



2023 WATER QUALITY REPORT

Joint Base Lewis-McChord - Lewis

WA Public Water System ID# 26050

Federal PWS ID# WA5326050



What is a Consumer Confidence Report (CCR)

Effective October 1, 2021, American Water started a 50-year contract as the water purveyor for all Joint Base Lewis McChord (JBLM) water systems. We are excited to start our partnership with JBLM, honored with providing water to the people who serve our country.

We proudly present our Annual Water Quality Report, also referred to as a Consumer Confidence Report (CCR). CCRs let consumers know what contaminants, if any, were detected in their drinking water as well as related potential health effects. CCRs also include details about where your water comes from and how it is treated. Additionally, they educate customers on what it takes to deliver safe drinking water and highlight the need to protect drinking water sources.

We are committed to delivering high quality drinking water service. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, environmental compliance, sustainability and community education while continuing to serve the needs of all our water users.

Water System Source Information

Joint Base Lewis-McChord (JBLM) began as Camp Lewis in 1917. At that time, Pierce County donated the land to the federal government for military use. According to the water rights claim, water was first appropriated from the Sequalitchew Spring in January 1978. We consider this the original water source for Camp Lewis, and the largest water producer for JBLM to this day. The progression of the spring as a source of drinking water is shown pictographically throughout this year's report. Drinking water produced from the spring and groundwater sources at JBLM are naturally filtered by alternating aquifers. Rainfall replenishes these aquifers located in the Pierce County, Clover/Chambers drainage basin. Today, the daytime population at JBLM exceeds 65,000 people. In addition to the Sequalitchew Spring, there are now an additional eight secondary groundwater sources that produce drinking water for the JBLM-Lewis Public Water System. These wells are used during peak demand periods and for emergency operations, as needed. Drinking water production wells for the JBLM-Lewis public water system are listed on the following page.

The Source Water Assessment Program (SWAP) evaluates potential threats to the safety of our water supplies by assessing sources of contamination. Additional information is provided in the form of assessment reports and GIS coverage and can be found at <https://fortress.wa.gov/doh/swap/index.html>.

The water sources monitored by American Water for the JBLM-McChord Field water system are listed in the table below. JBLM-McChord Field Public Water System primary and seasonal drinking water sources have susceptibility ratings ranging from low to high. Historically the higher susceptibility is associated with wells in closer proximity to trichloroethylene (TCE) contaminated groundwater. In the past, TCE a colorless solvent, was used primarily in industrial processes to remove grease from metal parts and in dry cleaning operations. In order to reduce TCE groundwater contamination in these areas, JBLM operates a groundwater remediation pump and treat system. There has been great success in containing the TCE plume(s) over time and reducing the threat of TCE contamination to the drinking water supplies. **JBLM continues to regularly monitor drinking water sources for TCE which has not been detected in the drinking water system since 2017.**

What are the Sources of Contaminants?

To provide tap water that is safe to drink, EPA and the Washington State Department of Health prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

JBLM- Lewis(PWS 26050) Community Water System Source Information							
DOH Source	JBLM Well	Water Type	Source Type	Depth (ft)	Susceptibility Rating	Source Use	Treatment
S01	Sequalitchew Springs	GW	Well	0	High	Permanent	A, C, F
S06	Well 12A	GW	Well	17	High	Permanent	A, C, F
S08	Well 14	GW	Well	445	High	Seasonal	C, F
S09	Well 17	GW	Well	550	Moderate	Seasonal	C, F
S10	Well 13	GW	Well	275	High	Seasonal	C, F
S11	Well 12B	GW	Well	14	High	Permanent	A, C, F
S14	Well 20	GW	Well	605	High	Seasonal	C, F
S15	MAMC Well 4	GW	Well	292	High	Seasonal	C, F
S16	Railroad Ave Well 29	GW	Well	784	High	Permanent	C

A = Aeration/Air Stripping, C= Chlorination/Hypochlorite, F=Fluoridation, GW = Groundwater

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, aquifers and/or groundwater. 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 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 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 stormwater runoff, and septic systems.
Radioactive Contaminants	which can be naturally occurring or be the result of oil and gas production and mining activities.

SPECIAL HEALTH INFORMATION

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

About Lead

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. American Water 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 <http://www.epa.gov/safewater/lead>.

Minimizing Your Potential Exposure

You cannot see, smell or taste lead, and boiling water will not remove lead. Here are steps you can take to reduce your potential exposure if lead exists in your home plumbing.



