



Water Quality Report - 2014

For over 100 years, Owensboro Municipal Utilities has been providing water to the citizens of Owensboro. OMU supplies water to over 55,000 residents in Owensboro. We also distribute water to three 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.

Many believe that Owensboro gets its water out of 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. 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 water from each well is transported through a central gathering line and piped to one of the two water treatment plants. The following report will give you an overview of your water quality for the calendar year 2014.

How can I get involved?

Customers of Owensboro Municipal Utilities may ask questions about their water quality at the regular monthly meeting of the City Utility Commission. Meetings are normally held on the third Thursday of each month at 11:30 a.m. Meetings are held 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). For more information about OMU's water, customers may also contact Cathy Vessels at OMU at (270) 926-3200 ext. 323.

What is the source of my water?

Owensboro Municipal Utilities pumps groundwater from deep wells to two water treatment plants. The wells are located in one aquifer that runs along US Highway 60/144 East. The aquifer is protected from surface contamination by a clay layer. When the groundwater reaches the treatment plants it is aerated to remove any odors that have been picked up by the extraction process and to begin oxidizing minerals picked up from the ground. The water is then softened with lime since water from the ground tends to have a high amount of hardness (250-350 ppm). OMU reduces this by almost half (150-200 ppm) before the water is further processed. Next, the water is chlorinated to kill any microorganisms that may have survived the previous processes. The water is then 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 your 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 2,024 potential sources of contamination within the wellhead protection area with the following susceptibility rankings: 263 high, 1,746 medium, and 15 low. 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 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 risks can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (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 includes (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (B) 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. (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses. (D) 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. (E) 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.

Water Quality Table

OMU has laboratories located at both of its water treatment facilities. 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 also has a certified laboratory for total coliform and E. coli. Additional testing is sent to certified labs 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. The following represents the detected contaminants.

2014 Water Quality Information

This report is to inform you of the water quality for the calendar year 2014.

The data present 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	No more than 1 NTU* Less than 0.3 NTU in 100% of monthly samples	0.19	100	No	Soil runoff; lime addition in water treatment process

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Radioactive Contaminants							
Alpha emitters [4000] (pCi/L)	15	0	3.1	0 to 3.1	Jun-09	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	0.2	0 to 0.2	Jun-14	No	Erosion of natural deposits
Inorganic Contaminants							
Arsenic [1005] (ppb)	10	N/A	3.8	3.8	Jun-14	No	Natural erosion; runoff from orchards or glass and electronics production wastes
Barium [1010] (ppm)	2	2	.024	.017 to .024	Jun-14	No	Drilling wastes; metal refineries; erosion of natural deposits
Fluoride [1025] (ppm)	4	4	0.73	0.72 to 0.73	Jun-14	No	Water additive which promotes strong teeth
Lead [1030] (ppb) Sites exceeding action level – 0	AL=15	0	0 (90 th percentile)	0 to 5	Jun-14	No	Corrosion of household plumbing system
Selenium [1045] (ppb)	50	50	6.75	2.5 to 11	Jun-14	No	Discharge from petroleum and metal refineries or mines; erosion of natural deposits

Disinfectants/Disinfection Byproducts and Precursors

Chlorine (ppm)	MRDL=4	MRDL=4	1.23 (highest average)	0.89 to 1.96	N/A	No	Water additive used to control microbes
HAA 5 (ppb)(all sites) [Haloacetic acids]	60	N/A	7 (Highest LRAA*)	4 to 9 (range of system sites)	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) [total trihalomethanes]	80	N/A	41 (Highest LRAA*)	33 to 52 (range of individual sites)	N/A	No	Byproduct of drinking water disinfection

Maximum Contaminant Level Goal of 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 Contaminant Level or MCL:

The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level or 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 or MRDLG:

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Action Level or AL:

The concentration of a contaminant which, if exceeded triggers treatment or other requirements which a water system must follow.

LRAA*:

Locational running annual average

NTU:

Nephelometric turbidity units. Turbidity is used to indicate the effectiveness of filtration. Turbidity is a measure of the cloudiness of water.

TT:

Treatment technique, a required process intended to reduce the level of a contaminant in drinking water.

ppm:

parts per million

ppb:

parts per billion

≤ less than

pCi/L:

Picocuries per liter; a measure of the radioactivity in water.

N/A:

Not applicable.

Information about Lead, Arsenic, Barium and Selenium

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and your 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 people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. Information on arsenic 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/arsenic>.

Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure. Information on barium in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://water.epa.gov/drink/contaminants/basicinformation/barium.cfm>.

Selenium is an essential nutrient. However, some people who drink water contain selenium is excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation. Information on selenium in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://water.epa.gov/drink/contaminants/basicinformation/selenium.cfm>.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

In accordance to the Consumer Confidence Rule (401 KAR 8:075, Section 2), OMU failed to perform Good Faith distribution of the Consumer Confidence Report (CCR)/Water Quality Report properly. One of our Good Faith Efforts consisted of posting the 2013 CCR on the OMU website. The link provided to our customers returned an error message that the file was damaged. This link was available on May 1st, 2014. Modifications were made to the OMU website in June 2014 which damaged the link to the CCR. In October 2014, OMU was notified by a consumer of the damaged link and repairs were made at that time. The damage of this link hindered the availability of the Water Quality Report to consumers and resulted in a notice of violation. Even though this was not an emergency, as our customers, you have a right to know what occurred and how this situation was corrected.

In 2014, OMU sampled for a series of unregulated contaminants. Unregulated contaminants are those that do not yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to assist the EPA in deciding whether the contaminants should have a standard. As our customers, you have a right to know that this data is available. The following are the contaminants that were detected.

Unregulated Contaminants Test Results

Contaminants	MRL	Units	Report Level (highest)	Range of Detection	Sample Dates
1,4-Dioxane	0.07	ug/L	0.27	0 to .27	Apr-14, Oct-14
Chlorate	20	ug/L	26	26	Oct-14
Chromium	0.2	ug/L	1.5	0.85 to 1.5	Apr-14, Oct-14
Hexavalent Chromium	0.03	ug/L	1.4	0.84 to 1.4	Apr-14, Oct-14
Molybdenum	1	ug/L	140	2.7 to 140	Apr-14, Oct-14
Strontium	0.3	ug/L	110	77 to 110	Apr-14, Oct-14
Vanadium	0.2	ug/L	0.98	0.54 to 0.98	Apr-14, Oct-14

Glossary

MRL – Minimum Reporting Level defined by EPA

ug/L – Micrograms per Liter

If you are interested in reviewing these results, please contact Cathy Vessels at (270) 926-3200 ext. 323 or via email at yesselsce@omu.org.

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 (800-426-4791).

For more information

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.

Public Water System ID # KY0300336

For more information, contact us at:

(270) 926-3200

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