

Union County Water District Water Quality Report 2014

Water System ID: KY1130433
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Meeting location and time:
409 N. Court St, Morganfield
2nd Tuesday at 3:00 PM

Union County Water District purchases water from Morganfield. The City of Morganfield treats surface water from the Ohio River. Activities and land uses upstream of Morganfield's source of water can pose potential risks to your drinking water. These activities, and how they are conducted, are of interest to the entire community because they potentially affect your health and the cost of treating your water. Activities immediately upstream of your water supply intake are of special concern because they provide little response time to the water system operators. An analysis of the susceptibility of Morganfield's water supply to contamination indicates that this susceptibility is generally moderate. However, there are a few areas of high concern. Potential contaminant sources of concern include statewide coverage of row crops, underground injection sites, ten oil and gas wells, and a major road. Each of these are rated as high in the susceptibility analysis table because of the contaminant type, their proximity, and the high chance of release. This is a partial listing of potential contaminant sources. The complete Source Water Assessment Plan is available for review at the Morganfield Water Treatment Plant.

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>.

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 \$10,000,000,000,000.

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.

	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		0.89	98	No	Soil runoff	
Regulated Contaminant Test Results - Chlorine, HAA, & THM by Union County. Others by Morganfield.							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Alpha emitters [4000] (pCi/L)	15	0	0.41	0.41 to 0.41	2010	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	0.93	0.93 to 0.93	2010	No	Erosion of natural deposits
Uranium (µg/L)	30	0	0.56	0.56 to 0.56	2010	No	Erosion of natural deposits
Barium [1010] (ppm)	2	2	0.037	0.037 to 0.037	2014	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.8	0.8 to 0.8	2014	No	Water additive which promotes strong teeth
Nitrate [1040] (ppm)	10	10	1.1	1.1 to 1.1	2014	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
Atrazine [2050] (ppb)	3	3	0.075	BDL to 0.3	2014	No	Runoff from herbicide used on row crops
Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	0.94 (lowest average)	0.65 to 1.37 (monthly ratios)	2014	YES	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	0.74 (highest average)	0.22 to 1.59	2014	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	46 (high site average)	27 to 56.6 (range of individual sites)	2014	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	96 (high site average)	35 to 139 (range of individual sites)	2014	YES	Byproduct of drinking water disinfection.
Fluoride (added for dental health)			Average	Range of Detection			
			1.00	0.78 to 1.18			

Morganfield Violation 2015-9950617 - Morganfield's TOC removal ratios for the 4th quarter of 2014 were calculated to be 0.94. A member of Division of Water is investigating alternative compliance methods for Morganfield. Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Union County Violations 2015-9950613 & 2015-9950615. The level of trihalomethanes averaged at one of the Union County locations for 7/1/2014 through 9/30/2014 was 0.094 mg/L and 10/1/2014 through 12/31/2014 was 0.096 mg/L. We have taken additional steps to increase flushing of water lines and we are also monitoring water storage tank levels and water flow patterns within the distribution system. We have installed mixing systems in our tanks in an effort to improve water quality. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

Union County Water District Violation 2015-9950614

Union County Water District recently failed to comply with required testing procedures. Even though this was not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 10/1/2014 – 10/31/2014, we did not complete all monitoring or testing for chlorine, and therefore cannot be sure of the quality of your drinking water during that time.

There is nothing you need to do at this time. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

We are required to test for chlorine in the water distribution system at least once every day and report the results in our Monthly Operating Report (MOR). We test for chlorine every day including weekends and holidays. When we submitted our MOR for October 2014 we inadvertently failed to include the chlorine readings. This resulted in a monitoring violation that requires us to perform a public notification to our customers. There were no potential health effects as a result of submitting the MOR with a missing page. In the future, we will make every effort to submit reports with complete and correct information.

For more information, please contact Gary Sheffer at 270-389-3868 or P.O. Box 146 Morganfield, KY 42437.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.