

2019 Consumer Confidence Report

for Public Water System CITY OF CIBOLO – TX 0940018

This is your water quality report for January 1 to December 31, 2019

For more information regarding this report contact:

Phone: (210) 658-9900

Este reporte incluye información importante sobre el agua para tomar.

Para asistencia en español, favor de llamar al telefono (210) 658-9900.

Information about Source Water

The **CITY OF CIBOLO** purchases water from **Canyon Regional Water Authority (CRWA) Wells Ranch** and **CRWA Lake Dunlap WTP**. **CRWA Wells Ranch** provides purchase ground water from **Carrizo and Wilcox Aquifers** located in Guadalupe and Gonzalez County. **CRWA Lake Dunlap WTP** provides purchase surface water from **Guadalupe River** located in Guadalupe County. For those in the **Cibolo Crossing** development and **Mesa at Turning Stone Units 6 and 7**, their drinking water is purchased from the **City of Schertz**. The **City of Schertz** drinking water is obtained from two ground water sources: The **Schertz Seguin Well Field** water comes from the **Carrizo-Wilcox Aquifer** and the **Naco Well 1 & 2** water comes from the **Edwards Aquifer**. The **Naco Wells** are only used when water supply from the **Schertz Seguin Well** is limited.

Definitions and Abbreviations

Definitions and Abbreviations	The following tables contain scientific terms and measures, some of which may require explanation.
Action Level:	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.
Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
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 water 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.
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)
mrem:	millirems per year (a measure of radiation absorbed by the body)
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.
ppq	parts per quadrillion, or picograms per liter (pg/L)
ppt	parts per trillion, or nanograms per liter (ng/L)
Treatment Technique or TT:	A required process intended to reduce the level of a contaminant in drinking water.

Information about your 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. More information about contaminants and potential health effects can be obtained by calling the EPA's 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 system's 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 (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>.

¹TCEQ completed a Source Water Susceptibility for all drinking water systems that own their sources. This report describes the susceptibility and types of constituents that may come into contact with the drinking water source based on human activities and natural conditions. The system(s) from which we purchase our water received the assessment report. For more information on source water assessments and protection efforts at our system contact **CRWA 210-609-0092**.

2019 Water Quality Test Results

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2019	20	0 - 31.4	No goal for the total	60	ppb	N	By-product of drinking water disinfection.

* The value in the Highest Level or Average Detected column is the highest average of all HAA5 sample results collected at a location over a year'

Total Trihalomethanes (TTHM)	2019	60	10.8 - 86	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
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* The value in the Highest Level or Average Detected column is the highest average of all TTHM sample results collected at a location over a year'

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Nitrate [measured as Nitrogen]	2019	1	0.66 - 0.66	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Disinfectant Residual

' A blank disinfectant residual table has been added to the CCR template, you will need to add data to the fields. Your data can be taken off the Disinfectant Level Quarterly Operating Reports (DLQOR).'

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
Chlorine	2019	1.27	.33-2.13	4	4	ppm	N	Water additive used to control microbes.

Violations

Consumer Confidence Rule			
The Consumer Confidence Rule requires community water systems to prepare and provide to their customers annual consumer confidence reports on the quality of the water delivered by the systems.			
Violation Type	Violation Begin	Violation End	Violation Explanation
CCR ADEQUACY/AVAILABILITY/CONTENT	07/01/2018	01/30/2019	We failed to provide to you, our drinking water customers, an annual report that adequately informed you about the quality of our drinking water and the risks from exposure to contaminants detected in our drinking water.

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

Violations

LEAD CONSUMER NOTICE (LCR)	12/30/2019	01/28/2020	We failed to provide the results of lead tap water monitoring to the consumers at the location water was tested. These were supposed to be provided no later than 30 days after learning the results.
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Canyon Regional Water Authority is pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

This report is intended to provide you with important information about your drinking water and efforts made by the water system to provide safe drinking water. This Annual Water Quality Report is for the period of [*January 1 to December 31, 2019.*](#)

Sources

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. More information about contaminants and potential health effects can be obtained by calling the EPA's 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 Canyon Regional Water Authority (830) 609-0543.

Some people 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 (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>.

A Source Water Susceptibility Assessment for your drinking water source(s) 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. The 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: <http://gis3.tceq.state.tx.us/swav/Controller/index.jsp?wtrsrc=>.

Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL: <http://dww.tceq.texas.gov/DWW>.

Canyon Regional Water Authority [Wells Ranch Water Treatment Plant](#) is Ground Water.

		Type of Water	Report Status	Location /County
1 – TOMMY’S WELL	TOMMY’S WELL	GW	Operational	Gonzales
11 – COASTAL FIELD	COASTAL FIELD	GW	Operational	Gonzales
12 – BULL TRAP	BULL TRAP	GW	Operational	Gonzales
2 – DEER STAND	DEER STAND	GW	Operational	Guadalupe
4 – PIG TRAP	PIG TRAP	GW	Operational	Guadalupe
7 – DEAD MAN TANK	DEAD MAN TANK	GW	Operational	Guadalupe
9 – CAMP HOUSE	CAMP HOUSE	GW	Operational	Guadalupe
8 – CHICKEN HOUSE	CHICKEN HOUSE	GW	Operational	Guadalupe
3 – DEER STAND WILCOX	DEER STAND WILCOX	GW	Operational	Guadalupe
4 – DEAD MAN TANK WILCOX	DEAD MAN TANK WILCOX	GW	Operational	Guadalupe
5 – LITTLEFIELD	LITTLEFIELD	GW	Operational	Gonzales
13 – BOND WEST	BOND WEST	GW	Operational	Gonzales
14 – CHRISTIAN WEST	CHRISTIAN WEST	GW	Operational	Gonzales
15 – BOND EAST	BOND EAST	GW	Operational	Gonzales
16 – CHRISTIAN EAST	CHRISTIAN EAST	GW	Operational	Gonzales

Water Quality Test Results

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

Definitions:

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

Non Applicable (N/A)

Non-Detects (ND) – laboratory analysis indicates that the constituent is not present.

Parts per Million (Ppm) or Milligrams per liter (mg/L) – one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per Billion (Ppb) or Micrograms per liter – one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per Trillion (Ppt) or Nanograms per liter (nanograms/L) – one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (Ppq) or Picograms per liter (pictograms/L) – one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Picocuries per liter (pCi/L) – picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr) – measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) – million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) – nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level – the concentration of a contaminant that if exceeded, triggers treatment or other requirements that a water system must follow.

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

Maximum Contaminant Level – The “Maximum Allowed” (MCL) is 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 – The “Goal” (MCLG) is 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 Detection Limit 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 Detection Limit 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.

Table of Contaminants

TEST RESULTS								
Contaminant	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation Y/N	Likely Source of Contamination

Microbiological Contaminants

Total Coliform Bacteria	2019	Absent	Absent or Present	0	MCL: (systems that collect 40 or more samples per month) 5% of monthly samples are positive. (Systems that collect <40 samples/month - 1 positive monthly sample.	N/A	N	Naturally present in the environment
Fecal coliform and <i>E.coli</i>	2019	Absent	Absent or Present	0	0	N/A	N	Human and animal fecal waste
TOC	2019	0	N/A	N/A	TT	Mg/L	N	Naturally present in the environment
Turbidity	2019	N/A	N/A	N/A	TT	NTU	N	Soil runoff, Bacteria, organic material, suspended particles

Radioactive Contaminants

Beta/photon emitters	2018	5.5	0 - 50	0	50	pCi/L	N	Decay of natural and man-made Deposits
Alpha emitters	2018	<3.0	0 - 15	0	No MCL	pCi/L	N	Erosion of natural deposits
Combined radium (-226 & -228)	2018	<1.0	0 - 5	0	5	pCi/L	N	Erosion of natural Deposits

Inorganic Contaminants

Antimony	2019	0	0 - 6	6	6	Ppb	N	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder
Arsenic	2019	0	0 - 10	N/A	10	Ppb	N	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Asbestos	2018	<0.197	0 - 7	7	7	MFL	N	Decay of asbestos cement water mains; erosion of

								natural deposits
Barium	2019	0.075	0 – 2	2	2	Mg/L	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	2019	0	0 – 4	4	4	Ppb	N	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	2019	0	0 – 5	5	5	Ppb	N	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium	2019	0	0 – 100	100	100	Ppb	N	Discharge from steel and pulp mills; erosion of natural deposits
Copper	2016	0.0033	0 – 1.3	1.3	AL=1.3	Ppm	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Cyanide	2017	0	0 – 200	200	200	Ppm	N	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	2019	0	0 – 4	4	4	Ppm	N	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	2016	0	0 – 15	0	AL=15	Ppb	N	Corrosion of household plumbing systems, erosion of natural deposits
Mercury (inorganic)	2019	0	0 – 2	2	2	Ppb	N	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland

