



2016 Annual

Water Quality Report

Fort Sill

PWS ID: OK3001601



AMERICAN WATER
Military Services

This report contains important information about your drinking water. If you do not understand it, please have someone explain or translate it for you.

Este informe contiene información muy importante sobre su agua potable. Si no lo comprende, favor acudir a alguien que se lo pueda traducir o explicar.

Continuing Our Commitment

A Message From Military Services Group President Todd Duerr

American Water's Military Services Group owns and operates water and wastewater utilities under the Utilities Privatization program and proudly provides water and wastewater services to military communities around the country, including yours. Our Company's Vision – "Clean Water for Life" drives everything we do for you, our product consumer. To reinforce our vision and maintain your trust, it's important that we share with you information about our commitment to providing high-quality water service.

I am pleased to provide you with the 2016 Annual Water Quality Report with detailed information about the source and quality of your drinking water. We have prepared this report using the data from water quality testing conducted for your local water system from January through December 2016. You'll find that we supply water that surpasses or meets all federal and state water quality regulations.

With equal importance, we place a strong focus on acting as stewards of our environment. In all of the communities we serve, we work closely with the local directorates of public works, civil engineering squadrons, local environmental departments and state regulatory agencies to protect environmental quality, educate customers on how to use water wisely, and ensure the high quality of your drinking water every day.

At American Water, our values – safety, trust, environmental leadership, teamwork, and high performance – result in more than making water available "on-demand". We deliver more than just water. We deliver a key resource for public health, fire protection, the economy and the overall quality of life we enjoy – Clean Water for Life. For more information or for additional copies of this report, visit us online at www.amwater.com.

Sincerely,

Todd Duerr

President – American Water's Military Services Group

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Special Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Centers for Disease Control and Prevention) 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) or by calling our Customer Service Center at (800) 685-8660.

Water Information Sources

The Military Services Group of American Water provides water and wastewater contract services to military installations across the country as part of the federal government's Utility Privatization Program. It operates and maintains the water and/or wastewater assets at Fort A.P. Hill, Va., Fort Sill, Okla., Fort Leavenworth, Kan., Scott Air Force Base, Ill., Fort Rucker, Ala., Fort Meade, Md., Fort Belvoir, Va., Fort Hood, Texas, Fort Polk, La., Picatinny Arsenal, N.J., Hill Air Force Base, Utah and Vandenberg Air Force Base, Calif.

The Military Services Group is part of [American Water Enterprises](#), a market-based subsidiary of American Water.

Fort Sill American Water Enterprises Military Services Group (AWE-MSG) provides water services to approximately 23,000 customers at the Fort Sill Military Post located in Comanche County, Oklahoma. Fort Sill AWE-MSG is part of American Water. With a history dating back to 1886, American Water is the largest and most geographically diverse U.S. publicly-traded water and wastewater utility company. The company employs more than 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found by visiting www.amwater.com.

The web sites of US EPA Office of Water, the Centers for Disease Control and Prevention, and Oklahoma Department of Environmental Quality (ODEQ) provide a substantial amount of information on many issues relating to water resources, water conservation and public health.

You may visit these sites as well as American Water's website at the following addresses:

Centers for Disease Control and Prevention

www.cdc.gov

United States Environmental Protection Agency

www.epa.gov/safewater

Oklahoma Department of Environmental Quality

www.odeq.state.ok.us

American Water

www.amwater.com

American Water Works Association

www.awwa.org

Safe Drinking Water Hotline: (800) 426-4791

What is a Water Quality Report?

To comply with Oklahoma Department of Environmental Quality (ODEQ) and the U.S. Environmental Protection Agency (EPA) regulations, American Water issues a report annually describing the quality of your drinking water. The purpose of this report is to provide you an overview of last year's (2016) drinking water quality. It includes details about where your water comes from and what it contains. We hope the report will raise your understanding of drinking water issues and awareness of the need to protect your drinking water sources. For more information, please contact Ronnie Graves 580-248-3034.

