

# WRIGHT STATE UNIVERSITY



## Drinking Water Consumer Confidence Report

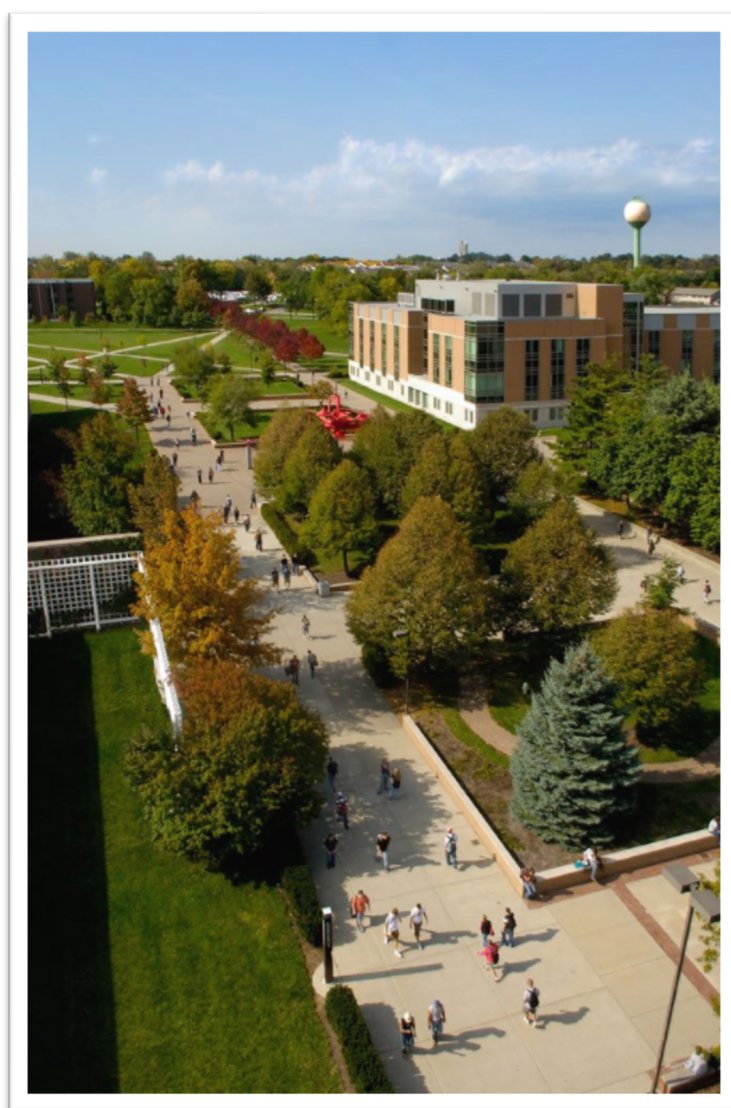


WRIGHT STATE  
UNIVERSITY

2024

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### For more information please contact:

Environmental Health and Safety	937-775-2215
Facilities Management and Campus Operations	937-775-4444
US EPA Safe Drinking Water Hotline	1-800-426-4791



# Wright State University Drinking Water Consumer Confidence Report for 2024

## Introduction

The Wright State University Public Water System has prepared the following report to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.

***Your drinking water met all Ohio EPA standards.***

The EPA mandates specific wording in all Consumer Confidence Reports, which are italicized in this report.

## Source Water Information

Wright State University receives its drinking water from two wells drilled below the earth's surface. The first well was installed in 1968 and is still in operation today. These wells are located over the Mad River Buried Valley Aquifer, which are located at the northwest end of Lot #20 and adjacent to Kauffman Road.

Wright State University is a community public water system serving approximately 8,743 people. Its public water system (PWS) number is OH2902012 and name is Wright State University. It is classified as a type C – Community public water system with 39 connections and its source is from groundwater (GW). A community public water system is a system that has at least 15 service connections used by year-round residents of the area or regularly serves 25 or more year-round residents. Wright State's system is designed to produce 1,008,000 gallons per day (GPD) and Wright State's uses an average of 174,000 GPD. The treatment process includes iron and manganese removal, membrane softening units to remove minerals, and chlorine disinfection to eliminate bacteria. A phosphorous compound is added to control pipe corrosion to prevent lead and copper that may be present in pipes from leaching into the water. One elevated storage tank holds 125,000 gallons. An emergency, auxiliary supply is available by three connections to Fairborn's water system.

