

Western Lewis-Rectorville Water and Gas District

Water Quality Report 2018

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Meeting location and time:
Water Office - 8044 KY 3161
2nd Tuesday monthly at 6 PM

Western Lewis-Rectorville Water District treats groundwater from the Ohio River Alluvial Aquifer. An analysis of this source indicated the susceptibility to contamination, to be moderate. Potential sources of contamination include: a fertilizer waste site, a salvage yard, railroads, highways, storage tanks, a conveyor belt line, and septic systems. The complete Susceptibility Analysis Report is available at our office.

Approximately 10% of our water is purchased from Maysville which treats surface water from the Ohio River. An analysis of the susceptibility of the Maysville Utility Commission's raw water supply to contamination indicates that the susceptibility potential is generally high. Areas of high concern include: ports along the Ohio River, bridges, railroads, row crops, abandoned oil or gas wells, active superfund sites, underground storage tanks, KPDES permitted discharges, areas with hazardous chemical usage and waste generators or transporters. The Source Water Assessment Plan for Maysville can be reviewed in their office or at the Buffalo Trace Area Development District.

Approximately 10% of our water is purchased from the Greater Fleming County Regional Water Commission which uses groundwater supplied by three wells, in the Ohio River Alluvium, located in northwestern Lewis County. The aquifer has an overall susceptibility ranking of medium. An assessment indicates 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 and a nitrate source which has been attributed to a former fertilizer storage area. Within the wellhead protection area 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).

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.

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.

Picocuries per liter (pCi/L) - a measure of the radioactivity in water.

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.

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. 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.

M=Maysville G=Greater Fleming W=Western Fleming	Allowable Levels	Source	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% monthly samples	M=	0.2	100	No	Soil runoff

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
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Inorganic Contaminants

Arsenic [1005] (ppb)	10	N/A	W=	1	1 to 1	Apr-17	No	Natural erosion; runoff from orchards or glass and electronics production wastes
Barium [1010] (ppm)	2	2	M= G= W=	0.033 0.037 0.075	0.033 to 0.033 0.037 to 0.037 0.075 to 0.075	Feb-18 Apr-17 Apr-17	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 7	AL = 1.3	1.3	W=	1.110 (90 th percentile)	0.002 to 6.25	2018	No*	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	M= G=	0.5 0.63	0.5 to 0.5 0.63 to 0.63	Feb-18 Apr-17	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 5	AL = 15	0	W=	5 (90 th percentile)	0 to 1288	2018	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	M= G= W=	0.36 2.07 6.64	0.36 to 0.36 1.68 to 2.07 0.04 to 6.64	Feb-18 Jul-18 Apr-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Selenium [1045] (ppb)	50	50	W=	1	1 to 1	Apr-17	No	Discharge from petroleum and metal refineries or mines; erosion of natural deposits

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	M=	1.5	1.31 to 2.6	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	W=	1.14 (highest average)	0.40 to 1.67	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	W=	5 (average)	3 to 5 (range of individual sites)	2018	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	W=	32 (average)	19 to 32 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

* Copper was sampled in our distribution system during two separate 6-month compliance periods. The data in this main table above represents the data range for the entire year of 2018. The table below represents copper monitoring data for the first six months of 2018. During this time, our system was out of compliance with copper regulations. We made changes at the water treatment plant in order to stabilize our finished water so that it would not have corrosive properties when traveling through our distribution system and into your household plumbing.

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Copper [1022] (ppm) sites exceeding action level 7	AL = 1.3	1.3	W=	1.466 (90 th percentile)	0.004 to 6.25	2018	YES	Corrosion of household plumbing systems

	Average	Range of Detection
Fluoride (added for dental health)	0.7	0.32 to 1.01
Sodium (EPA guidance level = 20 mg/L)	0.9	0.9 to 0.9

Secondary Contaminant	Maximum Allowable Level	Report Level	Range of Detection	Date of Sample
Chloride	250 mg/l	27.62	27.62 to 27.62	Mar-18
Copper	1.0 mg/l	0.01	0.01 to 0.01	Mar-18
Corrosivity	Noncorrosive	-0.3	-0.3 to -0.3	Mar-18
Fluoride	2.0 mg/l	0.78	0.78 to 0.78	Mar-18
Manganese	0.05 mg/l	0.01	0.01 to 0.01	Mar-18
Odor	3 threshold odor number	1	1 to 1	Mar-18
pH	6.5 to 8.5	7.44	7.44 to 7.44	Mar-18
Sulfate	250 mg/l	60.9	60.9 to 60.9	Mar-18
Total Dissolved Solids	500 mg/l	202	202 to 202	Mar-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.

Violations/Contaminant Concerns

We exceeded the Action Level for Copper during the first six months of 2018. More than 10% of the samples we collected in our distribution system during that time frame exceeded 1.3mg/L. We made changes in our treatment process in order to mitigate the copper corrosivity issue in the distribution system and in your household plumbing. After making those changes, we took additional samples in the last six months of 2018 and came back into compliance with the Copper Action Level.

Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

A Notice from Maysville Utilities Regarding Unregulated Contaminant Monitoring:

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.

Unregulated Contaminants (UCMR 4)		average	range (ppb)	date
Manganese	M=	8.52	8.52 to 8.52	Nov-18
Oxyfluorfen	M=	0.083	0.0828 to 0.0828	Nov-18
HAA5	M=	38.7	31 to 44.8	Nov-18
HAA6Br	M=	11.405	9.62 to 13.4	Nov-18
HAA9	M=	49.375	40 to 57.4	Nov-18

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 would like a copy mailed to you please contact our office.