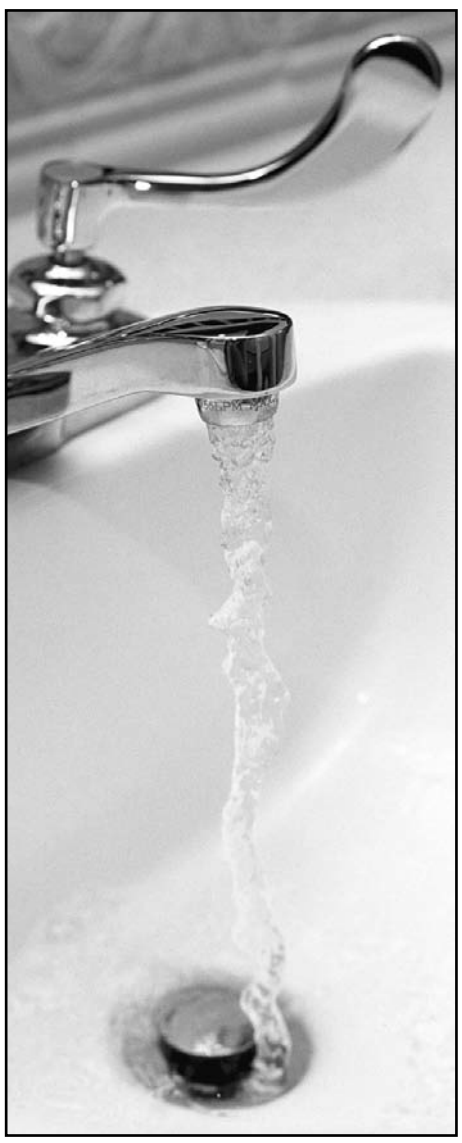
2014 Water Quality Report

Annual Consumer Confidence Report on the Quality of Drinking Water at Tinker for the Year 2013 (Water System ID Number OK2005508)



This year's Annual Water Quality Consumer Confidence Report is designed to inform you about the quality of water on base, to advance your understanding of drinking water and heighten awareness of the need to protect our precious water resources. Tinker issues this annual report to meet requirements set under the "Consumer Confidence Reporting Rule" of the Safe Drinking Water Act.

Bioenvironmental Engineering routinely monitors the system to meet all regulatory requirements. Our staff collects water samples from the water distribution system. These samples are then shipped to certified laboratories where all of the required water quality analyses are performed.

Bottom Line:

Tinker's drinking water is safe and meets all federal and state requirements. No monitoring violations occurred during 2013. All detected analytes were below the Maximum Contaminant Level.

Where does our water come from?

The Tinker water system is primarily supplied by a system of wells ranging in depth from approximately 400 to 800 feet, drawing from the Garber-Wellington mudstone/sandstone aquifer. Water from the wells is chlorinated before entering the distribution system. Fluoride is added to the system on the west side of the base only, serving our non-industrial consumers. Tinker can also use the Oklahoma City Stanley Draper water system as a secondary source of water. These connections are occasionally opened in the summer and during other peak demand periods. The water supplied by Oklahoma City is produced at the Lake Stanley Draper Drinking Water Plant, where it is treated to meet SDWA standards. The Stanley Draper system is the source of water for the Tinker Aerospace Complex. Those with questions regarding the water quality at TAC can find the 2013 OKC CCR online at: http://www.okc.gov/water/service/forms/waterqualityreport.aspx.

How do contaminants get into drinking water?

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.

- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

- *Inorganic contaminants*, such as salts and metals, which can be naturally occurring or result from urban storm

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Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that were detected during 2013. Although water samples were tested for many more contaminants, only those substances listed below were found in your water. Some water quality parameters do not require annual testing. If the parameter was not tested in 2013, the sampling year is noted below. Terms used in the table are explained in the definitions below.