How is Your Water Treated?

Current treatment processes include coagulation and settling followed by filtration and disinfection. An inhibitor is added for corrosion control and fluoridation is provided for reduction of dental cavities. Throughout the process, dedicated plant operations and water quality staff continuously monitor and control these plant processes to assure you, our customers, a superior water quality.

Share This Report

Landlords, businesses, schools, hospitals and other groups are encouraged to share this important information with water users at their location who are not billed customers of Fort Sill American Water and therefore do not receive this report directly.

Source Water Assessment Completed

A Source Water Assessment Program (SWAP) is a result of the 1996 amendments to the Federal Safe Drinking Water Act (SDWA). Those amendments require all states to establish a program to assess the vulnerability of public water systems to potential contamination. The Oklahoma Department of Environmental Quality (ODEQ) completed the Source Water Assessment of the City of Lawton three reservoirs. The assessment found that the reservoirs are potentially susceptible to contamination due to runoff from agricultural land. More detailed information regarding the Source Water Assessment for the City of Lawton Reservoirs can be found by contacting the Oklahoma Department of the Environmental Quality at (405) 702-8100.

Water Conservation Tips

Conservation measures you can use inside your home include:

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water-saving devices in faucets, toilets and appliances.
- Wash only full loads of laundry.
- Do not use the toilet for trash disposal.
- Take shorter showers.
- Do not let the water run while shaving or brushing teeth.
- Soak dishes before washing.
- Run the dishwasher only when full.

You can conserve outdoors as well:

- Water the lawn and garden in the early morning or evening.
- Use mulch around plants and shrubs.
- Repair leaks in faucets and hoses.
- Use water-saving nozzles.
- Use water from a bucket to wash your car, and save the hose for rinsing.

Where Does My Water Come From?

The sources of supply for the City of Lawton/Fort Sill and portions of Comanche County are as follows: Primary Source is Lake Lawtonka and the Secondary sources are Lake Ellsworth and Lake Waurika (surface supplies). The Lake Lawtonka intakes bring water into the Lawton treatment plant. Our water supply is part of the Lawtonka Watershed Basin with the watershed for Lake Lawtonka covering an area of roughly 92 square miles. Much of the watershed is mountain ranges and some agricultural. Also in addition to Lake Lawtonka is source water Lake Ellsworth having approximately 250 square miles of watershed and Lake Waurika which has approximately 562 square miles of watershed. These three water sources supply water to the Lawton Water Treatment Plant located at Medicine Park, Oklahoma. After the source water has been treated, it gravity flows into the two Lawton/Fort Sill water transmission lines delivering the treated water to the Fort Sill water system.

How much sodium is in your water?

The sodium level for the City of Lawton/Fort Sill Medicine Park water treatment plant was 49.9 mg/L.

What is the pH (acidity) range of your water?

Water in the distribution system averages about 7.70 pH units. A pH of 7.0 is considered neutral, neither acidic nor basic.

Is there fluoride in your water?

The City of Lawton/Fort Sill treated water supply Fluoride level is 0.40-0.71mg/L.

Cryptosporidium

Cryptosporidium is a single cell microbial organism found in surface water throughout the US. During its life cycle it matures into resistant cells called oocysts that can be shed in feces. The disease caused by *Cryptosporidium* is called Cryptosporidiosis and is caused by infection with oocysts. People can be exposed to oocysts from other people, animals, water, swimming pools, fresh food, soils, and any surface that has not been sanitized after exposure to feces. Symptoms range from a mild to incapacitating diarrhea, cramps, loss of appetite, weight loss, nausea, and low-grade fever.

Although *Cryptosporidium* can be removed through commonly-used filtration methods, US EPA issued a new rule in January 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. The EPA

created this rule (Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) to provide for increased protection against microbial pathogens, such as *Cryptosporidium*, in public water systems that use surface water sources.

