

Upper Leon River MWD
PWS TX0470015

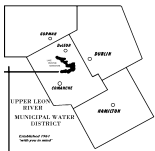
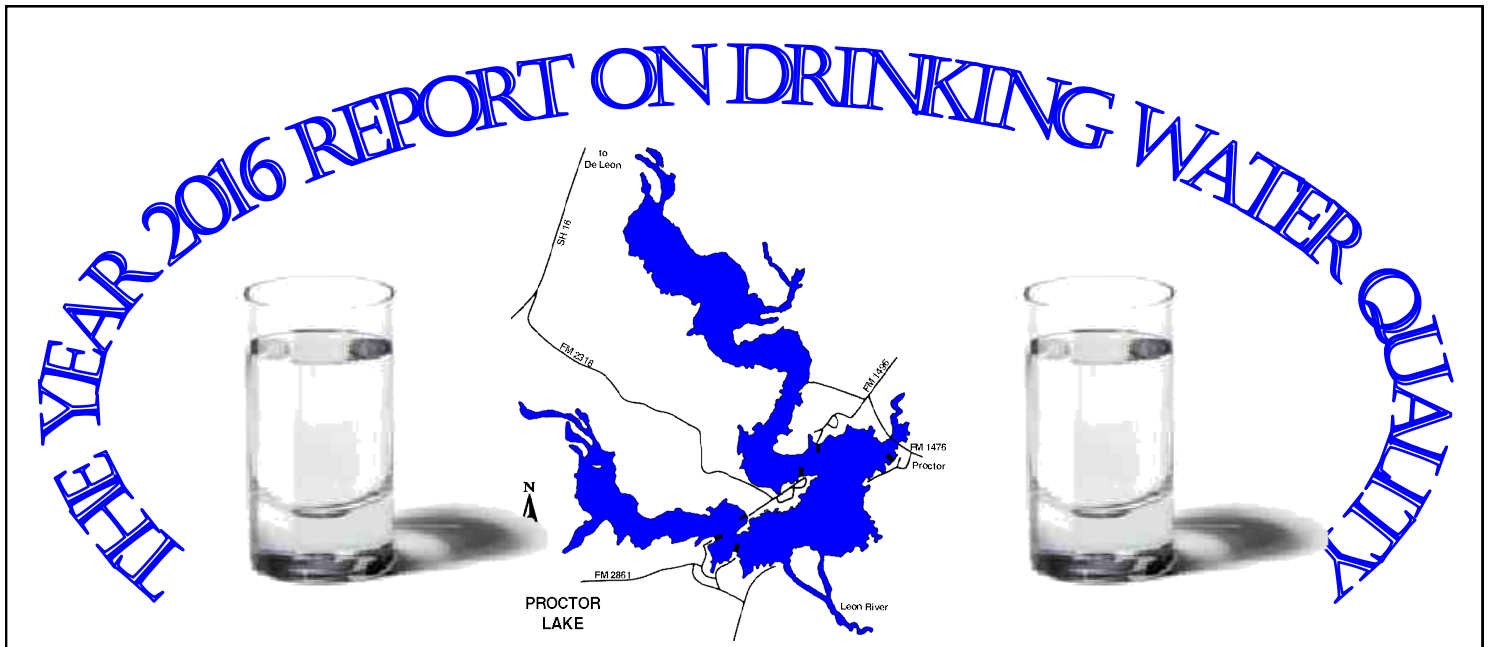
2016 Annual Drinking

January 01 to December 31, 2016

Water Quality Report

2250 Highway 2861 General Office & Proctor Water Treatment Plant (254) 879-2258

This annual Drinking Water Report, also known as the Consumer Confidence Report, is from your water supplier, **Upper Leon River Municipal Water District**. It provides detailed information about your drinking water so that you can be informed and have confidence in the product we deliver. The Water District employees take pride in producing and delivering water to your tap that meets or exceeds federal and state standards. The information being provided in this report is for the appropriate reporting year as required by federal and state guidelines. Additional information may be obtained by contacting the Water District's General Office, located adjacent to Lake Proctor Dam, from 8:00 a.m. to 4:30 p.m. Monday thru Friday. The phone number is (254) 879-2258.



**Upper Leon River
Municipal Water District
Water Department
2250 Highway 2861
Comanche, Texas 76442**

PRESORTED
FIRST CLASS
POSTAGE
PERMIT NO. 500

Customer

DEFINITIONS & ABBREVIATIONS: The tables in this report contain scientific terms and measures, some of which may require the following explanations.

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 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 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.