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	2013	1	1 - 1	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes
Total Trihalomethanes (TTHM)	2013	8	0 - 8	No goal for the total	80	ppb	N	By-product of drinking water disinfection
Inorganic Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**MCLG**	**MCL**	**Units**	**Violation**	**Likely Source of Contamination**
Barium	2013	0.599	0.259 - 0.599	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium	2013	18	0 - 18	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits
Nitrate [measured as Nitrogen]	2013	.54	0.16 - 0.54	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Radioactive Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**MCLG**	**MCL**	**Units**	**Violation**	**Likely Source of Contamination**
Beta/photon emitters	2013	5.04	1.54 - 5.04	0	50	pCi/L	N	Decay of natural and man-made deposits
Combined Radium 226/228	2013	4.03	0 - 4.03	0	5	pCi/L	N	Erosion of natural deposits
Gross alpha excluding radon and uranium	2013	10	1.24 - 10	0	15	pCi/L	N	Erosion of natural deposits
Uranium	2013	5.2	0 - 5.2	0	30	ug/l	N	Erosion of natural deposits
Volatile Organic Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**MCLG**	**MCL**	**Units**	**Violation**	**Likely Source of Contamination**
Trichloroethylene	2013	0.9	0 - 0.9	0	5	ppb	N	Discharge from metal degreasing sites and other factories
Lead and Copper	**Date Sampled**	**MCLG**	**Action Level (AL)**	**90th Percentile**	**# Sites Over AL**	**Units**	**Violation**	**Likely Source of Contamination**
Copper	2013	1.3	1.3	0.113	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems

Unit Descriptions

Term	Definition
ppm	parts per million, or milligrams per liter (mg/L)
ppb	parts per billion, or micrograms per liter (µg/L)
pCi/L	picocuries per liter (a measure of radioactivity)
NA	not applicable
ND	Not detected

Important Drinking Water Definitions

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.

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.

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

MRDLG: 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.

MRDL: Maximum residual disinfectant level — The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MPL: State Assigned Maximum Permissible Level

ALG: Action Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

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

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water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

- *Organic 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.

- *Radioactive materials*, which can be naturally occurring or the result of oil and gas production and mining activities.

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 at 800-426-4791.

Source Water Assessment and Wellhead Protection Programs

The Oklahoma Department of Environmental Quality conducted a contamination susceptibility assessment of Tinker's water system in 2003, under the Source Water Assessment and Protection Program. The overall contamination susceptibility was rated as "Low." The Tinker Wellhead Protection Plan, written in April 2004, is used to protect the underground source of Tinker's drinking water. For more information on the Source Water Assessment and Wellhead Protection Programs contact the base Civil Engineering Restoration Division at 736-4348.

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 infections. These people should seek advice from their health care providers about drinking water. EPA/Centers for Disease Control 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).

Want additional information?

If you have any questions about this Water Quality Report or other Tinker drinking water quality issues, call Douglas Woods at the Bioenvironmental Engineering Flight at 734-7844. Additional information on drinking water quality may be obtained from the Oklahoma DEQ at 702-8100 and the EPA Safe Drinking Water Hotline at (800) 426-4791.

This water quality report is also available online at https://afkm.wpafb.af.mil/DocView.asp/DocID=6445016.

Additional Water Quality Information for residents in Tinker family housing

PUBLIC WATER SYSTEM ID NUMBER OK8005550

Tinker Family Housing is pleased to report that your drinking water is safe! Your drinking water is purchased from Tinker, Public Water System ID Number OK2005508. See the Annual Consumer Confidence Report on the Quality of Drinking Water, Tinker, for the Year 2013, for information on the quality of drinking water provided to base housing in 2013. Tinker Family Housing is also required by the Oklahoma Department of Environmental Quality to collect additional drinking water samples in the base housing area for lead, copper, Disinfection-By-Product 2 and bacteriological. All of these samples, shown in the table below, met federal and state requirements for drinking water. If you have any questions regarding the drinking water supplied to your base home, call Timothy Heath at Tinker Family Housing at 732-3324.

Contaminants	MCLG or MRDLG	MCL, TT or MRDL	Your Water	Range Low	Range High	Sample Date	Violation	Typical Source
Microbiological Contaminants								
Total Coliform (positive samples/month)	0	0	0	NA		2013	No	Naturally present in the environment

Undetected contaminants

The following contaminants were montored for, but not detected, in your water.

Contaminants	MCLG or MRDLG	MCL or MRDL	Your Water	Violation	Typical Source
TTHMs [Total Trihalomethanes] (ppb)	NA	80	ND	No	By-product of drinking water disinfection