Nitrate (as Nitrogen)	2019	0.14	0 – 10	10	10	Ppm	N	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrite (as Nitrogen)	2015	0	0 – 1	1	1	Ppm	N	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2019	0	0 – 50	50	50	Ppm	N	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium	2019	0	0.5 – 2	0.5	2	Ppb	N	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

***Lead and Copper Rule Testing**

The 1994 Federal Lead & Copper Rule mandates a household testing program for these substances. According to the rule, 90% of samples from high-risk homes must have levels less than 0.015 milligrams per liter for lead and 1.3 milligrams per liter for copper.

Synthetic Organic Contaminants Including Pesticides and Herbicides

2, 4, -D	2019	0	0 - 70	70	70	Ppb	N	Runoff from herbicide used on row crops
2, 4, 5-TP(Silvex)	2019	0	0 – 50	50	50	Ppb	N	Residue of banned herbicide
Acrylamide	2019	0	0 – 10	0	TT	Ppb	N	Added to water during sewage/wastewater treatment
Alachlor	2019	0	0 – 2	0	2	Ppb	N	Runoff from herbicide used on row crops
Atrazine	2019	0	0 – 3	3	3	Ppb	N	Runoff from herbicide used on row crops
Benzo(a)pyrene (PAH)	2019	0	0 – 200	0	200	Nanograms/L	N	Leaching from linings of water storage tanks and distribution lines
Carbofuran	2019	0	0 – 40	40	40	Ppb	N	Leaching of soil fumigant used on rice and alfalfa
Chlordane	2019	0	0 – 2	0	2	Ppb	N	Residue of banned termiticide
Dalapon	2019	0	0 – 200	200	200	Ppb	N	Runoff from herbicide used on rights of way

Di(2-ethylhexyl) adipate	2019	6	0 – 400	400	400	Ppb	N	Discharge from chemical factories
Di(2-ethylhexyl) phthalate	2019	3.9	0 – 6	0	6	Ppb	N	Discharge from rubber and chemical factories
Dibromochloropropene	2019	0	0 – 200	0	200	Nanograms/L	N	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb	2019	0	0 – 7	7	7	Ppb	N	Runoff from herbicide used on soybeans and vegetables
Diquat	N/A	N/A	N/a	20	20	Ppb	N/A	Runoff from herbicide use
Dioxin [2,3,7,8-TCDD]	N/A	N/A	N/A	0	30	Picograms/L	N/A	Emissions from waste incineration and other combustion; discharge from chemical factories
Endothall	N/A	N/A	N/A	100	100	Ppb	N/A	Runoff from herbicide use
Endrin	2019	0	0 – 2	2	2	Ppb	N	Residue of banned insecticide
Epichlorohydrin	N/A	N/A	N/A	0	TT	N/A	N/A	Discharge from industrial chemical factories; an impurity of some water treatment chemicals
Ethylene dibromide	2019	0	0 – 50	0	50	Nanograms/L	N	Discharge from petroleum refineries
Glyphosate	N/A	N/A	N/A	700	700	Ppb	N/A	Runoff from herbicide use
Heptachlor	2019	0	0 – 400	0	400	Nanograms/L	N	Residue of banned termiticide
Heptachlor epoxide	2019	0	0 – 200	0	200	Nanograms/L	N	Breakdown of heptachlor
Hexachlorobenzene	2019	0	0 – 1	0	1	Ppb	N	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene	2019	0	0 – 50	50	50	Ppb	N	Discharge from chemical factories
Lindane	N/A	N/A	N/A	200	200	Nanograms/L	N/A	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor	2019	0	0 – 40	40	40	Ppb	N	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate]	2019	0	0 – 200	200	200	Ppb	N	Runoff from landfills of waste

								chemicals
PCBs [Polychlorinated biphenyls]	N/A	N/A	N/A	0	500	Nanogr- ams/L	N/A	Runoff from landfills; discharge of waste chemicals
Pentachlorophe-nol	2019	0	0 - 1	0	1	Ppb	N	Discharge from wood pereserving factories
Picloram	2019	0	0 - 500	500	500	Ppb	N	Herbicide runoff
Simazine	2019	0	0 - 4	4	4	Ppb	N	Herbicide runoff
Toxaphene	2019	0	0 - 3	0	3	Ppb	N	Runoff/leaching from insecticide used on cotton and cattle