1. **Flush your taps.** The longer the water lies dormant in your home's plumbing, the more lead it might contain. If the water in your faucet has gone unused for more than six hours, flush the tap with cold water for 30 seconds to two minutes before drinking or using it to cook. To conserve water, catch the running water and use it to water your plants.



2. **Use cold water for drinking and cooking.** Hot water has the potential to contain more lead than cold water. If hot water is needed for cooking, heat cold water on the stove or in the microwave.



3. **Routinely remove and clean all faucet aerators.**



4. **Look for the "Lead Free" label** when replacing or installing plumbing fixtures.



5. **Follow manufacturer's instructions for replacing water filters** in household appliances, such as refrigerators and ice makers, as well as home water treatment units and pitchers. Look for NSF 53 certified filters.



6. **Flush after plumbing changes.** Changes to your service line, meter, or interior plumbing may result in sediment, possibly containing lead, in your water supply. Remove the strainers from each faucet and run the water for 3 to 5 minutes.

Chlorine

Lewis adds Sodium Hypochlorite (chlorine) through the treatment process for disinfection purposes. Using or drinking water with small amounts of chlorine does not cause harmful health effects and provides protection against waterborne disease outbreaks.

Some people who use water containing chlorine levels in excess of recommended levels could experience irritating effect to their eyes and nose or even experience stomach discomfort.

Fluoride

Fluoride is a naturally occurring substance.. It can be present in drinking water from two sources:

1. By nature when groundwater comes into contact with fluoride-containing minerals naturally present in the earth; or
2. By a water purveyor through addition of fluoride to the water they are providing in the distribution system per State or Local Regulations.

The Lewis Water system adds fluoride to the water leaving the residential treatment plant. The fluoride residual leaving the treatment plant is adjusted to achieve an optimal fluoride level of 0.7 parts per million (ppm). The range of Fluoride in Lewis's Water was 0.57 ppm to 0.8 ppm in 2023.

Nitrates

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

PFAS Monitoring

Per- and polyfluoroalkyl substances (PFAS) are manufactured chemicals used in many household products including nonstick cookware (e.g., Teflon™), stain repellants (e.g., Scotchgard™), and waterproofing (e.g., GORE-TEX™). They are also used in industrial applications such as in firefighting foams and electronics production. There are thousands of PFAS chemicals, and they persist in the environment. Two well-known PFAS chemicals are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). These were phased out of production in the United States and replaced by hexafluoropropylene oxide-dimer acid (commonly known as GenX), perfluorobutane sulfonic acid (PFBS) and others.

Beginning in 2016, Joint Base Lewis McChord has performed voluntary sampling to better understand occurrence of certain PFAS in drinking water sources. This sampling allows us to understand how our water compares against the non-enforceable Health Advisory Level set by U.S. EPA. Sampling also allows American Water to be better prepared as U.S. EPA and the Washington State Board of Health is (are) currently developing drinking water standards for PFOA and PFOS.

The science and regulation of PFAS and other contaminants is always evolving, and American Water strives to be a leader in research and development. PFAS contamination is one of the most rapidly changing areas in the drinking water field. We have invested in our own independent research, as well as engaging with other experts in the field to understand PFAS occurrence in

the environment. We are also actively assessing treatment technologies that can effectively remove PFAS from drinking water, because we believe that investment in research is critically important to addressing this issue.

In 2023, U.S. EPA set health advisory levels for four PFAS chemicals – PFOA (0.004 part per trillion (ppt)), PFOS (0.02 ppt), GenX (10 ppt), and PFBS (2,000 ppt). Based on current analytical methods, however, the health advisory levels for PFOA and PFOS are below the level of both detection (determining whether or not a substance is present) and quantitation (the ability to reliably determine how much of a substance is present). This means that it is possible for PFOA or PFOS to be present in drinking water at levels that exceed health advisories even if testing indicates no level of these chemicals. U.S. EPA is currently developing drinking water regulations for PFOA and PFOS that take these challenges into consideration and American Water will take appropriate actions to meet any new regulations. Finally, PFAS chemicals are unique, so two PFAS chemicals at the same level typically do not present the same risk. Therefore, you should not compare the results for one PFAS chemical against the results of another. For more information on PFAS, please visit <https://doh.wa.gov/community-and-environment/contaminants/pfas>.

Water Quality Statement

We are pleased to report that during calendar year 2023, the results of testing of your drinking water complied with all state and federal drinking water requirements.