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

NTU - Nephelometric Turbidity Units. This is the unit used to measure water turbidity.

na: - not applicable

MFL - million fibers per liter (a measure of asbestos)

Mrem/year - millirems per year (a measure of radiation absorbed by the body)

pCi/L - Picocuries per liter (a measurement for radioactivity)

ppm - Parts per million or milligrams per liter (mg/l) - or one ounce in 7,350 gallons of water

ppb - Parts per billion or micrograms per liter ($\mu\text{g/l}$) - or one ounce in 7,350,000 gallons of water

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

ppq - parts per quadrillion, or picograms per liter (pg/L)

Turbidity - a measurement of the cloudiness of water. A good indicator of effectiveness of a filtration system.

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

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

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.

Level 1 Assessment - A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our system.

Level 2 Assessment - A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E.coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Secondary Contaminants. . . .

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 EPA. These constituents are not causes for health concerns. Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

PUBLIC PARTICIPATION OPPORTUNITIES

There will be a review of this Consumer Confidence Report by the Upper Leon River MWD Board of Directors in open meeting to be held at the following times. . . .

DATE: July 24th and August 28th, 2017; TIME: 6:30

PM; LOCATION: General Office, 2250 Highway 2861, Comanche (by Lake Proctor Dam) For more information,

PHONE NO: (254)-879-2258.

ADDITIONAL INFORMATION AVAILABLE FROM YOUR LOCAL SUPPLIER

There are many opportunities available to learn more about water quality, water treatment, and the Upper Leon River MWD. For questions or concerns about water quality, to request a speaker for a group, or to book a tour of the facility, call the Proctor Water Treatment Plant @ (254) 879-2258 and speak with Gary Lacy or Carroll Abbey, or visit the website www.ulrmwd.com.

Este reporte incluye informacion importante sobre el agua para tomar.

Para asistencia en espanol, favor de llamar al telefono (254) 879-2258.

TASTE & ODOR (T & O). . . Water quality is often judged by its aesthetic qualities, specifically its taste and odor or color. Regardless of the source, water can be very safe to drink and still have an unpleasant taste and odor. Contaminants may be found in drinking water that may cause taste, odor, or color problems. These types of problems are not necessarily causes for health concerns. Taste and odor are aesthetic qualities and microscopic organisms such as algae, that can create these taste and/or odor problems, are typically more abundant during the hot summer months. However, episode events may occur such as a change in temperature, or excessive rainfall and flooding, or any number of other reasons that may cause noticeable changes. Additionally, distribution systems conveying the water to a service, or the localized plumbing including hot water heaters, may also cause T & O concerns. Whatever the cause of unpleasant tastes and odors, be assured that the water treatment plant and distribution system operators and technicians, at Upper Leon River Municipal Water District, continually study the best ways to treat our water, and minimize the impact of taste and odor episodes, and to provide a safe reliable supply to your tap. For more information on taste, odor, or color of drinking water, please contact the Water Treatment Plant at (254) 879-2228.

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 provider. 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.

Where do we get our drinking water?

Upper Leon River MWD customers receive treated water supplied from Proctor Lake in Comanche County, which is classified as a surface water supply. This water receives full treatment at the District's Proctor Treatment Plant, as prescribed by federal and state regulatory agencies. The entire process is monitored continually for compliance and quality control by certified and experienced operators who are always willing to answer questions.

The 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 detections of these contaminants may be found in this Consumer Confidence Report. For more information on Source Water assessments or protection efforts at our system, contact Carroll Abbey or Gary Lacy at 254-879-2228. The Source Water Report may be located by navigating the Texas Drinking Water Watch at the following URL: <http://dww2.tceq.texas.gov/DWW>
Question: What does "High" mean?

Answer: "High" susceptibility means there are activities near the source water and the natural conditions of the aquifer or watershed make it very likely that chemical constituents may come into contact with the source water. It does not mean that there are any health risks present.

Question: What does "Medium" mean?

Answer: "Medium" susceptibility means there are activities near the source water and the natural conditions of the aquifer or watershed make it somewhat likely that chemical constituents may come into contact with the source water. It does not mean that there are any health risks present.

Question: What does "Low" mean?

Answer: "Low" susceptibility means there are activities near the source water and the natural conditions of the aquifer or watershed make it unlikely that chemical constituents may come into contact with the source water. It does not mean that there are any health risks present.

Our Drinking Water Meets or Exceeds EPA 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. The analysis was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the attached pages. We hope this information helps you become more knowledgeable about what's in your drinking water.

ALL drinking water may contain contaminants.

When drinking water meets federal standards there may not be any health based benefits to purchasing bottled water or point of use devices.

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. 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.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health. 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 EPA's Safe Drinking Water Hotline at (800)-426-4791.

Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorite	2016	0.81	0.07 - 0.81	0.8	1	ppm	N	By-product of drinking water disinfection.
Haloacetic Acids (HAA5)*	2016	34	24.1 - 50.1	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2016	33	21.5 - 42.2	No goal for the total	80	ppb	N	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
Arsenic	2016	<0.0020	<0.0020 - <0.0020	0	10	ppb	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2016	0.0964	0.0964 - 0.0964	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cyanide	2016	100	100 - 100	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
Fluoride	2016	0.1	0.11 - 0.11	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	0.13	0.13 - 0.13	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	2016	<0.0030	<0.0030 - <0.0030	50	50	ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	6/19/2012	6.8	6.8 - 6.8	0	50	pCi/L*	N	Decay of natural and man-made deposits.
Combined Radium 226/228	6/19/2012	1	1-1	0	5	pCi/L	N	Erosion of natural deposits.

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

Lead and Copper

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2016	1.3	1.3	0.04	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2016	0	15	2.2	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

See list of 'Definitions & Abbreviations' for further explanations

Additional Health Information for Lead 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 Upper Leon River MWD 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>.

In the Texas Water Development Board Utility Profile for Upper Leon River Municipal Water District, WATER LOSS for Calendar Year 2016 was calculated to be 27,068,987 gallons. This is 3.2 % expressed as a percentage. Water Loss information will be provided customers as new Water Loss Audits are conducted and the information made available. You will receive this information on the next water bill after the audit is completed, or the next annual Consumer Confidence Report. If you have questions about water loss please contact Upper Leon River Municipal Water District at 254-879-2258.

Disinfectant

	Year	Avg Level	Min Level	Max Level	MRDL	MRDLG	Unit of Measure	Source of Chemical
Chloramine	2016	3.5	0.5	5.9	4	<4.0	ppm	Disinfectant used to control microbes

Total Coliform Bacteria	REPORTED MONTHLY TESTS FOUND NO TOTAL COLIFORM BACTERIA
Fecal Coliform	REPORTED MONTHLY TESTS FOUND NO FECAL COLIFORM BACTERIA

Total Organic Carbon (TOC)

The percentage of TOC removal was measured each month and the system met all TOC removal requirements unless a TOC violation is noted in the violations section.

Total organic carbon (TOC) has no health effects. Disinfectants can combine with TOC to form byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include THMs and HAA5s which are reported elsewhere in this report

Year	Contaminant	Average Level	Minimum Level	Maximum Level	Unit of Measure	Source at Contaminant
2016	Source Water	7.78	6.65	8.96	ppm	Naturally present in the environment.
2016	Drinking Water	5.81	4.91	7.32	ppm	Naturally present in the environment.
2016	Removal Ratio	0.85	0.46	1.27	% removal*	NA

*Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

Unregulated Contaminants — TTHMs at Point-Of-Entry to System

Bromoform, chloroform, dibromochloromethane, bromodichloromethane are disinfection byproducts. No maximum contaminant level (MCL) for these chemicals at entry point to distribution. There are however MCLGs; Max Contaminant Level Goals.

Point of Entry	Date Collected	Level Detected	MCLG	Unit of Measure	Source of Contaminant
Chloroform	08/03/2016	14.0	70	ppb; parts per billion	Byproduct of drinking water disinfection
Bromodichloromethane	08/03/2016	11.0	0	ppb; parts per billion	Byproduct of drinking water disinfection
Dibromochloromethane	08/03/2016	4.0	60	ppb; parts per billion	Byproduct of drinking water disinfection
Bromoform	08/03/2016	<1.0	0	ppb; parts per billion	Byproduct of drinking water disinfection

Unregulated Contaminant Monitoring Regulations (UCMR) Reporting 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. When notified, Upper Leon River Municipal Water District is participating in UCMR monitoring.

Turbidity

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.33 NTU	N	Soil runoff.
Lowest monthly % meeting limit	0.3 NTU	100 %	N	Soil runoff.

Information Statement: 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

Other Mineral and Metals of Interest

CONSTITUENT	Collection Date	Result	Unit of Measure	COMMENTS:
Total Hardness as CaCO3	4/14/2016	192	ppm	<p>Hard Water is not known to cause any adverse health effects. Hardness is primarily caused by the presence of dissolved Calcium and Magnesium in the water. There is no well-defined distinction between hard water and soft water. In general, hardness values of less than 75 mg/L as calcium carbonate (CaCO3) represent soft water, and values above 150 mg/L CaCO3 represent hard water. While not a health risk Hard Water can be a nuisance because of mineral buildup on plumbing. The degree of hardness becomes greater as the calcium and magnesium content increases.</p> <p>Sodium and Potassium are essential nutrients. Levels of either in a Public Water System are unlikely to be a significant contribution to adverse health effects. It has been estimated that at levels of 50 mg/l of sodium, a 150 pound person drinking two liters (about 8 glasses) of water per day would typically ingest less than 100 mg of sodium from the drinking water; well within FDA's "very low sodium" category. EPA has not found Nickel to potentially cause health effects and there are no health concerns related to Alkalinity.</p>
Calcium	4/14/2016	57.1	ppm	
Magnesium	4/14/2016	11.9	ppm	
Sodium	4/14/2016	43.2	ppm	
Potassium	4/14/2016	8.0	ppm	
Nickel	4/14/2016	0.0017	ppm	
Total Alkalinity as CaCO3	4/14/2016	121	ppm	

Violations Table

Lead and Copper Rule — The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials.