Volatile Organic Contaminants

Benzene	2019	0	0 - 5	0	5	Ppb	N	Discharge from factories; leaching from gas storage tanks and landfills
Bromate	2016	0	0 - 10	0	10	Ppb		By-product of drinking water chlorination
Carbon tetrachloride	2019	0	0 - 5	0	5	Ppb	N	Discharge from chemical plants and other industrial activities
Chloramines	2016	N/A	0 - 4	MRDLG = 4	MRDL = 4	Ppm	N	Water additive used to control microbes
Chlorine	2019	2.74	0 - 4	MRDLG = 4	MRDL = 4	Ppm	N	Water additive used to control microbes
Chlorite	2016	0	0.0 - 1.0	0.8	1.0	Ppm	N	By-product of drinking water chlorination
Chlorine Dioxide	N/A	N/A	0 - 800	MRDLG = 800	MRDL = 800	Ppb	N/A	Water additive used to control microbes
Chlorobenzene	2019	0	0 - 100	100	100	Ppb	N	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene	2019	0	0 - 600	600	600	Ppb	N	Discharge from industrial chemical factories
p-Dichlorobenzene	2019	0	0 - 75	75	75	Ppb	N	Discharge from industrial chemical factories
1,2-Dichloroethene	2019	0	0 - 5	0	5	Ppb	N	Discharge from

								industrial chemical factories
1,1 – Dichloroethylene	2019	0	0 – 7	7	7	Ppb	N	Discharge from industrial chemical factories
Cis-1,2- Dichloroethylene	2019	0	0 – 70	70	70	Ppb	N	Discharge from industrial chemical factories
Trans – 1,2 - Dichloroethylene	2019	0	0 – 100	100	100	Ppb	N	Discharge from industrial chemical factories
Dichloromethane	2019	0	0 – 5	0	5	Ppb	N	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane	2019	0	0 – 5	0	5	Ppb	N	Discharge from industrial chemical factories
Ethylbenzene	2019	0	0 – 700	700	700	Ppb	N	Discharge from petroleum refineries
Haloacetic Acids (HAA)	2019	0	0 – 60	N/A	60	Ppb	N	By-product of disinfection
Styrene	2019	0	0 – 100	100	100	Ppb	N	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene	2019	0	0 – 5	0	5	Ppb	N	Leaching from PVC pipes; discharge from factories and dry cleaners
1,2,4- Trichlorobenzene	2019	0	0 – 70	70	70	Ppb	N	Discharge from textile-finishing factories
1,1,1 – Trichloroethane	2019	0	0 – 200	200	200	Ppb	N	Discharge from metal degreasing sites and other factories
1,1,2 - Trichloroethane	2019	0	0 – 5	3	5	Ppb	N	Discharge from industrial chemical factories
Trichloroethylene	2019	0	0 – 5	0	5	Ppb	N	Discharge from metal degreasing sites and other factories
TTHM [Total trihalomethanes]	2019	27.0	0 – 100	0	100/80	Ppb	N	By-product of drinking water chlorination
Toluene	2019	0	0 – 1	1	1	Ppm	N	Discharge from petroleum factories
Vinyl Chloride	2019	0	0 – 2	0	2	Ppb	N	Leaching from PVC piping; discharge from plastics factories
Xylenes	2019	0	0 – 10	10	10	Ppm	N	Discharge from petroleum factories; discharge from chemical factories

Health Effects

Maximum Contaminant Levels (MCL's) are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have one-in-a-million chance of having the described health effect.

Microbiological Contaminants:

Total Coliform – Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. If Coliforms were found in more samples than allowed, this then is a warning of potential problems.

Fecal coliform/E.Coli – Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

Turbidity – Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Total Organic Carbon – Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Radioactive Contaminants:

Beta/photon emitter – Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Alpha emitters – Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Combined Radium 226/228 – Some people who drink water that contains radium 226 or 228 in excess of the MCL over many years have an increased risk of getting cancer.

Inorganic Contaminants:

Antimony – Some people who drink water that contains antimony well in excess of the MCL over many years could experience increased in blood cholesterol and decrease in blood sugar.