For your information, we have compiled a list in the table below showing the testing of your drinking water during 2023. The Washington Department of Health allows us to monitor for some contaminants less than once per year because the concentration of the contaminants does not change frequently. Some of our data, though representative, are more than one year old.

Other Information

The 2023 monitoring data is a combination of monitoring via JBLM and American Water. This data has been combined to provide you with a wholistic view of your drinking water.

Definition of Terms: These are terms that may appear in your report

- **Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, that a water system must follow.
- **LRAA:** Locational Running Annual Average
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. See also Secondary Maximum Contaminant Level (SMCL).
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **MFL:** Million fibers per liter
- **micromhos per centimeter ($\mu\text{mhos/cm}$):** A measure of electrical conductance.
- **NA:** Not applicable
- **ND:** Not detected
- **Nephelometric Turbidity Units (NTU):** Measurement of the clarity, or turbidity, of the water.
- **pH:** A measurement of acidity, 7.0 being neutral.
- **picocuries per liter (pCi/L):** Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).
- **parts per billion (ppb):** One part substance per billion parts water, or micrograms per liter.
- **parts per million (ppm):** One part substance per million parts water, or milligrams per liter.
- **parts per trillion (ppt):** One part substance per trillion parts water, or nanograms per liter.
- **Secondary Maximum Contaminant Level (SMCL):** Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
- **TON:** Threshold Odor Number
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **%:** Percent

MEASUREMENTS

Parts Per Million



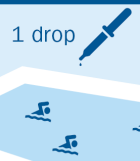
1 drop
in a 10 gallon fish tank

Parts Per Billion



1 drop
in a 10,000 gallon swimming pool

Parts Per Trillion



1 drop
in 35 junior size Olympic pools

Water Quality Results

American Water conducts extensive monitoring to determine if your water meets all water quality standards. The detections of our monitoring are reported in the following tables. While most monitoring was conducted in 2023, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting the tables below, see the “Definition of Terms” on the previous page. Some unregulated substances are measured, but maximum contaminant levels have not been established by the government. These contaminants are shown for your information.

NOTE: The 2023 monitoring data was completed by American Water. Older data is a combination of American Water and Joint Base Lewis-McChord data. This data has been combined to provide you with a wholistic view of your drinking water.

LEAD AND COPPER MONITORING PROGRAM - At least 30 tap water samples collected at customers' taps every three years								
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	Action Level (AL)	90 th Percentile	No. of Premises Sampled	Homes Above Action Level	Typical Source
Lead (ppb)	2022	Yes	0	15	ND	\$1	0	Corrosion of household plumbing systems.
Copper (ppm)	2022	Yes	1.3	1.3	0.28	\$1	0	Corrosion of household plumbing systems.

REVISED TOTAL COLIFORM RULE - At least 60 samples collected each month in the distribution system						
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest Percentage of positive samples	Typical Source
Total Coliform ¹	2023	Yes	0	MCL = Less than 5% positive monthly samples	0%	Naturally present in the environment.
E. Coli ²	2023	Yes	0	TT = No confirmed samples	0	Human and animal fecal waste.

NOTE: Coliforms are bacteria that are naturally present in the environment and are used as an indicator of the general bacteriological quality of the water. We are reporting the highest percentage of positive samples.

¹ The Treatment Technique for Total Coliforms requires that if the maximum percentage OR number of total coliform positive samples are exceeded a system assessment must be conducted, any sanitary defects identified, and corrective actions completed. Additional Level 1 Assessments or Level 2 Assessments are required depending on the circumstances.

² The Treatment Technique for E. Coli requires that for any total coliform positive routine sample with one or more total coliform positive check samples and an E. coli positive result for any of the samples a Level 2 Assessment must be conducted, any sanitary defects identified, and corrective actions completed. The E. Coli MCL is exceeded if routine and repeat samples are total coliform-positive and either is E. coli-positive, or the system fails to take repeat samples following an E. coli-positive routine sample, or the system fails to analyze total coliform-positive repeat samples for E. coli.

DISINFECTION BYPRODUCTS - Collected in the Distribution System								
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest LRAA	Range Detected	Typical Source	
Total Trihalomethanes (TTHMs) (ppb)	2023	Yes	NA	80	3.65	3.23-3.65	By-product of drinking water disinfection.	
Halooacetic Acids (HAAs) (ppb)	2023	Yes	NA	80	1.13	ND	By-product of drinking water disinfection.	

NOTE: Compliance is based on the running annual average at each location (LRAA). The Highest LRAA reflects the highest average at any location and the Range Detected reflects all samples used to calculate the running annual averages.

