



Owensboro Municipal Utilities

Public Water System ID# KY0300336

2021 Water Quality Report

January 1 – December 31, 2021

Kevin Frizzell, General Manager

Owensboro Municipal Utilities provides water to over 60,000 residents in the city of Owensboro. We also distribute water to the districts that serve the remainder of Daviess County and customers in some surrounding counties. Owensboro Municipal Utilities' mission is to serve our community by providing reliable and quality utility services at the most economical cost, and we never forget that commitment.

At OMU, we take water seriously. Just how seriously do we take it? We maintain our own water quality testing laboratories. Our experienced and certified water quality personnel analyze chemical and bacteriological tests on water samples throughout the year. These samples are taken from each section of the treatment process as well as from various sites around Owensboro and analyzed 365 days a year to assure water safety and quality.

What is the source of my water?

Many may think Owensboro gets its water from the Ohio River. However, you might be surprised to learn that Owensboro actually gets its water from a large, deep underground aquifer on the northeast side of Owensboro along State Route 144. This aquifer contains water that has been naturally filtered as it works its way through layers of the earth. Water is pumped from wells that tap into this water supply. The groundwater is transported through a central gathering line and piped to the William R. Cavin Water Treatment Plant. Prior to September 2021 OMU operated two water treatment facilities that this water was piped to, the Plant A and Cavin (Plant B) water treatment facilities. Plant A was deactivated on September 10, 2021.

When the water reaches the treatment plant it is aerated to remove any odors that have been picked up by the extraction process and to begin oxidizing minerals extracted from the ground. The water is then softened with lime. Groundwater tends to have a relatively high amount of hardness (250-350 ppm). OMU reduces this by almost half (150-200 ppm) before the water is further processed. Water is then chlorinated to kill any microorganisms that may have survived the previous processes. Next, the water is filtered through anthracite, sand, and gravel to remove any turbidity (cloudiness). Lastly, fluoride, as required for dental health by the state of Kentucky, and a polyphosphate, for corrosion control in the piping system, are added to the water.

OMU takes its responsibility to protect our source of water seriously. A wellhead protection plan is in place to ensure that this vital resource is protected from contamination. A copy of the wellhead protection plan and the source water assessment for Daviess County can be obtained from the Green River Area Development office at 3860 US Highway 60 West or by calling (270) 926-4433.

Source Water Assessment Information

The source of raw water for Owensboro Municipal Utilities is the Ohio River Alluvium, a groundwater source, in Daviess County. An analysis of the overall susceptibility to contamination of the Owensboro Municipal Utilities' water supply indicated that this susceptibility is moderate. There are a total of 505 potential sources of contamination within the wellhead protection area with the following susceptibility rankings: 392 high, 113 medium, and 0 low. Residential properties were surveyed but not included in this analysis unless a definitive contaminant source was identified. Sources of high potential impact include: above ground storage tanks, underground storage tanks, automotive related facilities, laundry facilities, petroleum suppliers and industrial land use. Sources of moderate potential impact include: professional offices, food service facilities, hair care facilities, medical or veterinary facilities, a printer, and a cemetery. This is a summary of the susceptibility analysis. The complete Susceptibility Analysis Report is available at Owensboro Municipal Utilities, 4067 State Route 144, Owensboro, Kentucky 42303 and at the Kentucky Division of Water.

Why are there contaminants in my water?

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water (both tap 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 can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in source water used for public supplies or bottled water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as, salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Do I need to take special precautions?

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 the 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 (1-800-426-4791).

Water Quality Table

OMU has its own laboratories located at the Cavin Water Treatment Plant, prior to September 2021, there was also a laboratory located at Plant A. Water is tested daily for basic parameters such as fluoride and total hardness. These tests are conducted by trained operators and water quality personnel. The Cavin Plant, (Plant B), also has a certified laboratory for total coliform and *E. coli*. Additional testing is sent to certified laboratories that have experience and expertise in analyzing for other water contaminants. OMU conducts a vast amount of testing each year. Contaminants such as lead and copper are required less frequently than once a year. Data for lead and copper represent the latest round of sampling. Lead was tested in July of 2020 and there were no detects found. The following represents the detected contaminants.

2021 Water Quality Information

This report is to inform you of the water quality for the calendar year 2021.

