

**Posted June 2024 – for the period of January 1 to December 31, 2023**

## **Introduction**

The Purdue University West Lafayette campus water supply comes from the ground water aquifer known as the Wabash River Valley Aquifer (also known locally as the Teays River Valley Aquifer).

In the water quality report that follows, information is available about the source of drinking water, what it contains, and how it compares to Environmental Protection Agency (EPA) and Indiana Department of Environmental Management (IDEM) standards. As in years past, this report has been circulated campus wide and is available online. The content of the report is as required under 327 IAC 8-2.1.

This report covers the period of January 1 to December 31, 2023 and is intended to provide information about your drinking water quality. For more information regarding this report, contact Kurtis Veach, Water Works Supervisor, at 765-496-2705.

## **Opportunity for Public Participation**

Purdue University Water Works has joined together with Indiana American Water Company and the City of Lafayette to form a Local Area Planning Team for Wellhead Protection. This team of volunteers from the community is working hard to make sure the source of drinking water in the West Lafayette/Lafayette areas remains safe. For more information on how you can play an active role in maintaining safe drinking water in your community, please contact 765-496-2705 to join the Wellhead Protection Local Planning Team.

# 2023 CONSUMER CONFIDENCE REPORT ON WATER QUALITY

## SOURCES OF DRINKING WATER

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. As water travels over the surface of the land or through the ground, it can dissolve naturally-occurring minerals and naturally-occurring 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 that may cause taste, color or odor problems. 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 1-800-426-4791.

Contaminants that may be present in source water include the following:

- 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 organic chemicals, which are by-products 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. Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta particle and photon radioactivity in excess of the MCL over many years may have an increased risk of getting cancer.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than the general population. Contaminants may be found in drinking water that may cause taste, color or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor or color of drinking water, please contact the system's business office.

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 from their Health care providers about drinking water. 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.

# 2023 CONSUMER CONFIDENCE REPORT ON WATER QUALITY

## PURDUE UNIVERSITY WATER WORKS IS GROUND WATER

Our water source(s) and source water assessment information are listed below:

	Source Name	Type of Water	Report Status
WELL #10	WELLHOUSE 5 - WELLS 10 & 11	Ground Water	Active
WELL #11	WELLHOUSE 5 - WELLS 10 & 11	Ground Water	Active
WELL #12	WELLHOUSE 6 - WELLS 12 & 13	Ground Water	Active
WELL #13	WELLHOUSE 6 - WELLS 12 & 13	Ground Water	Active
WELL #14	WELLHOUSE 7 - WELL 14	Ground Water	Active
WELL #15	WELL HOUSE 8 - WELL 15	Ground Water	Active
WELL #16	WELLHOUSE 9 - WELL 16	Ground Water	Active
WELL #5	WELLHOUSE 2 - WELLS 5 & 6	Ground Water	Active
WELL #6	WELL HOUSE 2 - WELLS 5 & 6	Ground Water	Active

# 2023 CONSUMER CONFIDENCE REPORT ON WATER QUALITY

## Water Quality Test Results

Definitions: The following tables contain scientific terms and measures, some of which may require explanation.

Averaging: Regulatory compliance with some MCLs are based on running an annual average of monthly samples.

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

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 Contaminant Level Goal or 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 or MRDL: The highest level of disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary to control 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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.”

MFL: Million fibers per liter (a measure of asbestos)

mrem/yr: Millirems per year (a measure of radiation absorbed by the body)

MRL: The lowest amount of an analyte in a sample that can be quantitatively determined with stated, acceptable precision and accuracy under stated analytical conditions.

na: Not applicable.

pCi/l: Picocuries per liter

ppm or mg/l: Milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

ppb or ug/l: Micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

ppt or ng/l: Nanograms per liter or parts per trillion - or one ounce in 7,350,000,000 gallons of water.

# 2023 CONSUMER CONFIDENCE REPORT ON WATER QUALITY

## Coliform Bacteria

Maximum Contaminant Level Goal	Samples Per Month	% of Positive Samples	Allowable %	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	60	0	5% per month	0	N	Naturally present in the environment may indicate a sanitation problem

## Revised Total Coliform Rule (RTCR)

The Revised Total Coliform Rule (RTCR) seeks to prevent waterborne diseases caused by E. coli. E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches or other symptoms. They may pose a greater health risk for infants, young children, the elderly and people with severely compromised immune systems.

