

# City of Lafayette Water Works

## Consumer Confidence Report 2024

Lafayette Water Works currently has two well fields with 14 wells in service, all approximately 80' to 100' deep. The aquifer from which the water is pumped is an enormous buried pre-glacial river valley that was filled in with sand and gravel deposited by melting glaciers thousands of years ago. Water from rain and snow now percolates slowly through the ground to the aquifer, recharging it. This keeps the net amount of available water fairly constant. As water travels 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. 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 (800-426-4791).

Government agencies involved in drinking water regulations include: U.S. Environmental Protection Agency (EPA), Indiana Department of Environmental Management (IDEM), and the Indiana State Department of Health (ISDH). Since 1974, drinking water regulations have become more stringent and numerous. Also, testing methods have become more precise. (For example; it is now possible to detect a contaminant at levels of less than 1 part per billion). This is the same as one inch in 15,782 miles, one second in 31.7 years, and one cent in 10 million dollars.

To ensure that tap water provided by public water systems is safe to drink, EPA determines what level of each potential contaminant poses a possible threat to human health and sets a limit, or *standard*. This standard is called the Maximum Contaminant Level (MCL) and is the highest level of a contaminant that is allowed in drinking water. Drinking water that meets this standard is associated with little or no risk to health. Lafayette's drinking water meets or surpasses all of these Federal and State standards. Detections of contaminants are listed in the following table.

A Maximum Contaminant Level Goal (MCLG) is also set. This is the level of a contaminant in drinking water below which there is no known or expected risk to health. This goal includes an adequate margin of safety. MCLGs are non-enforceable health goals; however, MCLs are set as close to the MCLGs as feasible using the best available treatment technology. Contaminants that *could potentially* be present in source water (such as tap or bottled water) include:

- A)** Microbial contaminants such as viruses and bacteria. These may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B)** Inorganic contaminants such as salts and metals. These 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. These may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
- D)** Organic chemical contaminants, including synthetic and volatile organics. These are by-products of industrial processes and petroleum production, and can come from gas stations, urban storm water runoff, and septic systems.
- E)** Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

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). *Cryptosporidium* is a microscopic organism found in surface waters such as rivers and lakes and is not normally associated with groundwater. Lafayette Water Works relies solely on groundwater wells as the source of drinking water.

## Treatment and Testing

Water goes through a treatment process via the addition of Chlorine and Ammonia for disinfection, Fluoride to promote dental health, and Phosphate for two reasons: 1) to keep Iron and Manganese from precipitating out and staining fixtures and laundry, 2) to help prevent

corrosion of lead and copper plumbing.

Mono-Chloramines, Fluoride, and Phosphate levels are tested a minimum of 4 times per day to insure water quality to consumers. Additionally, 80 or more water samples per month from several points around the City are tested for bacteria and correct chloramine levels. In all, Lafayette's water is tested for over 100 parameters several times each year. Parameters include minerals, treatment additives, chemicals, pH, bacteria and natural and man-made contaminants. Analyses are done at the Water Works lab and at independent State-certified labs. Any contaminants detected are listed in the following Table.

*We encourage your interest and participation in our community's decisions affecting drinking water. The Board of Public Works and Safety meets every Tuesday at 9:00am in the Council Chambers at City Hall, and the public is invited.*

You can contact the Lafayette Water Works at (765) 807-1700 twenty-four hours per day; however, your inquiries and requests for information can be handled most efficiently Monday - Friday, 8am to 4pm, when the complete staff is present. You can also call the EPA Safe Drinking Water Hotline at 800-426-4791 for more information.

This report was prepared by the Lafayette Water Works lab personnel with technical assistance provided by the American Water Works Association and Indiana Department of Environmental Management.

## **Wellhead Protection**

Wellhead Protection is a program focused on protecting drinking water from potential contamination. Protection of groundwater (e.g., aquifers) is critical as it supplies drinking water to the majority of Indiana residents. It is also important to understand that a sound pollution prevention strategy is far more effective and less expensive than remediating or replacing a contaminated water source. Public support depends on public awareness, so citizens need to know that many routine activities can affect water quality. Through cooperation between the citizens in the community, local businesses and the water utility, a collective approach will lead to a dependable water supply for current and future generations. To help protect the groundwater and our water supply wells from potential contamination, the Lafayette Water Works is currently implementing a Wellhead Protection Plan (WHP) Plan. Refer to the Lafayette Water Works website at <https://www.lafayette.in.gov/228/Water-Works> for more information on the WHP program. For your reference, a complete copy of Lafayette's WHP Plan is available at the Water Works office located at 1020 Canal Road in Lafayette, IN.

