

Posted June 2023 – for the period of January 1 to December 31, 2022

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, 2022 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. Your participation in the Wellhead Protection Planning Team is welcomed. 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.

2022 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.

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.

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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 annual average of monthly samples.

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

Maximum Contaminant Level or 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 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 a disinfectant allowed in drinking water. There is convincing evidence that 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.

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

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

ug/l: Micrograms per liter.

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Coliform Bacteria

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
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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.

Lead and Copper	Collection Date	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2021	1.3	1.3	0.6063	4	ppm	N	Erosion of natural deposits, leaching from wood preservatives; corrosion of household plumbing
Lead	2021	0	15	0.9	1	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits

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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	2022	1.07	0.58 - 1.07	MRDLG=4	MRDL=4	ppm	N	Water additive used to control microbes
Total Haloacetic Acids (HAA5)	2022	6.0	<1.0 - 6.0	No goal for the total	60	ppb	N	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	2022	4.87	4.41 - 4.87	No goal for the total	80	ppb	N	By-product of drinking water disinfection
Synthetic Organic Compounds	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
2,4,5-TP	2021	<0.1	0.0 - <0.1	50	50	ppb	N	Run off from herbicide use
2,4-D	2021	<0.1	0.0 - <0.1	70	70	ppb	N	Run off from herbicide use
Atrazine	2021	<0.1	0.0 - <0.1	3	3	ppb	N	Run off from herbicide use
Aldicarb	2021	<0.2	0.0 - <0.2	Note 1 below	Note 1 below	ppb	N	Run off from insecticide use
Aldicarb sulfone	2021	<0.2	0.0 - <0.2	Note 1 below	Note 1 below	ppb	N	Run off from insecticide use
Aldicarb sulfoxide	2021	<0.2	0.0 - <0.2	Note 1 below	Note 1 below	ppb	N	Run off from insecticide use
Aldrin	2021	<0.1	0.0 - <0.1	Note 2 below	Note 2 below	ppb	N	Run off from insecticide use
Alachlor	2021	<0.1	0.0 - <0.1	0	2	ppb	N	Run off from herbicide use
Benzo[a]pyrene	2021	<0.2	0.0 - <0.2	0	0.20	ppb	N	Run off from combustion exhaust
Bis(2-ethylhexyl)adipate	2021	<0.61	0.0 - <0.61	400	400	ppb	N	Discharge from industries
Bis(2-ethylhexyl)phthalate	2021	<0.61	0.0 - <0.61	0	6	ppb	N	Discharge from industries and aircraft facilities
Butachlor	2021	<0.1	0.0 - <0.1	Note 2 below	Note 2 below	ppb	N	Run off from herbicide use
Carbaryl	2021	<0.2	0.0 - <0.2	Note 2 below	Note 2 below	ppb	N	Run off from insecticide use
Carbofuran	2021	<0.9	0.0 - <0.90	40	400	ppb	N	Run off from pesticide use
Chlordane(technical)	2021	<0.1	0.0 - <0.1	0	2.0	ppb	N	Run off from pesticide use
Dalapon	2021	<0.1	0.0 - <0.1	200	200	ppb	N	Run off from herbicide use
Dibromoethane	2021	<0.011	0.0 - <0.011	0	5	ppb	N	Run off from drug and chemical factories
Dibromo-3-Chloropropane	2021	<0.011	0.0 - <0.011	0	0.20	ppb	N	Run off from its use as a fumigant and nematicide
Dinoseb	2021	<0.1	0.0 - <0.1	7	7	ppb	N	Run off from herbicide use
Dicamba	2021	<0.1	0.0 - <0.1	Note 2 below	Note 2 below	ppb	N	Run off from pesticide use
Dieldrin	2021	<0.1	0.0 - <0.1	Note 2 below	Note 2 below	ppb	N	Run off from insecticide use