Violation Type	Violation Begin	Violation End	Violation Explanation
FOLLOW-UP OR ROUTINE TAP M/R (LCR)	10/01/2015	09/27/2016	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.

Public Notification Rule — The Public Notification Rule helps to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is serious problem with their drinking water(e.g. a boil water emergency).

Violation Type	Violation Begin	Violation End	Violation Explanation
PUBLIC NOTICE RULE LINKED TO VIOLATION	2/08/2016	6/24/2016	We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations.

Secondary Constituents Secondary constituents are regulated in public drinking water. They are called "secondary," instead of primary, because they have no adverse health effects. They can however, cause unpleasant aesthetics, such as taste and odor issues or be of other concerns.

CONSTITUENT	Collection Date	Result	MCL	Unit of Measure	Source of Contaminant and/or Comments
Aluminum	4/14/2016	0.163	0.05 to 0.2	ppm	Naturally occurring in the environment. Aluminum salts are used as coagulants to purify water.
Chloride	4/14/2016	72	250	ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity
Copper (Total)	4/14/2016	<0.0020	1.0	ppm	Source in Drinking Water - Corrosion of household plumbing systems; Erosion of natural deposits.
Iron (Total)	4/14/2016	<0.010	0.3	ppm	Iron is a common metallic element found in the earth's crust. Water percolating through soil and rock can dissolve minerals containing iron. Occasionally, iron pipes may also be a source of iron in water.
Manganese	4/14/2016	0.0038	0.05	ppm	Manganese is a common metallic element found in the earth's crust. Water percolating through soil and rock can dissolve minerals containing manganese. Black to brown color; black staining; bitter
Silver	4/14/2016	<0.0100	0.1	ppm	A basic element. Occurs naturally as a soft silver-colored metal. The natural wearing down of silver bearing rocks and soil by wind and rain can release silver into the environment. Silver is also used as an antibacterial agent in many home water treatment devices, and so presents a potential problem.
Sulfate	4/14/2016	65	250	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field industry. Salty taste.
Total Dissolved Solids	4/14/2016	356	500	ppm	Total dissolved mineral constituents in water. Noticeable effects above the Secondary MCL includes hardness; deposits; colored water; staining; salty taste
Zinc	4/14/2016	<0.0050	5.0	ppm	Can cause a metallic taste. Zinc is found naturally at low concentrations in many rocks and soils principally as sulphide ores and to a lesser degree carbonates.
pH	4/14/2016	7.4	> 7.0	pH	low pH: bitter metallic taste; corrosion high pH: slippery feel; soda taste; deposits
Corrosivity			non-corrosive		See Note below.

The corrosion process is an oxidation/reduction reaction that returns refined or processed metal to their more stable ore state. Corrosion will occur anywhere a galvanic cell or field can be or has established. To establish the field all that is needed is two dissimilar metals that are connected directly or indirectly by an electrolyte, such as water. Nearly all metals will corrode to some degree. The rate and extent of the corrosion depends on the degree of dissimilarity of the metals and the physical and chemical characteristics of the media, metal, and environment. Corrosion can also be accelerated by:

- 1) low pH (acidic water) and high pH (alkaline water);
- 2) high flow rate within the piping can cause physical corrosion;
- 3) high water temperature can increase biological rate of growth and chemical corrosion;
- 4) oxygen and dissolved CO2 or other gases can induce corrosion;
- 5) high dissolved solids, such as: salts and sulfates, can induce chemical or bio-chemical corrosion;
- 6) corrosion related bacteria, high standard plate counts and electrochemical corrosion can result in pin hole leaks and isolated corrosion and aesthetic water quality problems , and
- 7) presence of suspended solids, such as sand, sediment, corrosion by-products, and rust can aid in physical corrosion and damage and facilitate chemical and biochemical corrosion.

The General Office of the Upper Leon River Municipal Water District, and the Proctor Water Treatment Plant, are located adjacent to Lake Proctor Dam off of FM 2861.

General Office hours are 8:00a to 4:30p, Monday thru Friday and the phone number is (254) 879-2258 or (254) 879-2259. Visit our website @ <http://www.ulrmwd.com>