### **Household Tips for Protecting our Drinking Water Supply**

- \* Learn about groundwater and your water source.
- \* Participate in watershed clean-up activities.
- \* Limit your use of chemicals, fertilizers, pesticides, and other hazardous products. Buy only what you need, reducing the amount to be later discarded. Be sure to follow label directions.
- \* Recycle used oil, automotive fluids, batteries, and household hazardous waste at the Tippecanoe County Solid Waste Management District <https://www.tippecanoe.in.gov/1034/Recycling-and-Hazardous-Material-Disposal>
- \* Check your car, boat, motorcycle and other machinery for leaks and spills. Collect leaks with a drip pan until repairs can be made. Clean up spills by absorbing the spill. Do not rinse with water or allow it to soak into the ground.
- \* If you have a septic system, have it inspected and serviced every three years.
- \* Dispose of medications properly.
- \* Plug abandoned wells on your property as these old wells provide a direct route for surface contamination to reach ground water supplies. Contact a licensed well driller for assistance.
- \* Keep in mind that groundwater aquifers collect and store rainwater and snowmelt that soaks into the ground.

Thank you,  
Steve Moore  
Water Works Superintendent

*El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo ó hable con alguien que lo entienda bien.*

# City of Lafayette Water Works

## CCR Detections 2024

### Definitions

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

**Action Level Goal (ALG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

**Level 1 Assessment:** A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in a water system

**Level 2 Assessment:** A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in a water system on multiple occasions.

**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 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.

**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.

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

**Variance and Exemptions:** State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

**Avg:** Average. Regulatory compliance with some MCLs are based on running annual average of monthly samples.

**LRAA:** Locational Running Annual Average

**mrem:** millirems per year (a measure of radiation absorbed by the body).

**ppb:** micrograms per liter (ug/L) or parts per billion - or one ounce in 7,350,000 gallons of water.

**ppm:** milligrams per liter (mg/L) or parts per million - or one ounce in 7,350 gallons of water.

**picocuries per liter (pCi/L):** picocuries per liter is a measure of the radioactivity in water.

**NA:** Not applicable.

**Range:** Range of detected levels.

**HLD:** Highest level detected.

TTHM/HAA5 (disinfection byproducts)	Annual Average	Range	Units	MCL	MCLG	Likely Sources	Violation
Total Trihalomethanes	3.75	2.3 - 6.7	µg/L	80	No MCLG	Byproduct of chlorination	NO
Total HAA5	5.05	0.0 - 17.8	µg/L	60	No MCLG		NO

*Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their liver, kidneys, or central nervous systems, and may have increased risk of getting cancer.*

Volatile Organic Compounds	HLD	Range	Units	MCL	MCLG	Likely Sources	Violation
Tetrachloroethylene	BDL	>0.5µg/L	µg/L	5	0	Industries	NO
1,1,1 - Trichloroethane	BDL	>0.5µg/L	µg/L	200	0	Industries	NO
Trichloroethylene	BDL	>0.5µg/L	µg/L	5	0	Industries	NO

**Note: 41 additional organics were tested for and not detected. < 0.5 = BDL**

Synthetic Organic Compounds	HLD	Range	Units	MCL	MCLG	Likely Sources	Violation
No Detections	~	~	~	~	~	Farming runoff	NO

**Note: 120 SOCs are tested for every three years. None were detected.**

Inorganic Compounds	HLD	Range	Units	MCL	MCLG	Possible Sources	Violation
Barium	0.16	0.11 - 0.16	ppm	2	2	Erosion from natural deposits	NO

