

A close-up photograph of water droplets falling from a faucet, creating a series of vertical lines of water. The background is a soft, out-of-focus blue. The droplets are in various stages of falling, some are large and spherical, while others are elongated and teardrop-shaped. The overall color palette is a range of blues, from light to dark.

# ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2016



*Presented By*  
**City of Yukon Operated by  
Veolia Water North America**

## We've Come a Long Way

Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

## Important Health Information

While your drinking water meets the U.S. EPA's standard for arsenic, it does contain low levels of arsenic. The EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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. The U.S. 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 at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



## Oklahoma City Has Conducted Testing for *Cryptosporidium*

*Cryptosporidium* is a microbial pathogen found in surface water throughout the United States.

All source water samples collected for the City of Oklahoma City during 2016 were non-detect for this pathogen. *Cryptosporidium* is part of the Long Term 2 Enhanced Surface Water Treatment Rule and testing was required for a consecutive 24 months. Our testing will be completed in 2017. Source water averages are <0.075 cysts/L, which are considered low risk category.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the first and third Tuesdays of each month beginning at 7:30 p.m. in the Centennial Building located at 12 South Fifth Street, Yukon, OK.

## Information on the Internet

The U.S. EPA (<https://goo.gl/TFAMKc>) and the Centers for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov)) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the Oklahoma Department of Environmental Quality has a Web site ([www.deq.state.ok.us](http://www.deq.state.ok.us)) that provides complete and current information on water issues in Oklahoma, including valuable information about our watershed.

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Gary Giddings, Project Manager, at (405) 354-6245. Veolia Water is located at 501 West Wagner Road in Yukon, OK 73099.

## Where Does My Water Come From?

The City of Yukon customers are fortunate because we enjoy an abundant water supply from two sources. Our water sources are groundwater from Garber Wellington Aquifer and purchased water provided by Oklahoma City. The aquifer supplies an average of approximately 2.6 million gallons of groundwater per day to our residents. In order to meet the new arsenic regulations, Yukon water is blended with OKC Water prior to the entry point of Yukon's system. Depending on the month, 60 percent of the total water supply for Yukon is OKC Water. This process allows the City of Yukon to remain in compliance with the federal regulations.

## Source Water Assessment

The City of Yukon and Veolia Water have conducted a Source Water Assessment and Protection Ground Water Sources Report that was submitted to the Oklahoma Department of Environmental Quality in 2002. The report indicated that the Qualitative Susceptibility Rating (QSR) was low. This report is on file with Veolia Water and may be reviewed at 501 West Wagner Road, Yukon, OK.



## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The 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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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 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 stormwater 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 stormwater 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.

## Lead in Home Plumbing

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 are responsible for providing high-quality drinking water, but 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 [www.epa.gov/lead](http://www.epa.gov/lead).



## Test Results

Our water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents only those substances that were detected; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