Arsenic – Some people who drink water that contains arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Asbestos – Some people who drink water that contains asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.

Barium – Some people who drink water that contains barium in excess of the MCL over many years could experience an increase in their blood pressure.

Beryllium – Some people who drink water that contains beryllium well in excess of the MCL over many years could develop intestinal lesions.

Cadmium – Some people who drink water that contains cadmium in excess of the MCL over many years could experience kidney damage.

Chromium – Some people who use water that contains chromium well in excess of the MCL over many years could experience allergic dermatitis.

Copper – Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water that contains copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Cyanide – Some people who drink water that contains cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.

Fluoride – Some people who drink water that contains fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

Lead – Infants and children who drink water that contains lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Additional Health Information:

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. Canyon Regional Water Authority is responsible for providing high quality drinking water, but 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>.

Mercury (inorganic) – Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

Nitrate – Infants below the age of six months who drink water that contains nitrate in excess of the MCL could become seriously ill and if untreated could die. Symptoms include shortness of breath and blue-baby syndrome.

Nitrite – Infants below the age of six months who drink water that contains nitrite in excess of the MCL could become seriously ill and, if untreated could die. Symptoms include shortness of breath and blue-baby syndrome.

Selenium – Selenium is an essential nutrient. However, some people who drink water-containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

Thallium – Some people who drink water that contains thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

Synthetic organic contaminants including pesticides and herbicides.

2, 4-D – Some people who drink water that contains the weed killer 2, 4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.

2, 4, 5-TP (Silvex) – Some people who drink water that contains silvex in excess of the MCL over many years could experience liver problems.

Acrylamide – Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.

Alachlor – Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.

Atrazine – Some people who drink water that contains atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.

Benzo(a)pyrene [PAH] – Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.

Carbofuran – Some people who drink water that contains carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive system.

Chlordane – Some people who drink water that contains chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.

Dalapon – Some people who drink water that contains dalapon well in excess of the MCL over many years could experience minor kidney changes.

Di (2-ethylhexyl) adipate – Some people who drink water that contains di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.

Di (2-ethylhexyl) phthalate – Some people who drink water that contains di (2-ethylhexyl) phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.

Dibromochloropropane (DBCP) – Some people who drink water that contains DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.

Dinoseb – Some people who drink water that contains dinoseb well in excess of the MCL over many years could experience reproductive difficulties.

Dioxin (2,3,7,8-TCDD) – Some people who drink water that contains dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.

Diquat – Some people who drink water that contains diquat in excess of the MCL over many years could get cataracts.

Endothall – Some people who drink water that contains endothall in excess of the MCL over many years could experience problems with their stomach or intestines.

Endrin – Some people who drink water that contains endrin in excess of the MCL over many years could experience liver problems.

Epichlorohydrin – Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.

Ethylene dibromide – Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.

Glyphosate – Some people who drink water that contains glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.

Heptachlor – Some people who drink water that contains heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.

Heptachlor epoxide – Some people who drink water that contains heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.

Hexachlorobenzene – Some people who drink water that contains hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.

Hexachlorocyclopentadiene – Some people who drink water that contains hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.

Lindane – Some people who drink water that contains lindane in excess of the MCL over many years could experience problems with their kidneys or liver.

Methoxychlor – Some people who drink water that contains methoxychlor in excess of the MCL over many years could experience reproductive difficulties.

Oxamyl [Vydate] – Some people who drink water that contains oxamyl in excess of the MCL over many years could experience slight nervous system effects.

PCBs [Polychlorinated biphenyls] – Some people who drink water that contains PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.

Pentachlorophenol – Some people who drink water that contains pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.

Picloram – Some people who drink water that contains picloram in excess of the MCL over many years could experience problems with their liver.

Simazine – Some people who drink water that contains simazine in excess of the MCL over many years could experience problems with their blood.

Toxaphene – Some people who drink water that contains toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.

Volatile Organic Contaminants:

Benzene – Some people who drink water that contains benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.

Bromate – Some people who drink water that contains bromate in excess of the MCL over many years may have an increased risk of getting cancer.

Carbon Tetrachloride – Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.

Chloramines – Some people who use water that contains chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water that contains chloramines well in excess of the MRDL could experience stomach discomfort or anemia.

Chlorine – Some people who use water that contains chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water that contains chlorine well in excess of the MRDL could experience stomach discomfort.