No violations reported	NA	NA
------------------------	----	----

## Regulated Contaminants

### Lead and Copper

**Definitions:** The following tables contain scientific terms and measures, some of which may require explanation.

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

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

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

Lead and Copper	Collection Date	MCLG	Action Level (AL)	90th Percentile	Range of Levels Detected	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2023	1.3	1.3	0.7429	0.0303-1.3637	1	ppm	N	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead	2023	0.0	15.000	1.2663	0-9.6229	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits

**Note:** The lead and Copper rule establishes action level (AL) of 0.015 mg/L for Pb and 1.3 mg/L for C U based on 90th percentile level of tap water samples. An AL exceedance is not a violation but can trigger other requirements.

# 2023 CONSUMER CONFIDENCE REPORT ON WATER QUALITY

## Regulated Contaminants

Disinfectants and Disinfectant By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Distribution System Total Chlorine	2023	1.60	0.46-1.6	MRDLG=4	MRDL=4	ppm	N	Water additive used to control microbes
Total Haloacetic Acids (HAA5)	2023	6.4	<1.0 - 6.4	No goal for the total	60	ppb	N	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	2023	5.42	<1.0 - 5.42	No goal for the total	80	ppb	N	By-product of drinking water disinfection
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Gross Beta Particle Activity	2022	4.7 pCi/l	3.5-4.7 pCi/l	0	50 pCi/l used for screening, not mcl	pCi/L	N	Decay of natural and man-made deposits. Note: The gross beta particle activity MCL is 4 millirems/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.
Combined Radium 226/228	2022	1.72	0.63-1.72	0	5	pCi/L	N	Erosion of natural deposits
Gross alpha excluding radon and uranium	2022	1.90	0.4-1.9	0	15	pCi/L	N	Erosion of natural deposits
Radium 226	2022	1.00	0.33-1.0	0	5	pCi/L	N	Erosion of natural deposits
Radium 228	2022	0.95	0-0.95	0	5	pCi/L	N	Erosion of natural deposits
Synthetic Organic Compounds	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
No Detections - 48 each tests performed on each producing well	2021	Below Detection Limit	Below Detection Limit				N	Run off from herbicide use, combustion exhaust industrial facilities, pesticide use, drug and chemical factories.
Volatile Organic Compounds	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
No Detections - 60 each tests performed on each producing well	2023	Below Detection Limit	Below Detection Limit				N	Discharge from factories to include , chemical,petroleum,textile,etc

# 2023 CONSUMER CONFIDENCE REPORT ON WATER QUALITY

Inorganic Compounds	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	2023	3.0820	0.737-3.082	0.00	10.00	ppb	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium	2023	0.1420	0.101-0.142	2.00	2.00	mg/l	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	2023	0.7700	0.13-0.77	4.00	4.00	mg/l	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Sodium	2023	34.8000	7.91-34.8	No MCLG	No MCL	mg/l	N	Naturally occurring; Runoff from road salt
Nickel	2023	0.0010	<0.0007-0.001	0.10	0.10	mg/l	N	Nickel is a very abundant natural element.
Nitrate -Nitrite	2023	0.9720	<0.1-0.972	10.00	10.00	mg/l	N	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits
Selenium	2023	1.2210	0.0-1.221	50.00	50.00	ppb	N	Discharge from petroleum and metal refineries, erosion of natural deposits, discharge from mines.
Dibromochloromethane	2023	0.00168	0-0.00168	0.00	0.10	mg/l	N	By-product of drinking water disinfection

**Note:** Eight additional inorganics were tested for and not detected.

Organic Compounds	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
No Detections - 14 ea. tests performed on each producing well	2023	Below Detection Limit	Below Detection Limit				N	Runoff from herbicide used on row crops, discharge from factories, chemical plants and other industrial activities; leaching from gas storage tanks and landfills.

# 2023 CONSUMER CONFIDENCE REPORT ON WATER QUALITY

## UNREGULATED CONTAMINANTS

PFAS Compounds	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Perfluoropentanoic acid	2023	11.50	<3.0-11.5	N/A	N/A	ppt	N	PFAS have characteristics that make them useful in a variety of products, including nonstick cookware, waterproof clothing, and firefighting foam, as well as in certain manufacturing processes.
Perfluorohexanoic acid	2023	11.30	<3.0 - 11.3	N/A	N/A	ppt	N	
Perfluorobutanesulfonic acid	2023	17.40	<3.0 - 17.4	2000	N/A	ppt	N	
Perfluorohexanesulfonic acid	2023	6.80	<3.0 - 6.8	N/A	>140	ppt	N	
Perfluorobutanoic acid	2023	5.60	<3.0 - 5.6	N/A	N/A	ppt	N	
Perfluoropentanesulfonic acid	2023	8.40	<3.0 - 8.4	N/A	N/A	ppt	N	

Note: The EPA on 4/10/2024 has adopted the permanent rule creating MCL and MCLG for PFAS compounds.