The 1996 Amendments to the Safe Drinking Water Act require the Ohio Environmental Protection Agency (OEPA) to conduct source water assessments for all

Public Water Systems (PWS's). In 2002, the Ohio EPA completed an assessment and provided information to assist Wright State to understand the potential threats to their water supply and help them protect their water supply.

According to the study, the aquifer that supplies the drinking water to the *Wright State University has a high susceptibility to contamination*. This determination was made because of the following reasons:

- The sand and gravel aquifer is shallow with a depth to water that ranges from 15-30 feet below the surface; and
- there is no confining layer which could act as a barrier between the ground surface and the aquifer; and
- there are potential contaminant sources that exist within and just outside the Drinking Water Source Protection Area that could potentially impact Wright State University's drinking water.

Consequently, the likelihood that the Wright State University's source of drinking water could become contaminated is high and it is critical that potential contaminant sources are handled carefully with the implementation of the appropriate protective strategies.

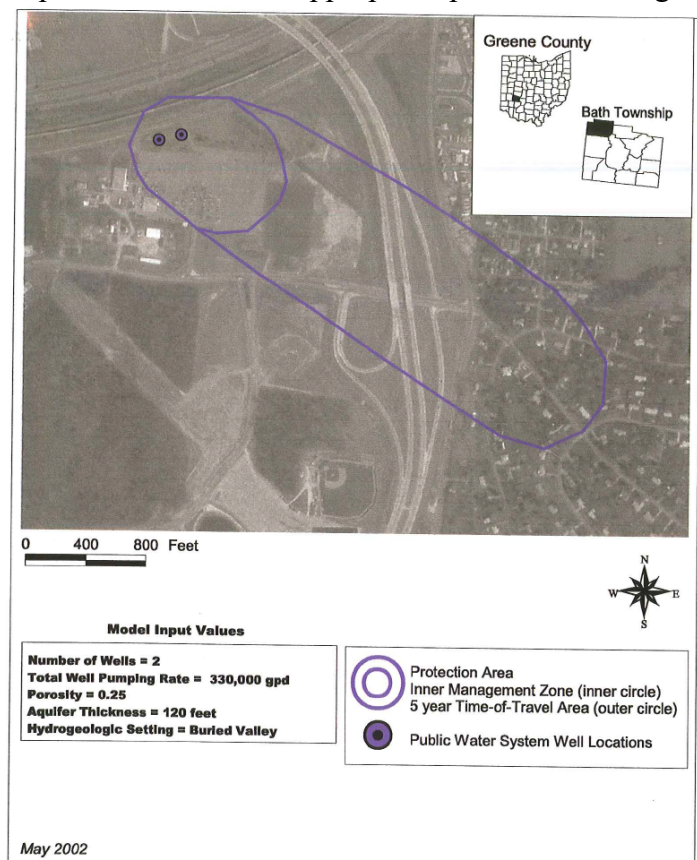


Figure 1. Drinking Water Source Protection Area for Wright State University Public Water System Identification #2902012 (Source: Drinking

For any questions and/or concerns and for copies of the Source Water Assessment Report prepared for Wright State University's Public Water Supply contact Marjorie Markopoulos, PhD, Director of Environmental Health and Safety at [marjorie.markopoulos@wright.edu](mailto:marjorie.markopoulos@wright.edu) or 937-775-2797.

