2016 Annual Drinking Water Quality Report

Consumer Confidence Report (CCR) for the period of January 1 to December 31, 2016

CITY OF MINERAL WELLS - PWS ID No.1820001

YOUR DRINKING WATER IS REGULATED AND MEETS OR EXCEEDS ALL FEDERAL and STATE DRINKING WATER REQUIREMENTS: 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. We hope this information helps you become more knowledgeable about what's in your drinking water. For more information regarding this report contact the City of Mineral Wells Public Works Department at (940) 328-7777.

EN ESPANOL: Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al teléfono (940) 328-7865.

SOURCES OF DRINKING WATER: Your drinking water is obtained from SURFACE water sources. It comes from Lake Palo Pinto, Palo Pinto Creek, and Hilltop Presedimentation Reservoir. 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 pickup 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. More information about contaminants and potential health effects can be obtained by calling the EPAs Safe Drinking Water Hotline at (800) 426-4791. 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA 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. 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 systems business office.

You may 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 at (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. 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 http://www.epa.gov/safewater/lead.

Secondary Constituents: Many constituents (such as calcium, sodium, or iron) which are often found in drinking water, can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the EPA. These constituents are not causes for health concern. Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

SOURCE WATER ASSESSMENTS: A Source Water Susceptibility Assessment for your drinking water source is currently being updated by the Texas Commission on Environmental Quality. This information describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. This information contained in the assessment allows us to focus source water protection strategies. For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: https://gisweb.tceq.texas.gov/swav/Controller/index.jsp?wtrsrc=.
Further details about source and source-water assessments are available in Drinking Water Watch at the following URL: http://dww2.tceq.texas.gov/DWW/

DEFINITIONS: The following tables contain scientific terms and measures, some of which may require explanation.

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

Maximum Contaminant Level (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 (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 (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 (MRDLG) - The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectant to control microbial contaminants.

90th Percentile – 90% of samples are equal to or less than the number in the chart.

ABBREVIATIONS

MFL	million fibers per liter (a measure of asbestos)
mrem	millirems per year (a measure of radiation absorbed by the body)
N/A	not applicable
NTU	nephelometric turbidity units
pCi/L	picocuries per liter (a measure of radioactivity)
ppb	micrograms per liter (ug/L), or parts per billion, or one ounce in 7,350,000 gallons of water
ppm	parts per million, or milligrams per liter (mg/L)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
TT	treatable technique

2016 REGULATED CONTAMINANTS DETECTED

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	No. Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2016	1.3	1.3	0.13	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2016	0	15	6.5	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectant Residual	Collection Date	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Units of Measure	Likely Source of Contamination
Chloramine	2016	2.72	2.7	3.9	4.0	<4.0	ppm	Disinfectant used to control microbes.

Systems must complete and submit disinfection data on the Surface Water Monthly Operations Report (SWMOR). On the CCR report, the system must provide disinfectant type, minimum, maximum and average levels.

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorite	2016	0.96	.28 - 0.96	0.8	1	ppm	N	By-product of drinking water disinfection.
Haloacetic Acids (HAA5)	2016	41.4	12.7 - 41.4	N/A	60	ppb	N	By-product of drinking water chlorination.
Total Trihalomethanes (TThm)	2016	107	32.8 - 107 *	N/A	80	ppb	N	By-product of drinking water chlorination.

Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

* Running average for one sample every three months - 2016 average was 54.

Inorganics Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	06/08/2016	1	.71 - .71	0	10	ppb	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	06/08/2016	0.071	0.071 - 0.071	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cyanide	06/08/2016	40.6	40.6 - 40.6	200.0	200.0	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	06/08/2016	0.218	0.218 - 0.218	4.0	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	06/08/2016	0.031	0.031	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	03/09/2011	5.8	5.8 – 5.8	0	50	pCi/L	N	Decay of natural and man-made deposits.

* EPA considers 50 pci/L to be the level of concern for beta particles.

Combined Radium 226/228	03/09/2011	1	1 – 1	0	5	pCi/L	N	Erosion of natural deposits.

