



**2016 Calendar  
Year Report**

**Drinking Water  
CUSTOMER  
CONFIDENCE  
REPORT**

**PUBLIC WORKS  
DEPARTMENT  
WATER TREATMENT  
DIVISION**

Questions?  
Call Kyle Public Works at  
512-262-3024



# Annual Drinking Water Quality Report

PWS ID# TX1050002  
CITY OF KYLE, TEXAS

ANNUAL WATER QUALITY REPORT FOR THE PERIOD OF **JANUARY 1 TO DECEMBER 31, 2016**

THIS REPORT IS INTENDED TO PROVIDE YOU WITH IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER AND THE EFFORTS MADE BY THE WATER SYSTEM TO PROVIDE SAFE DRINKING WATER.

## CITY OF KYLE

USES PURCHASED SURFACE WATER AND TREATED GROUNDWATER.

### SURFACE WATER COMES FROM:

1) CANYON LAKE VIA LAKE DUNLAP, GUADALUPE COUNTY

### GROUNDWATER COMES FROM:

1) SAN ANTONIO SEGMENT - EDWARDS AQUIFER, HAYS COUNTY AND

2) BARTON SPRINGS SEGMENT - EDWARDS AQUIFER, HAYS COUNTY



Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono 512-262-3024.

Notice: This customer confidence report is only applicable to persons who receive their water from the City of Kyle. If you do not receive your water service from the City of Kyle, please contact your water provider to obtain your confidence report.

## Sources of Drinking Water

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 – and in some cases radioactive material – and can pick up substances resulting from the presence of animals or from human activity.



**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.**

### **Contaminants that may be present in source water include:**

- \* 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.
- \* 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 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.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA's) Safe Drinking Water Hotline at (800) 426-4791.

## **Federal and State Regulations**

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Federal Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Contaminants may be found in drinking water that may cause taste, color or odor problems. It's important to note that these types of problems are not necessarily causes for health concerns.

For more information on taste, odor, or color of drinking water, please contact the system's business office.

The Texas Commission on Environmental Quality (TCEQ) completed an assessment of your source water and results indicate that some of your sources are susceptible to certain contaminants. The sampling requirements for your water system are based on this susceptibility and previous sample data.

Any detection of these contaminants may be found in this Consumer Confident Report.



**For more information on source water assessments  
and protection efforts at the City of Kyle,  
contact Jason Biemer at 512-262-3024.**

## Regulations Continued (1)

Some people be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; persons who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders, can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care providers.



Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

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. The City of Kyle is 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 <http://www.epa.gov/safewater/lead>

## Regulations Continued (2)

TCEQ requires this report include an alert about drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities. However, children drinking water containing more than 2 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis).

The drinking water provided by the City of Kyle water system has a fluoride concentration of **2.03 mg/L**. Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.



Drinking water containing more than 4 mg/L of fluoride (the U.S. Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease. *The drinking water in Kyle's municipal water system does not contain more than 4 mg/L of fluoride*, but we are required to notify you when testing shows that the fluoride levels in your drinking water exceed 2 mg/L because of this cosmetic dental problem.

For more information, please call City of Kyle Public Works Department at 512-262-3024.

Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.

## Information About Source Water Assessments

For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL:

<https://www.tceq.texas.gov/gis/swaview>

Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL:

<http://dww2.tceq.texas.gov/DWW/>

### Additional Information:

#### Disinfection By Product Violation Corrective

**Actions:** When spikes in the disinfection byproducts were detected, city staff changed the disinfectant residuals in the area near the exceeding sample. Additional changes to the disinfectant residual, more flushing and additional sampling have been conducted in the affected area.

**Hardness:** The hardness of Kyle's municipal drinking water can vary considerably depending on several factors, including the time of year. This is a result of the amount of groundwater we are using in the system at any given time. Our groundwater resources are the primary contributors of hardness in our system. The average range of hardness is 260-310 mg/L of total hardness (as CaCO<sub>3</sub>). This is approximately equal to 15-18 grains per gallon in range.

**Fluoride / Fluoridation:** Our water supply does not have fluoride added to it; the fluoride in our groundwater sources are naturally occurring.

**Public Input:** The Kyle City Council meets on the first and third Tuesdays of each month at Kyle City Hall, located at 100 W. Center Street in Kyle, TX. Occasionally, the council discusses business that pertains to drinking water quality, supply and infrastructure. For more information, agendas and meeting details, please call 512-262-1010 or visit our website at [www.cityofkyle.com](http://www.cityofkyle.com).



## Water Quality Test Results Definitions

The tables on the last two pages of this report contain scientific terms and measures, some of which may require explanation.

**Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples.

**Maximum Contaminant Level or MCL:** 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.

**Maximum Contaminant Level Goal or MCLG:** 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.

**Maximum residual disinfectant level or MRDL:** 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.

**Maximum residual disinfectant level goal or MRDLG:**

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.

**MFL:** million fibers per liter (a measure of asbestos)

na: not applicable.

**NTU:** nephelometric turbidity units (a measure of turbidity)

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

**ppb:** micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water.

**ppm:** milligrams per liter or parts per million – or one ounce in 7,350 gallons of water.

**ppt:** parts per trillion, or nanograms per liter (ng/L)

**ppq:** parts per quadrillion, or pictograms per liter (pg/L)



# Water Quality Results



## Regulated Contaminants Detection

### Lead and Copper

#### Definitions:

**Action Level Goal (ALG):** 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.

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

Lead & Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Contamination Source
Copper	2016	1.3	1.3	0.094	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2016	0	15	2.6	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

## Water Quality Test Results

### Regulated Contaminants

Disinfectants / Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2016	24	0 - 37.9	No goal for total	60	ppb	N	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	2016	66	2.3 - 69.1	No goal for total	80	ppb	Y*	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	2016	0.196	0.06 - 0.196	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2016	2.03	2.03 - 2.03	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2016	2	0.02 - 1.83	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

\*See explanation on next page.

## Water Quality Test Results (continued)

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	04/12/2013**	1.42	1.42 - 1.42	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	04/12/2013**	4.3	4.3 - 4.3	0	15	pCi/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
Xylenes Discharge	2016	0.0018	0.0007 - 0.0018	10	10	ppm	N	Discharge from petroleum factories; from chemical factories.

## Surface Water Quality Results

### Below are the turbidity results:

Min 0.01 NTU  
 Max 0.13 NTU  
 Avg 0.04 NTU

### Below are the nitrate results:

Nitrate 1.28 mg/l

## Appendix D-Unregulated Contaminants

Figure: 30 TAC §290.275(4)

(1) Chloroform	21.6 ug/L No MCL listed
(2) Bromodichloromethane	20.1 ug/L No MCL listed
(3) Bromoform	2.5 ug/L No MCL listed
(4) Dibromomethane	3.1 ug/L No MCL listed

## Disinfection Results

	Min	Max	Avg
Annual	0.66	2.16	1.42

## Violations Table

### Total Trihalomethanes (TTHM)

Some individuals who drink water with trihalomethanes in excess of the Maximum Containment Level (MCL) over many decades may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Violation Type	Violation Begin	Violation End	Violation Explanation
MCL, LRAA	01/01/2016	03/31/2016	Water samples showed that the amount of this contaminant in our drinking water was above its standard, called a maximum contaminant level (MCL), <b>only</b> for the period indicated.

\*\*Not all water quality tests are performed annually. The type of chemical or health concern determines the frequency of testing prescribed by TCEQ.