### Source Water Protection Tips

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides - they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use EPA's Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.
- Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people "Dump No Waste - Drains to River" or "Protect Your Water." Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

Wright State's Public Water System also has emergency connections with the City of Fairborn. Wright State may use water from the City of Fairborn for emergency or other operational needs. During 2024, Wright State's Public Water System was connected to the City of Fairborn's water during the water treatment modernization project until March 21, 2024. The project included improving the production wells and upgrading to membrane filtration, corrosion control, and liquid chlorination. The total volume of Fairborn's water used in 2024 was 5.211 million gallons (MG) for 81 days. During routine plant operations, this connection is not use. This report does not include information for the water supplied from the City of Fairborn. A copy of Fairborn's 2024 Consumer Confidence Report can be obtained by visiting the City of Fairborn Water Department website at [https://www.fairbornoh.gov/news\\_detail\\_T49\\_R244.php](https://www.fairbornoh.gov/news_detail_T49_R244.php) or by making a written request to: Fairborn Division of Water and Sewer, 44 W. Hebble Ave, Fairborn, OH

45324.

### What are sources of contamination to drinking water

*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, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife;
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and
- **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, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.*

*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 Federal Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).*



### Who needs to take special precautions?

*Some people may be more vulnerable to contaminants in drinking water than the general population.*

*Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infection. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).*

### About your drinking water

The EPA requires regular sampling to ensure drinking water safety. Wright State University conducted sampling for **bacteria, inorganic, synthetic organic, and volatile organics** during 2024. Samples were collected for a total of approximately 60 different contaminants and 4000 analyses most of which were not detected in the Wright State University water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, are more than one year old.

### Monitoring & Reporting Violations & Enforcement Actions

On February 28, 2023, Wright State received a Sanitary Survey Notice of Violation (NOV), which noted the drinking water production wells were out of service. Throughout 2023 and until March 21, 2024, Wright State was using the City of Fairborn's water as an emergency connection. As recommended, Wright State continued the process to obtain plan approval for the upgrades that were initiated in November 2020. Furthermore, Wright State has completed rehabilitation of both production wells into compliance. The plant upgrades include the removal of the Aerator units, ion exchange units and chemicals. The improvements included new Aerator units, membrane softening units, a new storage tank, and new chemical feed systems. These upgrades will remove impurities, improve taste, enhance environmental sustainability, provide consistent water quality, and meet regulatory requirements.

### License to Operate (LTO) Status Information

*In 2024 Wright State had an unconditioned license to operate our water system.*

### Arsenic Educational Information

*While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other effects such as skin damage and circulatory problems.*

Contact Marjorie Markopoulos, PhD, Director of Environmental Health and Safety at (937) 775-2797 or [ehs@wright.edu](mailto:ehs@wright.edu).

### Table of Detected Contaminants

The Table of Detected Contaminants contains the information on those contaminants that were found in the Wright State University drinking water. The Table of Detected Contaminants contains only data for regulated contaminants; contaminants subject to an MCL, treatment technique (TT), or action level (AL), and unregulated contaminants for which Ohio EPA requires monitoring. The data presented in the Consumer Confidence Report are from the most recent testing done accordance with the regulations. The Table does not include any data older than five years nor does it contain data for contaminants that are not detected.

### Unregulated Contaminants

*Unregulated contaminants are those for which U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of these contaminants in drinking water and whether future regulation is warranted. In 2024 Wright State University participated in the fifth round of the Unregulated Contaminant Monitoring Rule (UCMR 5). For a copy of the results please contact Marjorie Markopoulos at 937-775-2797.*

### Non-regulated Contaminants

Non-regulated contaminants are contaminants for which Ohio EPA does not require testing and does not have a MCL.