Substances Expected to be in Drinking Water

To ensure that tap water is of high quality, U.S. Environmental Protection Agency prescribes regulations limiting the amount of certain substances in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

The Lawton / Fort Sill (AWE-MSG) advanced water treatment processes are designed to reduce any such substances to levels well below any health concern. The source of drinking water (both tap water and bottled water) includes 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, or wildlife.

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also, come from gas stations, urban storm water runoff, and septic systems.

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Information about Lead

Is there lead in my water?

Although we regularly test lead levels in your drinking water, it is possible that lead and/or copper levels at your home are higher because of materials used in your plumbing. If present, elevated levels of lead can cause serious 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. Fort Sill 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 and copper exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. You can also use cold water for cooking, drinking, or making baby formula; use low lead containing faucets; and when replacing or working on pipes, use lead-free solder. Fort Sill American Water remains in full compliance with all of the requirements dealing with lead in drinking water. If you are concerned about lead in your drinking 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 National Lead Information Center (800-LEAD-FYI) or the EPA Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

How to Read the Data Tables

American Water Enterprises-Military Service Group (AWE-MSG) conducts extensive monitoring to ensure that your water meets all water quality standards. The results of our monitoring are reported in the following tables. While most monitoring was conducted in 2016, certain substances are required to be monitored less than once per year and represent the most current results available. For help with interpreting this table, see the "Table Definitions" section.

Starting with a **Substance**, read across. **Year Sampled** is usually in 2016 or year prior. **MCL** shows the highest level of substance (contaminant) allowed. **MCLG** is the goal level for that substance (this may be lower than what is allowed). **Average Amount Detected** represents the measured amount (less is better). **Range** tells the highest and lowest amounts measured. A **Yes** under **Compliance Achieved** means the amount of the substance met government requirements. **Typical Source** tells where the substance usually originates.

Unregulated substances are measured, but maximum allowed contaminant levels have not been established by the government.

Special Monitoring:

The City of Lawton tested for many different compounds over the year at the point of entry for the Medicine Park Water Treatment Plant and The Southeast Water treatment Plant and the Max distant distribution site.

Table Definitions and Abbreviations

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

BPQL (Below Practical Quantitative Limit): Below the minimum concentration of a substance can be measured and reported with 99 percent confidence that the true value is greater than zero.

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.

MRDL (Maximum Residual Disinfectant Level): The highest level of disinfectant routinely allowed in drinking water. Addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of 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 contamination.

mrem/year: Millirems per year (a measure of radiation absorbed by the body).

NA: Not applicable.

ND: Not detected.

NTU - Nephelometric Turbidity Units: Measurement of the clarity, or turbidity, of water.

pCi/L (picocuries per liter): Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).

pH: A measurement of acidity, 7.0 being neutral.

ppm (parts per million): One part substance per million parts water, or milligrams per liter.

ppb (parts per billion): One part substance per billion parts water, or micrograms per liter.

ppt (parts per trillion): One part substance per trillion parts water, or nanograms per liter.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

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 and/or why total coliform bacteria have been found in our water system on multiple occasions.

Water Quality Statement

Fort Sill purchases all of its drinking water from the City of Lawton. American Water Enterprises, Inc. owns and operates the water distribution system on Fort Sill. The City of Lawton and American Water Enterprises, Inc. are required to sample for many different contaminants in your drinking water annually. The tables below only contain sample results for contaminants that were detected in your drinking water. Some contaminants are required to be sampled for less than annually and in these cases, the most recent sample results are provided below and the year they were collected.