Synthetic Organic Contaminants Including Pesticides and Herbicides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Di (2-ethylhexyl) phthalate	06/08/2016	0.5	0.5 - 0.5	0	6	ppb	N	Likely source on contamination discharge from rubber and chemical factories.

Turbidity	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.17 NTU	N	Soil runoff.
Lowest monthly % meeting limit	0.3 NTU	100%	N	Soil runoff.

Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.

2016 REGULATED CONTAMINANTS DETECTED (continued)

TOTAL ORGANIC CARBON	Collection Date	Average Level	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Source Water	2016	5.82	5.00 - 7.40	N/A	N/A	ppm	N	Naturally present in the environment
Drinking Water	2016	3.06	2.70 - 3.40	N/A	N/A	ppm	N	Naturally present in the environment
Removal Ratio	2016	1.42	1.18 - 1.64	N/A	N/A	% removal *	N	N/A

* Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed. This number should be greater than 1.0.

Total Organic Carbon (TOC) no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include trihalomethanes (THMs) and Haloacetic acids (HAA) which are reported elsewhere in this report.

CRYPTOSPORIDIUM MONITORING INFORMATION

In 2016 the City of Mineral Wells tested our raw water monthly for Cryptosporidium, a microbial parasite that may be commonly found in surface water. Cryptosporidium may come from animal and human feces in the watershed. The results of our monitoring detected no cryptosporidium present.

TOTAL COLIFORM REPORTED MONTHLY TESTS FOUND NO COLIFORM BACTERIA.

FECAL COLIFORM REPORTED MONTHLY TESTS FOUND NO FECAL COLIFORM BACTERIA.

2016 UNREGULATED CONTAMINANTS DETECTED

Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chloroform	2016	10.7	1.28 - 10.7	N/A	N/A	ppb	N	By-product of drinking water disinfection.
Bromoform	2016	61.40	1.58 - 61.4	N/A	N/A	ppb	N	By-product of drinking water disinfection.
Bromodichloromethane	2016	15.30	4.6 - 15.3	N/A	N/A	ppb	N	By-product of drinking water disinfection.
Dibromochloromethane	2016	37.8	9.8 - 37.8	N/A	N/A	ppb	N	By-product of drinking water disinfection.

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of the unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.

Secondary and Other Constituents Not Regulated	Collection Date	Highest Level Detected	Range of Levels Detected	Secondary Limit	Units	Violation	Likely Source of Contamination
Bicarbonate	06/08/2016	75.5	75.5 - 75.5	N/A	ppm	N	Corrosion of carbonate rocks such as limestone.
Chloride	06/08/2016	33.9	33.9 - 33.9	300	ppm	N	Abundant naturally occurring element; used in water purification; byproduct of oil field activity.
Hardness as Ca/Mg	06/18/2016	107	107 - 107	N/A	ppm	N	Naturally occurring calcium and magnesium
pH	03/09/2011	7.9	7.9 - 7.9	8.5	pH units	N	Measure of corrosivity of water.
Sodium	06/08/2016	30.9	30.9 - 30.9	N/A	ppm	N	Erosion of natural deposits; byproduct of oil field activity.
Sulfate	06/08/2016	50.8	50.8 - 50.8	300	ppm	N	Naturally occurring; common industrial byproduct; by-product of oil field activity.
Total Alkalinity as CaCO3	06/08/2016	20	20 - 20	N/A	ppm	N	Naturally occurring soluble mineral salts.
Total Dissolved Solids	06/08/2016	224	224 - 224	1000	ppm	N	Total dissolved mineral constituents in water.

No associated adverse health effects.

WATER LOSS ESTIMATE

In the Water Loss Audit submitted to the Texas Water Development Board for the time period of January – December 2016, our system lost an estimated 110,791,043 gallons of water. This calculates to 16.08% loss of total produced water. The TCEQ's acceptable percentage of water loss is 10%. If you have any questions about the Water Loss Audit, please call the City of Mineral Wells Utilities Superintendent, Scott McKennon, at (940) 328-7777.