## Table of Detected Contaminants

Contaminants (Units)	MCLG or MRDLG	MCL or MRDL	Level Found	Range of Detections	Violation?	Year Sampled	Typical Source of Contaminants
Radioactive Contaminants							
Alpha emitters (pCi/L)	0	15	1.41 ±1.69 (MDC=2.98) Carrier Recovery: NA Tracer Recovery: NA	NA	NO	2020	Erosion of natural deposits
Radium-228 (pCi/L)	0	5	0.459 ±0.423 (0.863) Carrier Recovery: 61% Tracer Recovery: 80%	NA	NO	2020	Erosion of natural deposits
Inorganic Contaminants							
Arsenic (ppb)	0	10	5.2	<2.0 - 5.2	NO	2023	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.31	0.18 - 0.31	NO	2023	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4	4	1	0.657 - 1	NO	2023	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	10	10	0.1	NA	NO	2024	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Residual Disinfectants							
Total Chlorine (mg/L)	MRDLG 4	MRDL 4	1.1	0.8 – 1.6	NO	2023	Water additive used to control microbes.
Disinfection Byproducts							
TTHMs [Total Trihalomethanes] (ppb)	No goal for the total	80	9.7	<2.0 – 9.7	NO	2024	By-product of drinking water chlorination
Volatile Organic Contaminants							
Dichloromethane (ppb)	0	5	1.3	NA	NO	2020	Discharge from pharmaceutical and chemical factories
Lead and Copper (January – June 2024)							
Contaminants (units)	Action Level (AL)	MCLG	Individual Results over the AL	90% of test levels were less than	Violation	Month - Year Sampled	Typical Source of Contaminants
Lead (ppb)	15 ppb	0 ppb	120.00	2.10	NO	May 2024	Corrosion of household plumbing systems
	1 out of 60 samples were found to have lead levels in excess of the lead action level (AL) of 15 ppb						
Copper (ppm)	1.3 ppm	1.3 ppm	NA	0.093	NO	May 2024	
	0 out of 60 samples were found to have copper levels in excess of the copper action level of 1.3 ppm.						
Lead and Copper (June – December 2024)							
Lead (ppb)	15 ppb	0 ppb	NA	0	NO	September 2024	Corrosion of household plumbing systems
	0 out of 60 samples were found to have lead levels in excess of the lead action level (AL) of 15 ppb						
Copper (ppm)	1.3 ppm	1.3 ppm	NA	0.097	NO	September 2024	
	0 out of 60 samples were found to have copper levels in excess of the copper action level of 1.3 ppm.						

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.



## Unregulated Contaminants

Unregulated contaminants are contaminants for which Ohio EPA requires monitoring. The table below lists the unregulated contaminants that were detected in Wright State's drinking water. Presently, there are no MCL or Action Levels for these contaminants.

Unregulated Contaminants (Units)	Average Level Found	Range of Detections	Sample Year	Sample Location
Bromochloroacetic Acid (ppb)	4.0	3.4 - 4.6	2023	Distribution
Bromodichloromethane (ppb)	3.4	<0.5 – 3.4	2024	Distribution
Bromodichloromethane (ppb)	10.4	NA	2023	Entry point
Bromoform (ppb)	1.2	<0.5 – 1.2	2024	Distribution
Bromoform (ppb)	0.86	NA	2023	Entry point
Chloroform (ppb)	2.6	<0.5 -2.6	2024	Distribution
Chloroform (ppb)	17	NA	2023	Entry point
Dibromoacetic Acid (ppb)	1.1	<1.0 – 1.1	2024	Distribution
Dibromochloromethane (ppb)	1.6	0.7 – 2.5	2024	Distribution
Dibromochloromethane (ppb)	6	NA	2023	Entry point
Dichloroacetic Acid (ppb)	1.9	<1.0 – 1.9	2024	Distribution
Monobromoacetic acid (ppb)	1.0	<1.0 – 1.0	2024	Distribution
Total Organic Carbon (ppb)	1700	NA	2019	Entry point
Bromide (ppb)	81.2	NA	2019	Entry point
Nickel (ppb)	3.2	NA	2020	Entry point

### Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.

- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit [www.epa.gov/watersense](http://www.epa.gov/watersense) for more information.