Chlorite – Some infants and young children who drink water that contains chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water that contains chlorite in excess of the MCL. Some people may experience anemia.

Chlorine dioxide – Some infants and young children who drink water that contains chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water that contains chlorine dioxide in excess of the MRDL. Some people may experience anemia.

Chlorobenzene – Some people who drink water that contains chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.

o-Dichlorobenzene – Some people who drink water that contains o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.

p-Dichlorobenzene – Some people who drink water that contains p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.

1,2-Dichloroethane – Some people who drink water that contains 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.

Cis-1,2-Dichloroethylene – Some people who drink water that contains cis-1,2-dichloroethylene in excess of the MCL over many year could experience problems with their liver.

Trans-1,2-Dichloroethylene – Some people who drink water that contains trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.

Dichloromethane – Some people who drink water that contains dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.

1,2-Dichloropropane – Some people who drink water that contains 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

Ethylbenzene – Some people who drink water that contains ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.

Haloacetic Acids (HAA's) – Some people who drink water that contains haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Styrene – Some people who drink water that contains styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.

Tetrachloroethylene – Some people who drink water that contains tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.

1,2,4-Trichlorobenzene – Some people who drink water that contains 1,2,4-trichlorobenzene in excess of the MCL over many years could experience changes in their adrenal glands.

1,1,1-Trichloroethane – Some people who drink water that contains 1,1,1-trichloroethane in excess of the MCL over many year could experience problems with their liver, nervous system, or circulatory system.

1,1,2-Trichloroethane – Some people who drink water that contains 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.

TTHMs [Total Trihalomethanes] – Some people who drink water that contains trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Toluene – Some people who drink water that contains toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.

Vinyl Chloride – Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.

Xylenes – Some people who drink water that contains xylenes in excess of the MCL over many years could experience damage to their nervous system.

Detects of arsenic, nitrates, lead, cryptosporidium and radon.

Arsenic – ND

Nitrates – Less than 5 mg/L. The MCL is 10 mg/L.

Lead – ND

Cryptosporidium – ND

Radon – Not Present

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or is man-made. All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Violation

Canyon Regional Water Authority Wells Ranch Water Treatment Plant did not receive violations for the year 2019.

Contact Information: If you have any questions please contact -

Adam Telfer

Phone: (830) 609-0543

Operations Manager

Email: adam@crwa.com

Canyon Regional Water Authority

Canyon Regional Water Authority is pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

This report is intended to provide you with important information about your drinking water and efforts made by the water system to provide safe drinking water. This Annual Water Quality Report is for the period of [*January 1 to December 31, 2019.*](#)

Sources

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. 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 Canyon Regional Water Authority (830) 609-0543.

Some people 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 (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>.

A Source Water Susceptibility Assessment for your drinking water source(s) 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. The 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: <http://gis3.tceq.state.tx.us/swav/Controller/index.jsp?wtrsrc=>.

Further details about sources and source-water assessments are available in Drinking Water Watch at the following URL: <http://dww.tceq.texas.gov/DWW>.

Canyon Regional Water Authority [Lake Dunlap Water Treatment Plant](#) is Surface Water.

	Type of Water	Report Status	Location
1 – 3/LAKE DUNLAP	3/LAKE DUNLAP	SW	Operational 850 Lakeside Pass New Braunfels, TX 78130
4 – 7/LAKE DUNLAP	7/LAKE DUNLAP	SW	-----

Water Quality Test Results

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

Definitions:

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

Non Applicable (N/A)

Non-Detects (ND) – laboratory analysis indicates that the constituent is not present.

Parts per Million (Ppm) or Milligrams per liter (mg/L) – one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per Billion (Ppb) or Micrograms per liter – one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per Trillion (Ppt) or Nanograms per liter (nanograms/L) – one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (Ppq) or Picograms per liter (pictograms/L) – one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Picocuries per liter (pCi/L) – picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr) – measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) – million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) – nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level – the concentration of a contaminant that if exceeded, triggers treatment or other requirements that a water system must follow.

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

Maximum Contaminant Level – The “Maximum Allowed” (MCL) is 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 – The “Goal” (MCLG) is 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 Detection Limit 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 Detection Limit 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.

