



2021 WATER QUALITY REPORT

System Name Joint Base Lewis McChord – McChord Field

WA Public Water System ID# 52200

Federal PWS ID# WA5352200



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

The JBLM-McChord Field source water supply consists of 9 groundwater wells located in various locations on base. Historically, the system functions as three interconnected subsystems: Military Family Housing, Semi-Automatic Ground Equipment (SAGE), and Main Base. During 2019, an interconnection between these subsystems was opened to facilitate service within all subsystems during well outages and infrastructure improvement projects. These sources pull groundwater from the Vashon and Salmon Springs Aquifers. These aquifers were selected due to their natural and physical conditions which allow natural filtration and less susceptibility to surface sources contamination. Rainfall replenishes these aquifers seasonally, providing a resilient and safe water supply.

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.

JBLM- McChord Field (PWS 52200) Community Water System Source Information							
DOH Source	JBLM Well	Water Type	Source Type	Depth (ft)	Susceptibility Rating	Source Use	Treatment
S01	South Well	GW	Well	298	High	Permanent	C
S02	North Well	GW	Well	200	High	Permanent	C
S03	East Well	GW	Well	540	Moderate	Permanent	C
S04	Sage Well 1	GW	Well	158	Moderate	Permanent	C
S06	Housing Well 3	GW	Well	220	Moderate	Permanent	C, F
S07	Housing Well 2	GW	Well	220	Moderate	Permanent	C, F
S08	Housing Well 1	GW	Well	435	High	Permanent	C, F
S11	Well 28	GW	Well	828	Low	Permanent	C

C= Chlorination/Hypochlorite, F=Fluoridation, GW = Groundwater

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).

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

McChord Field 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 McChord Field 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 McChord Field's Water was 0.41 ppm to 1.91 ppm in 2021.

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

PFAS refers to per- and polyfluoroalkyl substances, a class of synthetic chemicals, manufactured for industrial applications and commercial household products such as: non-stick cookware; waterproof and stain resistant fabrics and carpets; firefighting foam and cleaning products. The properties that make these chemicals useful in so many of our every-day products also resist breaking down and therefore persist in the environment. Exposure may be from food, food packaging, consumer products, house dust, indoor and outdoor air, drinking water and at workplaces where PFAS are made or used.

Since 2016, Joint Base Lewis McChord performed voluntary sampling to better understand occurrence of PFAS levels in drinking water sources. This testing allowed us to understand how our source water compares against the Washington State Board of Health's State Action Levels (SALs) that were established in late 2021. SALs for five PFAS were set to protect public health and if exceeded, requires additional monitoring, follow-up action, and public notification. Testing allows Joint Base Lewis McChord to be better prepared if the USEPA or Washington State Board of Health develops a drinking water standard.

The science and regulation of PFAS and other contaminants is always evolving, and American Water Military Services Group 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.

Water Quality Statement

We are pleased to report that during calendar year 2021, 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 2021. 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.

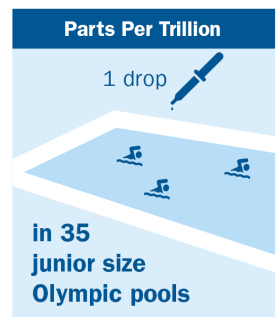
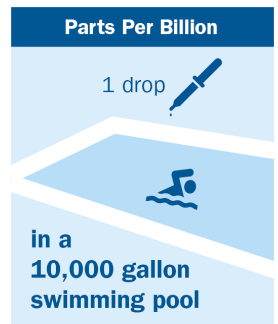
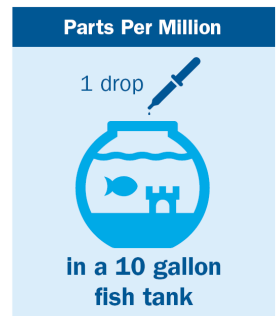
Other Information

The 2021 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



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 2021, 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: This contains data also collected by the government January 1-September 30, 2021. This is a combination of all 2021 data. Regulated contaminants not listed in this table were not found in the treated water supply.

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 Homes Sampled	Homes Above Action Level	Typical Source
Lead (ppb)	2019	Yes	0	15	4.34	30	3	Corrosion of household plumbing systems.
Copper (ppm)	2019	Yes	1.3	1.3	0.21	30	0	Corrosion of household plumbing systems.

REVISED TOTAL COLIFORM RULE - At least 10 samples collected each month in the distribution system						
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest No. of Samples	Typical Source
Total Coliform ¹	2021	Yes	0	MCL = No more than 1 positive monthly sample	0	Naturally present in the environment.
E. Coli ²	2021	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 number of positive samples in any month.

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)	2021	Yes	NA	80	15.5	15.5-0.5	By-product of drinking water disinfection.
Haloacetic Acids (HAAs) (ppb)	2021	Yes	NA	60	6.9	ND-6.9	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	Compliance Result	Range Detected	Typical Source
Free Chlorine Residual (ppm)	2021	Yes	4	4	0.11	0.77	0.11-1.191	Water additive used to control microbes.

OTHER REGULATED SUBSTANCES - Collected at the Treatment Plant

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL/SMCL	Highest Compliance Result	Range Detected	Typical Source
Arsenic (ppb)	2021	Yes	0	10	7	5.1-7	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Asbestos (MFL)	2018	Yes	7	7	0.123	0.123	Decay of asbestos cement water mains; Erosion of natural deposits;
Barium (ppm)	2017	Yes	2	2	0.0061	0.0061-0.00251	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Cadmium (ppb)	2017	Yes	5	5	0.405	ND-0.405	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; runoff from waste batteries and paints
cis-1,2-dichloroethylene (ppb)	2021	Yes	70	70	0.7	0.7	Discharge from industrial chemical factories
Chromium (ppb)	2017	Yes	100	100	0.32	ND-0.32	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2017	Yes	4	4	0.18	ND-0.18	Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Lead (ppb)	2017	Yes	15	15	2.34	ND-2.34	Corrosion of household plumbing systems. Erosion of natural deposits
Nitrate (ppm)	2021	Yes	10	10	1.04	0.128- 1.04	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Radium 228 (pCi/L)	2017	Yes	0	5	0.86	0.86	Erosion of natural deposits
Selenium (ppb)	2017	Yes	50	50	0.33	ND-0.33	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines

UNREGULATED PERFLUORINATED COMPOUNDS

Parameter	Units	Average Result	Range Detected	Typical Source
Perfluorooctanesulfonic Acid (PFOS)	ppt	4.75	4.6-4.9	Manufactured chemical; used in products for stain, grease, heat and water resistance

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 informacion muy importante sobre la calidad de su agua potable. Traduscalo 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 quequ'un qui le comprend bien.