## Lead Educational 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. Wright State University 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 at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.*

*For more information about lead in drinking water, visit US EPA's Web site at [www.epa.gov/lead](http://www.epa.gov/lead); call the National Lead Information Center at 1-800-424-LEAD; or contact your health care provider.*

*Per the Lead and Copper Rules, Public Water Systems were required to develop and maintain a Service Line Inventory. A service line is the underground pipe that supplies your home or building with water. To view the Service Line Inventory, which lists the material type(s) for your location, you can visit <https://www.wright.edu/environmental-health-and-safety/occupational-and-employee-safety>.*

## Ground Water Rule

On December 20, 2013, Wright State University received a Notice of Violation (NOV) relating to the road salt storage impacts to ground water in Wright State's wellfield. It was observed that the chloride levels tested from the drinking water source wells had been increasing since the mid-1980s. In 2013, the chloride levels were measured at 390 ppm, which exceeds the Secondary Maximum Contaminant Level (SMCL) of 250 ppm. SMCL's are non-mandatory guidelines and are established to assist public water systems in managing their drinking water for aesthetic

considerations, such as taste, color and odor.

From that time, Wright State has been working closely with the Ohio EPA to remediate and reduce the contaminant. Throughout 2013 to 2016, Wright State purchased approximately 40,000 to 60,000 gallons of water daily from the City of Fairborn to blend with the raw water from the Wright State wells to dilute the chloride concentrations below the SMCL. Additional corrective measures implemented included moving the salt storage barn, reviewing and improving well field protective measures, and implementing long-term remediation solutions to reduce the chloride levels below the SMCL in 2016. Wright State's Public Water System is undergoing capital improvements which will renovate our aging water treatment plant to provide improved water quality, enhanced system reliability, and continued service to our university community. The updates include changing from the ion-exchange process to a membrane-based reverse osmosis system, which will decrease the levels of chloride in the finished water. The project is designed to meet or exceed current water quality regulatory requirements and it is expected to be completed by January 2024.

Wright State continues to work with the Ohio EPA on additional measures to remediate, protect, and improve the water in the aquifer, specifically for the Notice of Violation for the Water Treatment Plant/Perched Water Bearing Zone (PWBZ).

Additional information on SMCL's can be found at <https://www.epa.gov/dwregdev/drinking-water-regulations-and-contaminants#Secondary>.

### Public Participation and Contact Information

*How do I participate in decisions concerning my drinking water?*

While we do not hold regular meetings, customers are encouraged to participate by contacting:

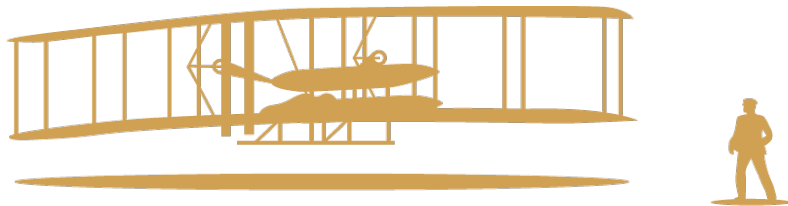
Marjorie Markopoulos, PhD  
Director of Environmental Health and Safety  
937-775-2797  
[marjorie.markopoulos@wright.edu](mailto:marjorie.markopoulos@wright.edu)



*Definitions of some terms contained within this report.*

Unit Descriptions	
Term	Definition
<b>ppm or mg/L</b>	<i>parts per million, or milligrams per liter (mg/L). A part per million corresponds to one second in a little over 11.5 days.</i>
<b>ppb or µg/L</b>	<i>parts per billion, or micrograms per liter (µg/L). A part per billion corresponds to one second in 31.7 years.</i>
<b>pCi/L</b>	<i>Picocuries per liter. A common measure of radioactivity.</i>
<b>NA</b>	Not applicable
<b>ND</b>	Not detected
<b>NR</b>	Monitoring not required, but recommended.
<b>“&lt;” symbol</b>	<i>A symbol which means less than. A result of &lt;5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.</i>

Important Drinking Water Definitions	
Term	Definition
<b>MCLG</b>	<i>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.</i>
<b>MCL</b>	<i>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.</i>
<b>TT</b>	<i>Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.</i>
<b>AL</b>	<i>Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.</i>
<b>MRDLG</b>	<i>Maximum residual disinfection 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.</i>
<b>MRDL</b>	<i>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.</i>
<b>SMCL</b>	<i>Secondary Maximum Contaminant Level are non-mandatory water quality standards that are used as guidelines to assist public water systems in managing their drinking water for aesthetic considerations such as taste, color, and odor.</i>



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