Table of Contaminants

TEST RESULTS								
Contaminant	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation Y/N	Likely Source of Contamination
Microbiological Contaminants								

Total Coliform Bacteria	2019	Absent	N/A	0	MCL: (systems that collect 40 or more samples per month) 5% of monthly samples are positive. (Systems that collect <40 samples/month - 1 positive monthly sample.	N/A	N	Naturally present in the environment
Fecal coliform and <i>E.coli</i>	2019	Absent	N/A	0	0	N/A	N	Human and animal fecal waste
TOC	2019	2.31	0 - 4.38	N/A	TT	Mg/L	N	Naturally present in the environment
Turbidity	2019	.98	0 - 0.88	N/A	TT	NTU	N	Soil runoff, Bacteria, organic material, suspended particles
Radioactive Contaminants								
Beta/photon emitters	2017	ND	0 - 4	0	4	pCi/L	N	Decay of natural and man-made Deposits
Alpha emitters	2017	ND	0 - 15	0	15	pCi/L	N	Erosion of natural deposits
Combined radium (-226 & -228)	2017	ND	0 - 5	0	5	pCi/L	N	Erosion of natural Deposits
Inorganic Contaminants								
Antimony	2019	ND	0 - 6	6	6	Ppb	N	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder
Arsenic	2019	ND	0 - 10	N/A	10	Ppb	N	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Asbestos	2013	ND	0 - 7	7	7	MFL	N	Decay of asbestos cement water mains; erosion of natural deposits
Barium	2019	0.0434	0 - 2	2	2	Ppm	N	Discharge of drilling wastes;

								discharge from metal refineries; erosion of natural deposits
Beryllium	2019	ND	0 – 4	4	4	Ppb	N	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	2019	ND	0 – 5	5	5	Ppb	N	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium	2019	ND	0 – 100	100	100	Ppb	N	Discharge from steel and pulp mills; erosion of natural deposits
Copper	2017	0.0565	0 – 1.3	1.3	AL=1.3	Ppm	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Cyanide	2019	ND	0 – 200	200	200	Ppm	N	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	2019	0.19	0 – 4	4	4	Ppm	N	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	2017	ND	0 – 15	0	AL=15	Ppb	N	Corrosion of household plumbing systems, erosion of natural deposits
Mercury (inorganic)	2019	ND	0 – 2	2	2	Ppb	N	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen)	2019	1.41	0 – 10	10	10	Ppm	N	Runoff from

								fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrite (as Nitrogen)	2013	ND	0 – 1	1	1	Ppm	N	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2019	ND	0 – 50	50	50	Ppm	N	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium	2019	ND	0.5 – 2	0.5	2	Ppb	N	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

***Lead and Copper Rule Testing**

The 1994 Federal Lead & Copper Rule mandates a household testing program for these substances. According to the rule, 90% of samples from high-risk homes must have levels less than 0.015 milligrams per liter for lead and 1.3 milligrams per liter for copper.

Synthetic Organic Contaminants Including Pesticides and Herbicides

2, 4, -D	2019	0	0 - 70	70	70	Ppb	N	Runoff from herbicide used on row crops
2, 4, 5-TP(Silver)	2019	0	0 – 50	50	50	Ppb	N	Residue of banned herbicide
Acrylamide	2019	0	0 – 10	0	TT	Ppb	N	Added to water during sewage/wastewater treatment
Alachlor	2019	0	0 – 2	0	2	Ppb	N	Runoff from herbicide used on row crops
Atrazine	2019	0	0 – 3	3	3	Ppb	N	Runoff from herbicide used on row crops
Benzo(a)pyrene (PAH)	2019	0	0 – 200	0	200	Nanograms/L	N	Leaching from linings of water storage tanks and distribution lines
Carbofuran	2019	0	0 – 40	40	40	Ppb	N	Leaching of soil fumigant used on rice and alfalfa
Chlordane	2019	0	0 – 2	0	2	Ppb	N	Residue of banned termiticide
Dalapon	2019	0	0 – 200	200	200	Ppb	N	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) adipate	2019	0	0 – 400	400	400	Ppb	N	Discharge from chemical factories

