrosion of household plumbing systems

Other Contaminants

Source Water Contaminants (untreated water)

Cryptosporidium [oocysts/L]	0	TT (99% removal)	3 (positive samples)	9 (no. of samples)	2019	See note below	Human and animal fecal waste
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Other Constituents

Turbidity (NTU) TT * Representative samples	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Turbidity
Turbidity is a measure of the clarity of the water and not a contaminant.	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.1	100	No	Soil runoff

This report will not be mailed. If you would like a copy of this report mailed to you, please contact our office.

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

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection	Date of Sample
Chloride	250 mg/l	8.5	8.5 to 8.5	Aug-19
Copper	1.0 mg/l	0.0254	0.0254 to 0.0254	Aug-19
Corrosivity	Noncorrosive	-2.4	-2.4 to -2.4	Aug-19
Fluoride	2.0 mg/l	0.5	0.5 to 0.5	Aug-19
Foaming Agents	0.5 mg/l	0.3	0.3 to 0.3	Aug-19
Manganese	0.05 mg/l	0.016	0.016 to 0.016	Aug-19
Odor	3 threshold odor number	3	3 to 3	Aug-19
pH	6.5 to 8.5	6.8	6.8 to 6.8	Aug-19
Sulfate	250 mg/l	14.9	14.9 to 14.9	Aug-19
Total Dissolved Solids	500 mg/l	88	88 to 88	Aug-19

	Average	Range of Detection
Fluoride (added for dental health)	0.6	0.47 to 0.79
Sodium (EPA guidance level = 20 mg/L)	8.9	8.92 to 8.92

Unregulated Contaminants (UCMR 4)	average	range (ppb)	date
Manganese	1.829	0.668 to 3.5	Aug-19
HAA5	27.533	0.54 to 61.3	Nov-19
HAA6Br	3.830	0 to 8.92	Nov-19
HAA9	31.363	0.6 to 70.2	Nov-19

Your drinking water has been sampled for a series of unregulated contaminants. Unregulated contaminants are those for which EPA has not established drinking water standards. There are no MCLs and therefore no violations if found. The purpose of monitoring for these contaminants is to help EPA determine where the contaminants occur and whether they 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.



Violations 2020-9950501 and 2020-9950502

We received two violations for a failure to submit proof of delivery certification to Division of Water, showing we delivered homeowner testing results for Lead and Copper during compliance periods 2010-2012 and 2013-2015. All testing result certifications have been delivered since that time and records of those sampling events are on file in our office. Please contact the main office if you have any questions regarding any Lead and Copper sampling that was performed in your home during that time period.

Cryptosporidium is a microbial pathogen found in surface water. Cryptosporidium was detected in 3 samples of 9 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.