



PWS ID: 5282002

## 2021 Annual Drinking Water Quality Report

The Evansville Water Department is a public utility owned and operated by the City of Evansville. The utility has operated in some capacity since the late 1800's and has evolved as new treatment techniques and contaminants have been discovered. The utility produces drinking water that meets regulatory standards set by the Indiana Department of Environmental Management (IDEM). More information about the utility can be found at [www.ewsu.com](http://www.ewsu.com).

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 Ohio River 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/](http://www.epa.gov/waters/).

- The beginning of the Ohio River is Pittsburgh, Pennsylvania where the Monongahela and Allegheny Rivers converge.
- The Ohio River is 981 miles long & 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 your 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 and sampled via 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 to bond together suspended particles within the water until they become large enough to settle out of the water. Caustic is added to control the pH of the water and to prevent corroding of 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 strong 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 2021, the average daily demand was approximately 25.1 (MGD) million gallons of water.**

## Table Definitions

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

**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

**ppt** (parts per trillion)

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

**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

**THMs (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 ensure 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 Information 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, stormwater 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.

## 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](http://www.epa.gov/safewater/lead).

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

**Water Hardness (Ca, Mg) – Evansville Water's Average Total Hardness concentration for 2021 was 130 ppm (7.6 gr/gal).**

## What is in my drinking water?

Regulated Contaminants							
Substance (unit)	Year Tested	MCL	MCLG	Average Detected	Range (low-high)	Violation	Source
Atrazine (ppb)	2021	3	3	0.40	0.0 – 0.40	No	Herbicide Runoff
Barium (ppm)	2021	2	2	BDL	BDL	No	Erosion of natural deposits, discharge of drilling wastes
Fluoride (ppm)	2021	4	4	0.68	0.43 -- 0.90	No	Chemical addition for improving dental health
Haloacetic Acids (HAAs) (ppb) Running Annual Avg	2021	60	NA	30.3	12.4 – 59.2	No	By-product of drinking water chlorination
Nitrate (ppm)	2021	10	10	2.7	1.6-3.6	No	Runoff from fertilizer use, septic tanks
TTHM's (ppb) Running Annual Avg	2021	80	NA	44.9	15.9 – 78.8	No	By-product of drinking water chlorination
Lead (ppm) <sup>1</sup>	2021	AL= 0.015	0	90 % = ≤0.001	≤ 0.001 - 0.036 <sup>2</sup>	No	Corrosion of household plumbing
Copper (ppm) <sup>3</sup>	2021	AL=1.3	<1.3	90 % = ≤0.025	≤ 0.025 - 0.056	No	Corrosion of household plumbing
Total Coliform Bacteria <sup>4</sup> (presence / Absence)	2021	5% or 6 Positive Annual	NA	0.0% Annual	0.001% Range	No	Naturally present in the environment
Turbidity (NTU) <sup>5</sup>	2021	0.3 NTU - TT <sup>5</sup>	NA	0.03	0.02-0.06	No	Soil Runoff
Disinfectant							
Substance (unit)	Year Tested	MRDL	MRDLG	Amount Detected	Range (low-high)	Violation	Source
Total Chlorine/chloramines (ppm) <sup>7</sup>	2021	4	4	3.3	1.7 -- 3.9	No	Residual Disinfection
Total Organic Carbon (TOC) <sup>8</sup>							
Substance (unit)	Year Tested	MRDL	MRDLG	Amount Detected	Range (low-high)	Violation	Source
TOC River (ppm)	2021	TT <sup>6</sup>	NA	3.7	2.2--5.7	No	See Below
TOC Plant (ppm)	2021	TT <sup>6</sup>	NA	2.1	1.2—2.9	No	See Below
Unregulated Contaminants <sup>9</sup>							
Substance (unit)	Year Tested	Amount Detected					
Nickel (ppb)	2021	BDL					
Sodium(ppm)	2021	20.5					
Sulfate (ppm)	2021	40.4					

Radioactive contaminants – 0.0 % Gross Alpha – footnote 10

<sup>1</sup> Samples are collected annually in 61 homes throughout the city every third year (sampled in 2021). Lead and Copper Results are evaluated against an Action Level, not a Maximum Contaminant Level. When concentrations in more than 10% of samples are over the Action Level, there is an Action Level Exceedance which requires notification to consumers of the health risks posed by Lead and Copper in drinking water. There was not an Action Level Exceedance for the 61 samples tested in 2021 based on the 90<sup>th</sup> percentile value. Lead and Copper Rules are found in the Indiana Administrative Code at 327 IAC 8-2-36.

<sup>2</sup>One sample site exceeded the action level for lead and was retested, the second test did not exceed the action level, both results were reported to the homeowner.

<sup>3</sup> Samples are collected annually and in 61 homes throughout the city every third year (sampled in 2021). There was not an Action Level Exceedance based on the 90<sup>th</sup> Percentile Rule.

<sup>4</sup> 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 122 samples were collected throughout the city each month and tested for the presence or absence of total coliform bacteria. Zero samples out of 1460 tested positive for total coliform bacteria.

<sup>5</sup>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 and must be <0.3 NTU in 95% of monthly measurements. All effluent water was completely within the required limits.

<sup>6</sup>Treatment Technique (TT): A required filtration process intended to reduce the level of turbidity and contaminants in drinking water.

<sup>7</sup>Total chlorine includes chloramines. Chloramines have the same effect as chlorine for typical water uses and both 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.

<sup>8</sup> 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. Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

<sup>9</sup> 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 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 planting & growing months. Turbidity is monitored continuously and is recorded every five minutes around the clock.

<sup>10</sup> -2019 **Gross Alpha** Highest 0.82 pc/L **Radium 228** Avg <0.56 range 0 – 0 pC/L BDL -EWSU is scheduled to test every 9 years for Gross Alpha and Radium 228.

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/ground-water-and-drinking-water>), the **USEPA Office of Ground Water and Drinking Water** ([epa.gov/safewater](http://epa.gov/safewater)), and the **Center for Disease Control and Prevention** ([www.cdc.gov](http://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](http://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](http://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 **Drinking Water Quality Manager** [bcaudill@ewsu.com](mailto:bcaudill@ewsu.com) or call **812-428-0568**. To request a paper copy of this report, please call **Customer Service 812-436-7846**.

### ***Need Additional Help?***

To report a broken water main, call **812-421-2130 24 hours a day**. For Boil Advisory status information go to [ewsu.com/boiladvisorymap](http://ewsu.com/boiladvisorymap).

### ***Questions or Comments?***

If you have any questions or comments regarding Evansville's water system, you may reach the **Drinking Water Quality Manager Brenna Caudill** at **812-428-0568**.