

**City of Tulsa  
CCR 2016**

This table shows data for samples collected during 2016 (unless otherwise noted). Analyses made by professionals after water treatment showed that the levels of all contaminants found were much less than the levels that are cause for concern.

**Definitions:**

**AL = Action Level:** The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.

**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 contaminant in drinking water below which there is no known or expected health risk.

**MRDL = Maximum Residual Disinfectant Level:** The highest level of disinfectant allowed in drinking water.

**LRAA = Locational Running Annual Average:** average calculated at each monitoring location

**NTU = Nephelometric Turbidity Unit**

**s.u. = Standard Units**

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

**\*\*Data collected quarterly 2014 in conjunction with UCMR3 sampling. Monitoring frequency is in compliance with regulation.**

**\*\*\*Current round of testing is ongoing, data calculated over 21 months, testing will complete in 2017; oocysts found in source water only; Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.**

Regulated Contaminants	Level Found	Minimum	Maximum	Maximum Contaminant Level (MCL*)	MCLG*	Violation	Likely Source of Contaminants
Turbidity Level found			0.26	TT="less than 0.3 NTU 95 percent of the time.	n/a	No	Soil runoff.
Lowest monthly % meeting regs	100.0%						
Total Coliform bacteria within distribution system			0.47% (monthly)	Presence of coliform bacteria in more than 5 percent of monthly samples.	0	No	Naturally present in the environment.
E coli			1 (routine)	Routine sample with positive E. coli followed by repeat sample with positive Total Coliform or E. coli.	0	No	Human and animal fecal waste.
Cryptosporidium***	0.008	0.000	0.100	TT="Presence of cryptosporidia >0.075 oocysts/L over 48 month sampling period	0	No	Human and animal fecal waste.
Barium	0.041	0.030	0.058	2 parts per million	2	No	Naturally present in the environment, drilling waste, metal refineries.
Total Chlorine	2.5	1.6	3.1	MRDL* = 4.0 parts per million annual average	4	No	Water additive to control microbes.
Chlorite	0.23	0.05	0.36	1 part per million	0.8	No	By-product of drinking water disinfection.
Total Chromium**	0.14	0	0.28	100 parts per billion	100	No	Discharge from steel and pulp mills; erosion of natural deposits
Copper	0.28 ppm at the 90th percentile; 0 sites above AL			AL* = 1.3 parts per million (ppm) at 90th percentile	1.3	No	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives.
Fluoride	0.67	0.24	0.84	4 parts per million	4	No	Erosion of natural deposits, water additive which promotes strong teeth, discharge from fertilizer and aluminum factories.
Lead	0.002 ppb at the 90th percentile; 0 sites above AL			AL* = 15 parts per billion (ppb) at 90th percentile	0	No	Corrosion of household plumbing systems, erosion of natural deposits.
Nitrate	0.35	0	1.1	10 parts per million;	10	No	Naturally occurring, fertilizers, sewage treatment plants, leaching from septic tanks, erosion of natural deposits
Total Organic Carbon	1.9	1.10	3.1	Results are parts per million. MCL is TT="percent removal	n/a	No	Naturally found in the environment.
Haloacetic Acids	17	6	27	LRAA; Minimum and Maximum are from individual readings.	n/a	No	By-product of drinking water disinfection.
Total Trihalomethanes	36	24	51	80 parts per billion LRAA*. Level found is highest LRAA; Minimum and Maximum are from individual readings.	n/a	No	By-product of drinking water disinfection.

Secondary Contaminants	Average	Minimum	Maximum	Recommended Level			Likely Source of Contaminants
pH	n/a	7.1	8.5	Aesthetic level 6.5-8.5 s.u.*			Measure of acidity. Naturally present, adjusted in drinking water treatment.
Chloride	13	8	20	Aesthetic level 250 parts per million			Naturally present, brine from oilfield operations
Sodium	10	5.9	14	Standard has not been established			Naturally occurring, urban stormwater runoff or discharge from sewage treatment plants.
Sulfate	21	4.1	58	Aesthetic level 250 parts per million			Naturally present in the environment.

**ADDITIONAL MONITORING:**

Tulsa was required to participate in Unregulated Contaminant Monitoring (UCMR3) in 2014. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. The following are those contaminants that were detected during UCMR3 monitoring.

Unregulated Contaminants	Average (parts per billion)	Minimum (parts per billion)	Maximum (parts per billion)
Bromochloromethane	0.020	0	0.092
Chlorate	79.3	0	244
Hexavalent Chromium	0.011	0	0.055
Molybdenum	0.14	0	1.1
Strontium	157	44.8	362
Vanadium	0.57	0	1.2