



PWS ID: 5282002

2016 Annual Drinking Water Quality Report

The Evansville Water Department is a public utility owned and operated by the City of Evansville. More information can be found at www.evansvillegov.org under Evansville Water & Sewer Utilities.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

What is a Water Quality Report?

To comply with state and federal regulations, The Evansville Filtration Plant issues a report annually describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and the awareness of the need to protect your drinking water sources. If you have any questions about this report or your drinking water, please call 812-428-0568.

What's in this report?

Answers to questions such as:

Where does my water come from?

How do we treat the water?

What is in my drinking water?

Where can I find additional information?

Where does Evansville's drinking water come from?

The City of Evansville's drinking water comes from the Ohio River. The Evansville filtration plant is located at mile marker 791.5 in the Highland-Pigeon Watershed of the Ohio. All stream and urban runoff located within this watershed drains into the Ohio River. For more detailed information on the Highland-Pigeon Watershed, please visit the USEPA's National Assessment Database at www.epa.gov/waters/305b/index.html.

- The beginning of the Ohio River is Pittsburgh, Pennsylvania where the Monongahela and Allegheny Rivers converge.
- The Ohio River is 981 miles long.
- It borders six states including: Pennsylvania, West Virginia, Ohio, Kentucky, Indiana, and Illinois.
- The Ohio ends in Cairo, Illinois where it flows into the Mississippi River.
- Almost 10 percent of the U.S. population lives within the Ohio River Basin.

How does the Evansville Water Department treat our drinking water?

Raw, untreated water flows into an intake structure located on the Ohio River. As the water enters the intake structure, it passes through screens that remove large debris. The untreated water is then pumped into the plant passing through an in-line gas chromatograph (the INFICON CMS-5000), an instrument capable of detecting spills that range from petroleum based compounds to volatile organics.

Aluminum polymer coagulants are added so suspended particles within the water bond together until they become large enough to settle out of the water. Caustic is added to control the pH of the water so that it is non-corrosive to plumbing. Fluoride is added to help protect our teeth. If necessary, carbon can be added to the water to remove various organic contaminants in the water and for taste and odor control. Chlorine, a disinfectant, is used to kill pathogens (disease causing organisms).

After the water travels through the settling basins, it enters the dual media filter beds. Ammonia is added to form chloramines, providing adequate residual disinfection throughout the distribution system. The filters remove any remaining suspended solids and the filtered or finished water is then stored temporarily in our clear wells which are underground reservoirs.

The last step is for the water to be pumped out of the clear wells and into the distribution system as needed to meet the demands of the customer. In 2016, the average daily demand was approximately 23.4 (MGD) million gallons of water.

Table Definitions

AL (Action Level) – A required process intended to reduce the level of a contaminant

MCL (Maximum Contaminant Level) - 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.

MCLGs (Maximum Contaminant Level Goal) - 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.

MRDL (Maximum Residual Disinfectant Level) & MRDLG (Maximum Residual Disinfectant Level Goal) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbial contaminants.

BDL Below Detectable Limit **N/A** Not Applicable

NTU (Nephelometric Turbidity Units) - The standard measurement of turbidity

ppb (parts per billion)

1 microgram in 1 liter Approximately 1 drop in 10,000 gallons

ppm (parts per million)

1 milligram in 1 liter Approximately 1 drop in 10 gallons

pCi/L (picocuries per liter) - Measurement of the natural rate of disintegration

TTHMs (Total Trihalomethanes) - Disinfection by-product of chlorination

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

Substances Expected to be in Drinking Water

To insure that tap water is safe to drink, USEPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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 can be obtained by calling the **EPA's Safe Drinking Water Hotline at (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 from human activity. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife are commonly found in surface water sources.

Pesticides and herbicides, also come from a variety of sources such as agriculture, storm water runoff, and residential uses.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming wastes also are found in source water.

Radioactive materials, can be naturally occurring or the result of oil and gas production and mining activities.

Information about Lead in Your Drinking Water

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. The Evansville Water and Sewer Utility is responsible for providing high quality drinking water, but cannot control the variety of materials used in private residence 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 www.epa.gov/safewater/lead.

Water Hardness (Ca, Mg) – Evansville Water's average Total Hardness concentration for 2016 was **134 ppm** (8.1 gr/gal)

Beginning January, 2002, our water system was required to constantly monitor effluents from all filter beds using in-line Turbidimeters.

What is in my drinking water?