REGULATED SUBSTANCES									
				Oklahoma City–Draper WTP		City of Yukon			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Alpha Emitters</b> (pCi/L)	2012	15	0	<0.4744	<0.4744–<0.4744	5.09 <sup>1</sup>	1.4–5.09 <sup>1</sup>	No	Erosion of natural deposits
<b>Arsenic</b> (ppb)	2013	10	0	<2.0	<2.0–<2.0	8.97 <sup>2</sup>	0.0–8.97 <sup>2</sup>	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
<b>Barium</b> (ppm)	2013	2	2	0.057	0.032–0.057	0.181 <sup>3</sup>	0.181–0.181 <sup>3</sup>	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Beta/Photon Emitters<sup>4</sup></b> (pCi/L)	2012	50	0	2.611	2.611–2.611	2.13 <sup>1</sup>	2.04–2.13 <sup>1</sup>	No	Decay of natural and man-made deposits
<b>Bromate</b> (ppb)	2016	10	0	2.89	<8.75–40.5	NA	NA	No	By-product of drinking water disinfection
<b>Chloramines</b> (ppm)	2016	[4]	[4]	3.37	1.20–3.80	NA	NA	No	Water additive used to control microbes
<b>Chlorine</b> (ppm)	2015	[4]	[4]	NA	NA	2.0	1.00–2.0	No	Water additive used to control microbes
<b>Combined Radium</b> (pCi/L)	2012	5	0	<0.495	<0.495–<0.495	NA	NA	No	Erosion of natural deposits
<b>Fluoride</b> (ppm)	2016	4	4	0.69	0.69–0.82	0.42	0.42–0.42	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]</b> (ppb)	2016	60	NA	43.15	2.09–48.10	24.9	24.0–25.9	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2016	10	10	0.109	0.000–0.109	0.36	0.36–0.36	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2016	80	NA	71.50	5.29–77.07	51.2	51.1–51.2	No	By-product of drinking water disinfection
<b>Total Coliform Bacteria [RTCR–after April 2016]</b> (Positive samples)	2016	TT	NA	2	NA	1	NA	No	Naturally present in the environment
<b>Total Organic Carbon</b> (ppm)	2016	TT	NA	0.406	0.406–0.406	NA	NA	No	Naturally present in the environment
<b>Turbidity</b> (NTU)	2016	TT	NA	0.74	<0.74–0.74	NA	NA	No	Soil runoff
<b>Turbidity</b> (Lowest monthly percent of samples meeting limit)	2016	TT = 95% of samples meet the limit	NA	99.5	NA	NA	NA	No	Soil runoff
<b>Uranium</b> (pCi/L)	2012	27	0	<1.0	<1.0–<1.0	3.2 <sup>1</sup>	2.6–3.3 <sup>1</sup>	No	Erosion of natural deposits



Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

		Oklahoma City-Draper WTP			City of Yukon				
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2015	1.3	1.3	0.079	0/100	0.0361	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2015	15	0	<5.00	0/100	100	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

### UNREGULATED SUBSTANCES (OKLAHOMA CITY - DRAPER WTP)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chlorate <sup>5</sup> (ppb)	2013	36.4	<20.0–36.4	By-product of drinking water disinfection; Making of dyes, explosives, matches, printing fabrics, herbicides, antiseptics, toothpaste; Paper pulp processing
Cryptosporidium <sup>6</sup> (Units)	2016	<0.075	0–0.075	Storm runoff; Agriculture runoff; Leaking sewage systems
Hexavalent Chromium <sup>5</sup> (ppb)	2013	0.141	<0.030–0.391	Naturally occurring; By-product of making steel and other alloys, plating, dyes and pigments, leather and wood preservation
Molybdenum <sup>5</sup> (ppb)	2013	2.76	<1.00–3.24	Naturally occurring; by-product of making steel and other alloys, lubricants, dyes and pigments
Strontium <sup>5</sup> (ppb)	2013	295	42.9–763	Naturally occurring; By-product of making electronics and fireworks
Total Chromium <sup>5</sup> (ppb)	2013	0.428	<0.200–0.471	Naturally occurring; By-product of making steel and other alloys, plating, dyes and pigments, leather and wood preservation
Vanadium <sup>5</sup> (ppb)	2013	2.78	<0.200–7.50	Naturally occurring; By-product of making steel alloys, chemical manufacturing, ceramics, and batteries

<sup>1</sup> Sampled in 2015.

<sup>2</sup> Sampled in 2016.

<sup>3</sup> Sampled in 2014.

<sup>4</sup> The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of

concern for beta particles.

<sup>5</sup> UCMR3 analyte.

<sup>6</sup> Long Term 2 Enhanced Surface Water Treatment Rule.

## Definitions

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

**LRAA (Locational Running Annual Average):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

**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 a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant 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.

**NA:** Not applicable

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**pCi/L (picocuries per liter):** A measure of radioactivity.

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

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

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