2013 Water Quality Report
Oklahoma State University
Water System PWS 1020910

Utilities and Energy Management is pleased to present the 2013 Annual Water Quality Report to keep our customers informed about the water quality and services we have delivered over the past year. Our goal as always is to supply Oklahoma State University with a safe and dependable supply of quality drinking water.

OSU Stillwater is supplied potable water by the OSU Water Treatment Plant located west of campus at 226 South Pioneer. The plant's raw water source is Lake Carl Blackwell, located approximately 6 miles west of Stillwater. Throughout 2013 the water treatment plant supplied approximately 450 million gallons of drinking water to the campus. Early last August and into September we encountered a rare and unique combination of circumstances that caused discoloration to our potable water. Investigations led us to determine that a higher than normal manganese level occurring in Lake Carl Blackwell was responsible for the dark brown color in our water. While the level of manganese was never a health risk, it fluctuated over several weeks and was a concern to everyone. Now we have implemented monitoring and treatment procedures in the water treatment plant to control future high manganese events. Additionally, studies are underway on measures for long term improvements to the plant.

The OSU Water Treatment Plant routinely monitors for numerous constituents in the drinking water according to Federal and State laws. We also participate in USEPA efforts to continually research methods to improve the effectiveness of water treatment and delivery.

For questions about this report or other information about the OSU water system, call Steve Armstrong, OSU Water Plant Superintendent, at (405) 372-5524.

The sources of all 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 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.
- 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, the EPA prescribes regulations which limit the amount of certain constituents in water provided by public water systems. FDA regulations establish limits to contaminants in bottled water. All drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some constituents. The presence of constituents does not necessarily indicate that the water poses a health risk.

Important Health Information: Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 for infections. These people should seek advice from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hotline (800)-426-4791.**

LEAD AND COPPER TESTING

SUBSTANCE (UNITS)	YEAR SAMPLED	ACTION LEVEL	MCLG	90^{TH} PERCENTILE LEVEL	SITES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2013	1.3	1.3	0.171	0	NONE	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of home water pipes

TURBIDITY

Limit (Treatment Technique)	Limit (Treatment Technique)	Level Detected	Violations	Sources of Contamination
Highest Single Measurement	1 NTU	0.4 NTU	None	Soil Runoff
Lowest Monthly % Meeting Limit	.3 NTU	99.45%		

INORGANIC CONTAMINANTS

PARAMETER (UNITS)	COLLECTION DATE	MCL	MCLG	RANGE OF DETECTIONS	MAXIMUM LEVEL DETECTED	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2013	2	2	0.165 - 0.165	0.165	NONE	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	2013	4	4	0.42 - 0.88	0..88	NONE	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.

RADIOACTIVE CONTAMINANTS

Parameter	MCLG	MCL	Highest Level Detected	Range	Units	Violation	Sources of Contamination
Beta/Photon Emitters (pCi/L)	0	4	4.1	3.79 – 4.1	mrem/yr	None	Decay of natural and man-made deposits
Combined Radium 226/228	0	5	1	0.072 – 1.38	pCi/L	None	Erosion of natural deposits
Gross Alpha excluding radon and uranium	0	15	1	0 – 0.769	pCi/L	None	Erosion of natural deposits

DISINFECTION BY-PRODUCTS

Parameter	Test Year	MCL (ppb)	MCLG (ppb)	Maximum Level Detected (ppb)	Detection Range	Violations	Sources of Contamination
Total Trihalomethanes (TTHM) *	2013	80	No goal for total	84	32.42 -154.55	None	By-product of drinking water chlorination
Haloacetic Acids (HAA5) *	2013	60	No goal for total	36	8.51 -87.94	None	By-product of drinking water chlorination

NOTICE: *Compliance is based on an average of four sites tested quarterly.

TOTAL ORGANIC CARBON (TOC)

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set.

UNITS OF MEASUREMENT

ppm: Milligrams per liter, or parts per million – or one ounce in 7,350 gallons of water
ppb: Micrograms per liter, or parts per billion – or one ounce in 7,350,000 gallons of water
pCi/L: Picocurie per liter - Measure of radioactivity in water
Mrem/yr: Millirems per year **-** Measure of radiation absorbed by the body

Terms Used in This Report

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 MCLG as feasible, using the best available technology.

NA: *Not Applicable*

NTU: *Nephelometric Turbidity Unit* A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

BPQL: *Below Practical Quantitation Level* – The method detection limit (MDL) adjusted for any dilutions or other changes made to the sample to deal with interference/matrix effects.

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. We 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****.*

While no detectable lead levels were found in the University's water, we encourage users that are concerned, or meet the at-risk profile, to use the above guidelines to minimize any possible lead exposure.