2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

Water System Information
If you would like to know more about the information contained in this report, please contact Daniel Katsma at (608) 697-5676.

Opportunity for input on decisions affecting your water quality
1st Monday of each month Friesland Village Hall located at 113 South Madison St Friesland, WI 53935

Health Information

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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

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 systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
2	Groundwater	402	Active

To obtain a summary of the source water assessment please contact Daniel Katsma at (608) 697-5676.

Educational Information
The sources of drinking water, both tap water 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, 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 stormwater 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 stormwater 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 stormwater 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

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Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

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Health Information

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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

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 systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
2	Groundwater	402	Active

To obtain a summary of the source water assessment please contact Daniel Katsma at (608) 697-5676.

Educational Information
The sources of drinking water, both tap water 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, 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 stormwater 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 stormwater 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 stormwater 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

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FRIESLAND WATERWORKS, PWS ID: 11100991

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Source(s) of Water

Source ID	Source	Depth (in feet)	Status
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mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
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ppm	parts per million, or milligrams per liter (mg/l)
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TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

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Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

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Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
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COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

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Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
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Source(s) of Water

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- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater 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 stormwater 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

Water System Information
If you would like to know more about the information contained in this report, please contact Daniel Katsma at (608) 697-5676.

Opportunity for input on decisions affecting your water quality
1st Monday of each month Friesland Village Hall located at 113 South Madison St Friesland, WI 53935

Health Information

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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

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 systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
2	Groundwater	402	Active

To obtain a summary of the source water assessment please contact Daniel Katsma at (608) 697-5676.

Educational Information
The sources of drinking water, both tap water 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, 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 stormwater 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 stormwater runoff and residential uses.
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In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
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HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
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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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
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ppt	parts per trillion, or nanograms per liter
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PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
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SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

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Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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FRIESLAND WATERWORKS, PWS ID: 11100991

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Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
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FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
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Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
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PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

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Health Information

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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

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 systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
2	Groundwater	402	Active

To obtain a summary of the source water assessment please contact Daniel Katsma at (608) 697-5676.

Educational Information
The sources of drinking water, both tap water 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, 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 stormwater 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 stormwater 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 stormwater 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

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CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
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NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
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Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
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Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

Water System Information
If you would like to know more about the information contained in this report, please contact Daniel Katsma at (608) 697-5676.

Opportunity for input on decisions affecting your water quality
1st Monday of each month Friesland Village Hall located at 113 South Madison St Friesland, WI 53935

Health Information

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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

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 systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
2	Groundwater	402	Active

To obtain a summary of the source water assessment please contact Daniel Katsma at (608) 697-5676.

Educational Information
The sources of drinking water, both tap water 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, 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 stormwater 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 stormwater 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 stormwater 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

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- 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 stormwater runoff and septic systems.
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mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
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Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

Water System Information
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Opportunity for input on decisions affecting your water quality
1st Monday of each month Friesland Village Hall located at 113 South Madison St Friesland, WI 53935

Health Information

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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

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 systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
2	Groundwater	402	Active

To obtain a summary of the source water assessment please contact Daniel Katsma at (608) 697-5676.

Educational Information
The sources of drinking water, both tap water 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, 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 stormwater 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 stormwater 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 stormwater 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

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NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
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Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
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PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
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RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
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SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

Water System Information
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Opportunity for input on decisions affecting your water quality
1st Monday of each month Friesland Village Hall located at 113 South Madison St Friesland, WI 53935

Health Information

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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

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 systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
2	Groundwater	402	Active

To obtain a summary of the source water assessment please contact Daniel Katsma at (608) 697-5676.

Educational Information
The sources of drinking water, both tap water 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, 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 stormwater 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 stormwater 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 stormwater 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

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Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

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2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

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mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
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Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

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FRIESLAND WATERWORKS, PWS ID: 11100991

Water System Information
If you would like to know more about the information contained in this report, please contact Daniel Katsma at (608) 697-5676.

Opportunity for input on decisions affecting your water quality
1st Monday of each month Friesland Village Hall located at 113 South Madison St Friesland, WI 53935

Health Information

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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

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 systems 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 Environmental Protection Agency's safe drinking water hotline (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
2	Groundwater	402	Active

To obtain a summary of the source water assessment please contact Daniel Katsma at (608) 697-5676.

Educational Information
The sources of drinking water, both tap water 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, 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 stormwater 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 stormwater 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 stormwater 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
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.
MCLG	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.
MFL	million fibers per liter
MRDL	Maximum residual disinfectant level: 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.
MRDLG	Maximum residual disinfectant level goal: 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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
BARIUM (ppm)		2	2	0.024	0.024		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.1	0.1		No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	2.10	2.00 - 2.10		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SODIUM (ppm)		n/a	n/a	8.68	8.68		No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1280	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	0.00	0 of 10 results were above the action level.		No	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS Contaminants with a Recommended Health Advisory Level

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a large group of human-made chemicals that have been used in industry and consumer products worldwide since the 1950. The following table list PFAS contaminants which were detected in your water and that have a Recommended Public Health Groundwater Standard (RPHGS) or Health Advisory Level (HAL). There are no violations for detections of contaminants that exceed the RPHGS or HAL. The RPHGS are levels at which concentrations of the contaminant present a health risk and are based on guidance provided by the Wisconsin Department of Health Services.

Typical Source of Contaminant		**Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water source. PFAS can get in groundwater from places that make or use PFAS and release from consumer products in landfills.**			
Contaminant (units)	**Site**	**RPHGS or HAL (PPT)**	**Level Found**	**Range**	**Sample Date (if prior to 2023)**
PFBS (ppt)		450000	0.79	0.00 - 0.79	
PFHXS (ppt)		40	6.89	0.00 - 6.89	
PFOS (ppt)		20	1.42	0.00 - 1.42	
PFOA (ppt)		20	0.81	0.00 - 0.81	
PFOA AND PFOS TOTAL (ppt)		20	2.23	0.00 - 2.23	

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	0.8	0.8	9/23/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.2	0.2	9/23/2020	No	Erosion of natural deposits
GROSS ALPHA, INCL. R & U (n/a)		n/a	n/a	1.1	1.1	9/23/2020	No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.5	0.5	9/23/2020	No	Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2023)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0		No	Runoff from herbicide used on row crops

Contaminants with a Public Health Groundwater Standard, Health Advisory Level, or a Secondary Maximum Contaminant Level

The following table lists contaminants which were detected in your water and that have either a Public Health Groundwater Standard (PHGS), Health Advisory Level (HAL), or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Public Health Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Public Health Groundwater Standards and Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	PHGS or HAL (ppm)	Level Found	Range	Sample Date (if prior to 2023)	Typical Source of Contaminant
CHLORIDE (ppm)		250		16.00	16.00	12/8/2020	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.02 - 0.02	12/2/2020	Leaching from natural deposits
SULFATE (ppm)		250		20.00	19.00 - 20.00	12/8/2020	Runoff/leaching from natural deposits, industrial wastes

Additional Health Information

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. Friesland Waterworks is responsible for providing high quality drinking water, but 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.

2023 Consumer Confidence Report Data
FRIESLAND WATERWORKS, PWS ID: 11100991

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