Regulated Contaminants								
Substance (unit)	Year Tested	MCL	MCLG	Average Detected	Range (low-high)	Violation	Source	
Atrazine (ppb)	2016	3	3	0.3	BDL	No	Herbicide Runoff	
Barium (ppm)	2016	2	2	BDL	BDL	No	Erosion of natural deposits, discharge of drilling wastes	
Fluoride (ppm)	2016	4	4	0.68	0.25-0.80	No	Chemical addition for improving dental health	
Haloacetic Acids (HAAs) (ppb) Running Annual Avg	2016	60	NA	29.6	28.4-31.1	No	By-product of drinking water chlorination	
Nitrate (ppm)	2016	10	10	1.02	1.02-1.02	No	Runoff from fertilizer use, septic tanks	
TTHM's (ppb) Running Annual Avg	2016	80	NA	45.75	44.3-46.9	No	By-product of drinking water chlorination	
Lead (ppb) ¹	2015	AL=15	0	90 % = 2	< 1 - 13	No	Corrosion of household plumbing	
Copper (ppm) ²	2015	AL=1.3	<1.3	90 % = 0.025	< 0.025-0.146	No	Corrosion of household plumbing	
Total Coliform Bacteria ³ (presence / Absence)	2016	5% or 6 Positive Annual	NA	0.14% Annual	0-1.653% Month of Aug.	No	Naturally present in the environment ³	
Turbidity (NTU) ⁴	2016	TT ⁵	NA	0.07	0.06-0.08	No	Soil Runoff	
Disinfectant								
Substance (unit)	Year Tested	MRDL	MRDLG	Amount Detected	Range (low-high)	Violation	Source	
Total Chlorine (ppm) ⁶	2016	4	4	3.0	0.28-3.1	No	Residual Disinfection	
Total Organic Carbon (TOC) ⁷								
Substance (unit)	Year Tested	MRDL	MRDLG	Amount Detected	Range (low-high)	Violation	Source	
TOC River (ppm)	2016	TT	NA	3.7	2.4-6.3	No	See Below	
TOC Plant (ppm)	2016	TT	NA	2.0	1.3-2.7	No	See Below	
Unregulated Contaminants ⁸								
Substance (unit)	Year Tested	Amount Detected						All other unregulated contaminants were below detectable limits
Nickel (ppb)	2016	<0.1	<u>Strontium (ppb)</u>	<u>200</u>				
Sodium(ppm)	2016	15.2	<u>Molybdenum(ppb)</u>	<u>BDL</u>	<u>Chromium</u>	<u>BDL</u>		
Sulfate (ppm)	2016	33.9	<u>Chromium VI (ppb)</u>	<u>0.06</u>	<u>Cobalt</u>	<u>BDL</u>		
			<u>Vanadium (ppb)</u>	<u>BDL</u>	<u>MTBE</u>	<u>BDL</u>		

¹ Samples are collected annually and in 56 homes throughout the city every third year (last 2015). No samples were over the action level for lead. All 56 samples are listed from lowest to highest. The 90th percentile result means 90% of results are below the # (simply another way of saying that 9% scored above and 90% scored below (the other 1% being the number 90)). So out of the 56 sample results the 90% result is the 50th highest out of the 56 sample results.

² Samples are collected annually and in 56 homes throughout the city every third year (last 2015). No samples were over the action level for Cu.

³ A group of relatively harmless bacteria that live in large numbers in the intestines of man and animals. Their presence is an indicator of possible contamination from human or animal waste. On average 123 samples were collected throughout the city each month and tested for the presence or absence of total coliform bacteria. Only Four samples out of 1470 tested positive for the year and the follow up samples were negative.

⁴ Turbidity is the measure of the cloudiness of the water. It is a good indicator of the effectiveness of our filtration system. Combined effluent turbidity is measured every four hours. Combined effluent turbidity must be <0.3 NTU in 95% of monthly measurements. All water was completely within the required limits.

⁶ Total chlorine includes chloramines. Chloramines have the same effect as chlorine for typical water uses with the exception that chloramines must be removed from water used in kidney dialysis and fish tanks or aquariums. Please contact your doctor regarding kidney dialysis. You may contact your pet store or the Evansville Filtration Plant regarding fish or other aquatic life.

⁷ A composite measurement of organic constituents. It is used to track the overall organic content of the water. This is an important measure for surface waters, such as the Ohio River, because it correlates with the production of disinfection by-products during chlorination.

⁸ Analysis of contaminants that the EPA is using for determination of future regulations

We are pleased to report that during the past year the water delivered to your home or business complied with, or was better than, all state and federal drinking water standards. The EPA has established pollutant-specific minimum testing schedules; however, we monitor many contaminants on a daily basis. These include total chlorine, TTHM's, TOC's, nitrate, fluoride, and total coliform bacteria. Atrazine is monitored daily during the spring and summer months. Turbidity is monitored continuously and recorded every five minutes around the clock.

BDL = below detectable limits

Evansville Water & Sewer Utility
Water Filtration Plant
1301 Waterworks Road
Evansville, IN 47713

Special Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 at (800) 426-4791**.

Additional Resources

The USEPA Office of Water (<http://www.epa.gov/ebtpages/water.html>), the USEPA Office of Ground Water and Drinking Water (epa.gov/safewater), and the Center for Disease Control and Prevention (www.cdc.gov) websites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health.

The Indiana Department of Environmental Management also has a website (www.in.gov/idem) that provides complete and current information on water issues in our own state.

The Ohio River Valley Sanitation Commission (ORSANCO) (www.orsanco.org), located in Cincinnati, OH, is a wealth of information on the Ohio River and its conditions.

About This Report

This report contains the results of contaminants detected as well as testing parameters. For a complete listing of all monitored contaminants and results, please send a request to thall@ewsu.com or call (812) 428-0568

Need Additional Help?

For 24 hour service (reporting broken water mains/ Boil Advisory information and status) regarding the water system call (812) 421-2130.

Questions or Comments?

If you have any questions or comments regarding Evansville's Water System, you can reach the Drinking Water Quality Manager (Timothy Hall R.E.M.) at (812) 428-0568. You are also welcome to attend any Evansville Water and Sewer Utility Board meetings which are held every two weeks on Tuesday afternoons at 1:30 pm in Room 307 of the Civic Center located at 1 NW Martin Luther King Jr. Blvd, Evansville, IN 47708.