

The Western Fleming Water District *Water Quality Report 2018*

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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 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.

Western Fleming Water District treats surface water from the Licking River. An analysis of the susceptibility of the Western Fleming Water District's raw water supply to contamination indicates that the susceptibility potential is generally high. There are several areas of high concern near the raw water withdrawal site. These sites of high concern include: bridges and culverts where accidental spills of chemicals and petroleum products can occur and be washed into the source water, row crops (land cover) where, a railroad, segments of Stony Creek (mile points 0.0 – 3.0) and major roads where accidents can occur that result in toxic materials running off into the source water. Other sites of potential concern outside of the critical area include: bridges and culverts, one site where hazardous chemicals are used and sites where waste is generated or transported. The complete Source Water Assessment Plan is available for review during normal business hours at Western Fleming Water District.

Water Purchased from Greater Fleming serves Energy Rd, Craitown Rd, and Martha's Mill Rd area. The Greater Fleming County Regional Water Commission uses groundwater supplied by three wells located in northwestern Lewis County. These wells are constructed in the Ohio River Alluvium. The aquifer has an overall susceptibility ranking of medium. A contaminant source inventory of the area was completed and turned up eleven potential sources of contamination. Of these, five were unused wells formerly used as home water sources or for watering livestock. Two potential sources of great concern are a railroad which runs through the WHPA and a nitrate source which has been attributed to what was once a fertilizer storage area. Land use also plays a role in susceptibility. Within the WHPA there are approximately 224 acres of agricultural land and 580 acres of unmanaged woodland. The complete source water assessment is available at the GFCRWC Office.

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>.

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 reported will not be mailed. If you would like a copy mailed to you please contact our office.

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.

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.

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.

Regulated Contaminant Testing Results from Greater Fleming County Water Commission:

Regulated Contaminant Test Results								Greater Fleming County Regional Water Commission							
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	0.037	0.037	to 0.037	Apr-17	No	Drilling wastes; metal refineries; erosion of natural deposits							
Fluoride [1025] (ppm)	4	4	0.63	0.63	to 0.63	Apr-17	No	Water additive which promotes strong teeth							
Nitrate [1040] (ppm)	10	10	2.07	1.68	to 2.07	Jul-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits							

Secondary Contaminant Testing Results for Western Fleming Water District:

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection		Date of Sample
Chloride	250 mg/l	23	23	to 23	Feb-18
Copper	1.0 mg/l	0.011	0.011	to 0.011	Feb-18
Corrosivity	Noncorrosive	-1.53	-1.53	to -1.53	Feb-18
Fluoride	2.0 mg/l	0.8	0.8	to 0.8	Feb-18
pH	6.5 to 8.5	6.99	6.99	to 6.99	Feb-18
Sulfate	250 mg/l	17.4	17.4	to 17.4	Feb-18
Total Dissolved Solids	500 mg/l	149	149	to 149	Feb-18
Zinc	5 mg/l	0.01	0.01	to 0.01	Feb-18

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.

Regulated Contaminant Testing Results for Western Fleming 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	0.09	100	No	Soil runoff

Regulated Contaminant Test Results Western Fleming Water District

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	0.018	0.018 to 0.018	May-18	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.0941 (90 th percentile)	0.0068 to 0.325	Jul-17	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	0.60	0.6 to 0.6	May-18	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	0.5	0.5 to 0.5	Mar-18	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	1.49 (lowest average)	1.00 to 3.33 (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.

Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.37 (highest average)	0.73 to 1.73	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	44 (high site average)	22 to 54 (range of individual sites)	2018	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	53 (high site average)	21 to 68 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

Other Contaminants

Source Water Contaminants (untreated water)

Cryptosporidium [oocysts/L]	0	TT (99% removal)	3 (positive samples)	9 (no. of samples)	2018	See note below	Human and animal fecal waste
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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.

	Average	Range of Detection
Fluoride (added for dental health)	0.8	0.45 to 1.08
Sodium (EPA guidance level = 20 mg/L)	6.0	5.99 to 5.99

Violation 2018-9951561

We received a violation for failing to submit our certification package for the 2015 Consumer Confidence Report to the Division of Water by July 1, 2016. We distributed the report on time, but the package was not received at Division of Water. Since then, we have been mailing all regulatory documents via certified mail so that we can ensure timely delivery to Division of Water. There is nothing you need to do. As soon as we were made aware of the violation we sent a copy of the package to Division of Water. We detailed this violation in our 2017 Consumer Confidence Report but we are including it again in this report because the violation was issued in the year 2018. By regulation we must include a list and explanation of all violations received in the year for which we are reporting.