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 a 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. Unless otherwise noted, the report level is the highest level detected.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
Turbidity (NTU) TT *Representative samples of filtered water at Plant A	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.078	100	No	Soil runoff; lime addition in water treatment process
Turbidity (NTU) TT *Representative samples of filtered water at Plant B	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.07	100	No	Soil runoff; lime addition in water treatment process

Regulated Contaminate Test Results							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample (month/year)	Violation	Likely Source of Contamination
Radioactive Contaminants							
Beta photon emitters (pCi/L) Plant A	50	0	2.25	2.25 to 2.25	Jun-20	No	Decay of natural and man-made deposits
Alpha emitters [4000] (pCi/L) Plant A	15	0	1.96	1.96 to 1.96	Jun-20	No	Erosion of natural deposits
Combined radium (pCi/L) Plant A	5	0	1.26	1.26 to 1.26	Jun-20	No	Erosion of natural deposits
Beta photon emitters (pCi/L) Plant B	50	0	4.82	4.82 to 4.82	May-21	No	Decay of natural and man-made deposits

Regulated Contaminant Test Results Continued							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample (month/year)	Violation	Likely Source of Contamination
Inorganic Contaminants							
Barium [1010] (ppm) Plant A	2	2	0.0199	0.0199 to 0.0199	Jun-20	No	Drilling wastes; metal refineries; erosion of natural deposits
Barium [1010] (ppm) Plant B	2	2	0.0093	0.0093 to 0.0093	Jun-20	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm) Plant A	4	4	0.72	0.722 to 0.722	Jun-20	No	Water additive which promotes strong teeth; erosion of natural deposits
Fluoride [1025] (ppm) Plant B	4	4	0.76	0.758 to 0.758	Jun-20	No	Water additive which promotes strong teeth; erosion of natural deposits
Disinfectants/Disinfection Byproducts and Precursors							
Chlorine (ppm)	MRDL=4	MRDL=4	1.35 (highest average)	0.88 to 1.86	2021	No	Water additive used to control microbes
HAA5 (ppb) Stage 2 [Haloacetic acids]	60	N/A	10 (Highest LRAA*)	8.07 to 11.9 (range of system sites)	2021	No	Byproduct of drinking water disinfection
TTHM (ppb) Stage 2 [total trihalomethanes]	80	N/A	51 (Highest LRAA*)	38.7 to 55.6 (range of system sites)	2021	No	Byproduct of drinking water disinfection
Household Plumbing Contaminants							
Copper [1022] (ppm) Sites exceeding action level – 0	AL=1.3	1.3	0.0249 (90th percentile)	0.00163 to 0.0347	July-20	No	Corrosion of household plumbing systems; erosion of natural deposits

Definitions & Abbreviations

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.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Locational Running Annual Average (LRAA): The annual average of one monitoring location.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

Not Applicable (N/A): Does not apply.

Parts per billion (ppb): Micrograms per liter.

Parts per million (ppm): Milligrams per liter.

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

> Greater than < Less than

Maximum Contaminant Levels (MCL's)

Maximum contaminant levels are set at very stringent levels. To understand the possibility of health effects 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 any health effects.

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 EPA's Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

How can I get involved?

Questions about Owensboro Municipal Utilities water quality may be asked at the regular monthly public meeting of the City Utility Commission. These meetings are normally held on the third Thursday of each month at 11:30 a.m. in the third floor boardroom at the OMU Customer Service Center, 2070 Tamarack Road. Other sources of information on water quality include OMU's website (www.omu.org), the American Water Works Association website (www.awwa.org), and the Kentucky Division of Water's website (www.water.ky.gov).

Other Information

Copies of this Water Quality Report are available upon request. Please contact Heather King, Water Quality Analyst, at (270) 926-3200 ext. 4406; via email at kinghr@omu.org or at P.O. Box 806, Owensboro, KY, 42302. 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.

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

For more information about Owensboro Municipal Utilities, visit our website at www.omu.org, find us on Facebook, call (270) 926-3200 or visit our offices at 2070 Tamarack Road.

For more information, please contact:

Owensboro Municipal Utilities
2070 Tamarack Road
P.O. Box 806
Owensboro, Kentucky 42302-0806
(270) 926-3200

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