Chromium	0.00	0.00 - 0.00	ppm	0.1	0.1	Industries	NO
Fluoride (Total)	0.42	0.13 - 0.42	ppm	4	4	Naturally Occuring Mineral	NO
Nitrate	1.51	1.00 - 1.51	ppm	10	10	Fertilizer, Sewage	NO
Sodium	46.50	25.2 - 46.5	ppm	No MCL	No MCLG	Naturally Occuring Mineral	NO
Arsenic	0.0011	0.0000 - 0.0011	ppm	0.01	0	Industry, Naturally Occuring	NO

**Note: ( IOC's every 3yr's, except Nitrate Yearly ) Additional inorganic compounds were tested with no detections.**

*Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time due to rainfall and agricultural activity. If you are caring for an infant you should ask advice from your health care provider.*

*Sources of arsenic include leaching from natural deposits, wood preservatives, pesticides, industrial deposits, petroleum production, semiconductor manufacture and coal power plants. Potential health effects include skin problems, endocrine disruptor, cancer, and harm to cardiovascular and nervous system.*

### Coliform Bacteria

Total Coliform Positive Samples	Samples per-month	% of positive samples	Allowable %	Total Coliform MCLG	Fecal Coliform Positive Samples	Fecal Coliform MCLG	Likely Source of Contamination
0	80	0	5.0% per-month	0	0	0	Naturally occurring bacteria. May indicate sanitation problem.

### Disinfection

Residual Disinfectant	Residual	Units	MRDL	MRDLG	Violation
Chlorine	1.0 - 1.4	ppm	4	4	NO

### Lead and Copper

Contaminant	90th Percentile Level	Units	Maximum Level Allowed (AL)	MCLG	Number of Samples over 'AL'	Likely Sources	Violation
Lead	<1.0	ppb	15	0	0	Plumbing	NO
Copper	0.389	ppm	1.3	1.3	0	Plumbing	NO

**Lead and Copper** do not exist naturally in Lafayette's water, but can leach into it by corrosion of plumbing. EPA requires periodic testing of water from 30 residences of which 90% must test at or below the regulated 'Action Levels'.

*There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups, especially pregnant people, infants (both formula-fed and breastfed), and young children. Some of the health effects to infants and children include decreases in IQ and attention span. Lead exposure can also result in new or worsened learning and behavior problems. The children of persons who are exposed to lead before or during pregnancy may be at increased risk of these harmful health effects. Adults have increased risk of these harmful health effects. Adults have increased risks of heart disease, high blood pressure, kidney or nervous system problems. Contact your health care provider for more information about your risks.*

*Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high quality drinking water, but we 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>.*

**Lead Service Line Inventory Availability** To access our lead service line inventory, please visit:

<https://www.arcgis.com/apps/dashboards/31af0510299144f7bf85a93bb6663b45>

Radioactive Contaminants							
Contaminant	HLD	Range	Units	MCL	MCLG	Possible Sources	Violation
Alpha Activity	4.6	0.8 - 4.6	pCi/L	15	0	Erosion of Natural Deposits	NO
Beta Activity	5.5	3.2 - 5.5	pCi/L	50	0	Erosion of Natural Deposits	NO
Radium-228	<0.864	0.864 -5	pCi/L	5	0	Erosion of Natural Deposits	NO

**Unregulated Contaminants**

Our system collected samples under the U.S. EPA Unregulated Contaminants Monitoring Rule (UCMR) for 29 PFAS compounds and Lithium. This monitoring is being conducted so the EPA can receive occurrence data for these compounds to determine what additional compounds may need to be regulated in drinking water. We collected samples in February and August of 2023 and detected the compounds shown in this table. These compounds are not regulated at this time. If you would like to view our results, contact our office at (765) 807-1700 or visit the following link to our website: <https://www.lafayette.in.gov/DocumentCenter/View/16467/UCMR5-2023-Results>

Contaminant Detected	Lithium			
<b>Analyzation Date</b>	2/28/2023	2/28/2023	8/10/2023	8/10/2023
<b>Location</b>	Entry Point 001	Entry Point 002	Entry Point 001	Entry Point 002
<b>Result (units ug/L)</b>	12.8	9.2	11.3	9.7
<b>Range (units ug/L)</b>	9.2 - 12.8			
<b>Possible Sources</b>	Erosion of Natural Deposits			

No detections of PFAS compounds during UCMR 5. There is currently no regulation or health advisory for lithium in drinking water by the EPA. For more information, please visit: <https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule>

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