REGULATED CONTAMINANTS FROM THE CITY OF LAWTON (PURCHASED WATER)

Substance (units)	Year Sampled	MCL	MCLG	Medicine Park Lawton WTP			Typical Source
				Average Amount Detected	Range	Compliance Achieved	
TURBIDITY AND ORGANIC CARBON							
Total Organic Carbon - TOC (removal ratio)	Analyzed Monthly	TT	NA	2.48 (48% Avg. Removal)	NA	Yes	Naturally decaying vegetation
Turbidity (NTU) ¹	2012	TT = 1.0	NA	Highest Amount Detected 0.14	NA	Yes	Soil runoff
DISTRIBUTION TESTING							
TTHMs (ppb)	LRAA 2015	80	NA	15.43	9.08-19.4	Yes	By-product of drinking water disinfection
HAA5 (ppb)	LRAA 2015	60	NA	4.85	2.24-7.65	Yes	By-product of drinking water disinfection
Total Coliform Bacteria (highest # of samples in a single month)	2016	5% positive	0	0 positive 0.00%	NA	Yes	Naturally present in the environment
Fecal Coliform Bacteria (highest # of samples in a single month)	NA	NA	0	0 positive 0.00%	NA	Yes	Human and animal fecal waste
DISTRIBUTION TESTING - LEAD AND COPPER							
Substance (units)	Year Sampled	MCL	MCLG	90th Percentile	Sites Above AL	Compliance Achieved	Typical Source
Copper (ppm)	2015	1.3	NA	0.0109	0	Yes	Corrosion of household plumbing; Erosion of natural deposits
Lead (ppb)	2015	15	NA	0.357	0	Yes	Corrosion of household plumbing; Erosion of natural deposits

INORGANIC CONTAMINANTS							
Substance (units)	Year Sampled	MCL	MCLG	Average Amount Detected	Range	Compliance Achieved	Typical Source
Antimony (ppb)	2012	6	6	<2.0	NA	Yes	Discharge from petroleum refineries; Fire retardants; Ceramics, electronics; Solder
Arsenic (ppb)	2012	10	10	<2.0	NA	Yes	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppb)	2012	2000	2000	111	NA	Yes	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beryllium (ppb)	2012	4	4	<2.0	NA	Yes	Discharge from metal refineries and coal burning factories; Discharge from electrical, aerospace, and defense industries
Bromate (ppb)	Monthly Running Average 2016	10	10	0.00	0.00 - 0.00	Yes	By-product of drinking water disinfection
Cadmium (ppb)	2012	5	5	<2.0	NA	Yes	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints
Chromium (ppb)	2012	100	100	<10.0	NA	Yes	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2016	4	4	0.71	0.40-0.71	Yes	Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Mercury (ppb)	2012	2	2	<0.05	NA	Yes	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills and croplands
Nitrate/Nitrite as Nitrogen (ppm)	2016	10	10	0.13	NA	Yes	Runoff from fertilizer use; Leaching from septic tanks; Erosion of natural deposits
Selenium (ppb)	2012	50	50	<10	NA	Yes	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Sodium (ppm)	2012	No Limit	NA	49.9	NA	Yes	Erosion of natural deposits; Leaching
Thallium (ppb)	2012	2	0.5	<1.0	NA	Yes	Leaching from ore processing sites; Discharge from electronic, glass, and drug factories
RADIOLOGICAL CONTAMINANTS							
Substance (units)	Year Sampled	MCL	MCLG	Average Amount Detected	Range	Compliance Achieved	Typical Source
Gross Alpha (pCi/L)	2015	15	0	<0.518	NA	Yes	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation
Gross Beta (pCi/L)	2015	50	0	3.54	NA	Yes	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation
Combined Radium 226 & 228 (pCi/L)	2015	5	0	0.027	NA	Yes	Erosion of natural deposits
Uranium (ppb)	2015	30	0	<1.0	NA	Yes	Erosion of natural deposits