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Synthetic Organic Compounds	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Diquat	2021	<0.0004	0.0 - <0.0004	0.02	0.02	mg/l	N	Run off from herbicide use
Endothall	2021	<9.0	0.0 - <9.0	100	100	ppb	N	Run off from herbicide use
Endrin	2021	<0.1	0.0 - <0.1	2	2	ppb	N	Run off from insecticide, rodenticide, piscicide use
gamma-BHC(Lindane)	2021	<0.02	0.0 - <0.02	0.20	0.20	ppb	N	Run off from insecticide use
Glyphosate	2021	<6.0	0.0 - <6.0	700	700	ppb	N	Run off from herbicide use
Heptachlor	2021	<0.041	0.0 - <0.041	0	400	ppb	N	Run off from insecticide use
Heptachlor epoxide	2021	<0.02	0.0 - <0.02	0	200	ppb	N	Run off from insecticide use
Hexachlorobenzene	2021	<0.1	0.0 - <0.1	0	1	ppb	N	Run off from fungicide use
Hexachlorocyclopentadiene	2021	<0.1	0.0 - <0.1	50	50	ppb	N	Run off from pesticide use
Hydroxycarbofuran	2021	<2.0	0.0 - <2.0	Note 2 below	Note 2 below	ppb	N	Run off from insecticide use
Methiocarb	2021	<2.0	0.0 - <2.0	Note 2 below	Note 2 below	ppb	N	Run off from pesticide use
Methomyl	2021	<2.0	0.0 - <2.0	Note 2 below	Note 2 below	ppb	N	Run off from pesticide use
Methoxychlor	2021	<0.1	0.0 - <0.1	40	40	ppb	N	Run off from insecticide use
Metribuzin	2021	<0.1	0.0 - <0.1	Note 2 below	Note 2 below	ppb	N	Run off from herbicide use
PCB-1016	2021	<0.08	0.0 - <0.08	0	0.50	ppb	N	Run off from transformers and capacitors
PCB-1221	2021	<0.19	0.0 - <0.19	0	0.50	ppb	N	Run off from transformers and capacitors
PCB-1232	2021	<0.23	0.0 - <0.23	0	0.50	ppb	N	Run off from transformers and capacitors
PCB-1242	2021	<0.26	0.0 - <0.26	0	0.50	ppb	N	Run off from transformers and capacitors
PCB-1248	2021	<0.10	0.0 - <0.10	0	0.50	ppb	N	Run off from transformers and capacitors
PCB-1254	2021	<0.10	0.0 - <0.10	0	0.50	ppb	N	Run off from transformers and capacitors
PCB-1260	2021	<0.20	0.0 - <0.20	0	0.50	ppb	N	Run off from transformers and capacitors
Pentachlorophenol	2021	<0.04	0.0 - <0.04	0	1	ppb	N	Run off from herbicide use
Picloram	2021	<0.1	0.0 - <0.1	500	500	ppb	N	Run off from herbicide use
Propoxur	2021	<0.1	0.0 - <0.1	Note 2 below	Note 2 below	ppb	N	Run off from insecticide use
Propachlor	2021	<0.1	0.0 - <0.1	Note 2 below	Note 2 below	ppb	N	Run off from herbicide use
Simazine	2021	<0.072	0.0 - <0.072	4	4	ppb	N	Run off from herbicide use
Toxaphene	2021	<1.0	0.0 - <1.0	0	3	ppb	N	Run off from pesticide use

Note 1: Aldicarb, aldicarb sulfone, and aldicarb sulfoxide are considered regulated chemicals. However their MCLs are stayed and no monitoring is required (57 FR 22178, May 27, 1992), but testing was performed and reported.

Note 2: Listed chemical is currently an unregulated SOC

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INORGANIC CONTAMINANTS

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	2020	2.91	1.21-2.91	0	10	ppb	N	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Barium	2020	0.13	0.0941-0.134	2	2	ppm	N	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits
Chromium	2020	4.62	0-4.62	100	100	ppb	N	Discharge from steel and pulp plants ,erosion of natural deposits
Fluoride	2022	1.18	0.21-1.18	4	4	ppm	N	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen]	2022	1.52	0-1.52	10	10	ppm	N	Runoff from fertilizer use, leaching from septic tanks , sewage , erosion of natural deposits

Note: Seven additional inorganics were tested for and not detected.

RADIOACTIVE CONTAMINANTS

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	2022	4.70	3.5 - 4.7	0	4	mrem/yr	N	Decay of natural and manmade deposits
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	ug/l	N	Erosion of natural deposits