DISINFECTANTS - Collected in the Distribution System								
Substance (with units)	Year Sampled	Compliance Achieved	MRDLG	MRDL	Minimum Chlorine Residual ³	Compliance Result ⁴	Range Detected	Typical Source
Free Chlorine Residual (ppm)	2023	Yes	4	4	0.6	0.97	0.6-1.11	Water additive used to control microbes.

³Data represents the lowest residual entering the distribution system from our water treatment plant.

⁴Data represents the highest monthly average of chlorine residuals measured throughout our distribution system.

OTHER REGULATED SUBSTANCES - Collected at the Well Sites or Treatment Plant								
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL/SMCL	Highest Compliance Result	Range Detected	Typical Source	
Arsenic (ppb)	2018	Yes	0	10	2.2	ND - 2.2	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes	
Asbestos (MFL)	2019	Yes	7	7	0.12	0.12	Decay of asbestos cement water mains; Erosion of natural deposits;	
Fluoride (ppm) ⁵	2023	Yes	4	4	0.71	0.57-0.84	Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories	
Nitrate (ppm)	2023	Yes	10	10	1.08	ND - 1.08	Runoff from fertilizer use; industrial or domestic wastewater discharges; erosion of natural deposits.	
Radium 226 (pCi/L)	2023	Yes	5	5	0.61	0 to .61	Naturally occurring in the environment or as a result of industrial discharge or agricultural run off	
Gross Alpha (pCi/L)	2023	Yes	15	15	0.08	ND-0.08	Naturally occurring in the environment or as a result of industrial discharge or agricultural run off	

⁵ Data reported is annual average

UNREGULATED PERFLUORINATED COMPOUNDS – Effluent, Treated Water					
Parameter	Year Sampled	Units	Average Result	Range Detected	Typical Source
Perfluorobutanesulfonic acid (PFBS)	2023	ppt	3.28	ND-5.6	Manufactured chemical(s); used in household goods for stain, grease, heat and water resistance
Perfluorooctanoic Acid (PFOA)	2023	ppt	3.1	ND-6.5	
Perfluorohexanesulfonic acid (PFHxS)	2023	ppt	5.75	ND-9	
Perfluorohexanoic acid (PFHxA)	2023	ppt	0.65	ND-2.7	
Perfluorooctanesulfonic Acid (PFOS)	2023	ppt	7	ND-11.6	

UNREGULATED CONTAMINANT MONITORING RULE

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is necessary. Every five years, the EPA issues a new list of no more than 30 unregulated contaminants to be monitored. If you are interested in examining the results, please contact Laura Marcasciano at 253-366-9127. The table below provides information on the unregulated contaminants that were detected in the water system under the current round of monitoring.

UNREGULATED CHEMICALS						
Parameter	Year Sampled	Average Amount Detected	Range Low-High	Proposed U.S. EPA MCL	Hazard Index Calculation	Typical Source
Perfluorooctanoic acid (PFOA)	2023	2.5 ppt	ND to 6.8 ppt	4.0 ppt	N/A	Manufactured chemical(s); used in household goods for stain, grease, heat and water resistance.
Perfluorooctanesulfonic acid (PFOS)	2023	6.3 ppt	ND to 11.1 ppt	4.0 ppt	N/A	
Perfluorobutanesulfonic acid (PFBS)	2023	3.2 ppt	ND to 5.3 ppt	xx ppt	ND to 150	
Perfluorohexane sulfonic acid (PFHxS)	2023	4.9 ppt	ND to 8.8 ppt	xx ppt	ND to 150	
Perfluoropentanoic Acid(PFPeA)	2023	0.3 ppt	ND to 3.1 ppt	xx ppt	N/A	

For more information on the U.S. EPA's proposed PFAS drinking water standards, including the Hazard Index, please visit <https://www.epa.gov/pfas>.

PFAS chemicals are unique, so two PFAS chemicals at the same level typically do not present the same risk. Therefore, you should not compare the results for one PFAS chemical against the results of another.

Water Conservation

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 pet- pet waste contains fecal bacteria that may enter drinking water sources during a rain or snow event
- 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 an 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.

How to Contact Us

If you have any questions about this report, your drinking water, or service, please contact American Water Military Services Group Joint Base Lewis McChord Monday through Friday, 7:30 a.m. to 4 p.m. at 253-366-9122.

- **Spanish (Español):** Este informe contiene información muy importante sobre la calidad de su agua potable. Tradúscalo o hable con alguien que lo entienda bien.
- **French (Français) :** Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.