VOLATILE ORGANIC CONTAMINANTS							
Substance (units)	Year Sampled	MCL	MCLG	Average Amount Detected	Range	Compliance Achieved	Typical Source
Benzene (ppb)	2011	5	0	<0.5	NA	Yes	Discharge from factories; Leaching from gas storage tanks and landfills
Carbon Tetrachloride (ppb)	2011	5	0	<0.5	NA	Yes	Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	2011	100	100	<0.5	NA	Yes	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (ppb)	2011	600	600	<0.5	NA	Yes	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	2011	75	75	<0.5	NA	Yes	Discharge from industrial chemical factories
1,2-Dichloroethane (ppb)	2011	5	0	<0.5	NA	Yes	Discharge from industrial chemical factories
1,1-Dichloroethylene (ppb)	2011	7	7	<0.5	NA	Yes	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	2011	70	70	<0.5	NA	Yes	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)	2011	100	100	<0.5	NA	Yes	Discharge from industrial chemical factories
Dichloromethane (ppb)	2011	5	0	<0.5	NA	Yes	Discharge from drug and chemical factories
1,2-Dichloropropane (ppb)	2011	5	0	<0.5	NA	Yes	Discharge from industrial chemical factories
Ethylbenzene (ppb)	2011	700	700	<0.5	NA	Yes	Discharge from petroleum refineries
Styrene (ppb)	2011	100	100	<0.5	NA	Yes	Discharge from rubber and plastic factories; Leaching from landfills
Tetrachloroethylene (ppb)	2011	5	0	<0.5	NA	Yes	Discharge from factories and dry cleaners
1,2,4-Trichlorobenzene (ppb)	2011	70	70	<0.5	NA	Yes	Discharge from textile finishing factories
1,1,1-Trichloroethane (ppb)	2011	200	200	<0.5	NA	Yes	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane (ppb)	2011	5	3	<0.5	NA	Yes	Discharge from industrial chemical factories
Trichloroethylene (ppb)	2011	5	0	<0.5	NA	Yes	Discharge from metal degreasing sites and other factories
Toluene (ppb)	2011	1000	1000	<0.5	NA	Yes	Discharge from petroleum factories
Vinyl Chloride (ppb)	2011	2	0	<0.5	NA	Yes	Leaching from PVC pipes; Discharge from plastic factories
Xylenes (ppb)	2011	10,000	10,000	<0.5	NA	Yes	Discharge from petroleum factories; Discharge from chemical factories

REGULATED CONTAMINANTS FROM THE FORT SILL WATER DISTRIBUTION SYSTEM (AMERICAN WATER)

Substance (units)	Year Sampled	MCL	MCLG	Average Amount Detected	Range	Compliance Achieved	Typical Source
DISINFECTANT AND DISINFECTION BY-PRODUCTS (AMERICAN WATER)							
Chloramines (ppm)	2016	4	4	3.13	2.84-3.45	Yes	Disinfectant water additive used to control microbes
MICROBIOLOGICAL CONTAMINANTS (AMERICAN WATER)							
Substance (units)	Year Sampled	MCL		MCLG	Tested Positive	Compliance Achieved	Typical Source
Coliform, Total	2016	No more than 1 positive monthly sample.		0	0	Yes	Naturally present in the environment
Coliform, Fecal	2016	N/A		0	0	Yes	Human and animal fecal waste
DISTRIBUTION TESTING (AMERICAN WATER)							
Substance (units)	Year Sampled	AL	MCLG	90th Percentile	Sites Above AL	Compliance Achieved	Typical Source
Lead (ppb)	2015	15	0	BPQL	0	Yes	Corrosion of household plumbing; Erosion of natural deposits
Copper (ppm)	2015	1.3	0	0.018	0	Yes	Corrosion of household plumbing; Erosion of natural deposits
DISTRIBUTION TESTING (AMERICAN WATER)							
Substance (units)	Year Sampled	MCL	MCLG	Average Amount Detected	Range	Compliance Achieved	Typical Source
THMs (ppb)	2016	80	NA	15.05	9.47-20.3	Yes	By-product of drinking water disinfection
HAA5 (ppb)	2016	60	NA	4.87	1.82-7.65	Yes	By-product of drinking water disinfection