Di(2-ethylhexyl) phthalate	2019	0	0 – 6	0	6	Ppb	N	Discharge from rubber and chemical factories
2,2-Dibromochloropropane	2019	0	0 – 200	0	200	Nanograms/L	N	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb	2019	0	0 – 7	7	7	Ppb	N	Runoff from herbicide used on soybeans and vegetables
Diquat	N/A	N/A	N/a	20	20	Ppb	N/A	Runoff from herbicide use
Dioxin [2,3,7,8-TCDD]	N/A	N/A	N/A	0	30	Picograms/L	N/A	Emissions from waste incineration and other combustion; discharge from chemical factories
Endothall	N/A	N/A	N/A	100	100	Ppb	N/A	Runoff from herbicide use
Endrin	2019	0	0 – 2	2	2	Ppb	N	Residue of banned insecticide
Epichlorohydrin	N/A	N/A	N/A	0	TT	N/A	N/A	Discharge from industrial chemical factories; an impurity of some water treatment chemicals
Ethylene dibromide	2019	0	0 – 50	0	50	Nanograms/L	N	Discharge from petroleum refineries
Glyphosate	N/A	N/A	N/A	700	700	Ppb	N/A	Runoff from herbicide use
Heptachlor	2019	0	0 – 400	0	400	Nanograms/L	N	Residue of banned termiticide
Heptachlor epoxide	2019	0	0 – 200	0	200	Nanograms/L	N	Breakdown of heptachlor
Hexachloroben-zene	2019	0	0 – 1	0	1	Ppb	N	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene	2019	0	0 – 50	50	50	Ppb	N	Discharge from chemical factories
Lindane	N/A	N/A	N/A	200	200	Nanograms/L	N/A	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor	2019	0	0 – 40	40	40	Ppb	N	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate]	2019	0	0 – 200	200	200	Ppb	N	Runoff from landfills of waste chemicals
PCBs	N/A	N/A	N/A	0	500	Nanogr-	N/A	Runoff from

[Polychlorinated biphenyls]						ams/L		landfills; discharge of waste chemicals
Pentachlorophe-nol	2019	0	0 – 1	0	1	Ppb	N	Discharge from wood pereserving factories
Picloram	2019	0	0 – 500	500	500	Ppb	N	Herbicide runoff
Simazine	2019	0	0 – 4	4	4	Ppb	N	Herbicide runoff
Toxaphene	2019	0	0 – 3	0	3	Ppb	N	Runoff/leaching from insecticide used on cotton and cattle

Volatile Organic Contaminants

Benzene	2019	0	0 – 5	0	5	Ppb	N	Discharge from factories; leaching from gas storage tanks and landfills
Bromate	2019	29.0	0 – 35.1	0	10	Ppb	Y	By-product of drinking water chlorination
Carbon tetrachloride	2019	0	0 – 5	0	5	Ppb	N	Discharge from chemical plants and other industrial activities
Chloramines	2017	N/A	0 – 4	MRDLG = 4	MRDL = 4	Ppm	N	Water additive used to control microbes
Chlorine	2019	2.27	0 – 4	MRDLG = 4	MRDL = 4	Ppm	N	Water additive used to control microbes
Chlorite	2019	0.930	0.0 – 1.0	0.8	1.0	Ppm	N	By-product of drinking water chlorination
Chlorine Dioxide	2019	0.1	0.0-5.0	MRDLG = 800	MRDL = 800	Ppb	N	Water additive used to control microbes
Chlorobenzene	2019	0	0 – 100	100	100	Ppb	N	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene	2019	0	0 – 600	600	600	Ppb	N	Discharge from industrial chemical factories
p-Dichlorobenzene	2019	0	0 – 75	75	75	Ppb	N	Discharge from industrial chemical factories
1,2-Dichloroethene	2019	0	0 – 5	0	5	Ppb	N	Discharge from industrial chemical factories

1,1 – Dichloroethylene	2019	0	0 – 7	7	7	Ppb	N	Discharge from industrial chemical factories
Cis-1,2- Dichloroethylene	2019	0	0 – 70	70	70	Ppb	N	Discharge from industrial chemical factories
Trans – 1,2 - Dichloroethylene	2019	0	0 – 100	100	100	Ppb	N	Discharge from industrial chemical factories
Dichloromethane	2019	0	0 – 5	0	5	Ppb	N	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane	2019	0	0 – 5	0	5	Ppb	N	Discharge from industrial chemical factories
Ethylbenzene	2019	0	0 – 700	700	700	Ppb	N	Discharge from petroleum refineries
Haloacetic Acids (HAA)	2019	48	0 – 60	N/A	60	Ppb	N	By-product of disinfection
Styrene	2019	0	0 – 100	100	100	Ppb	N	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene	2019	0	0 – 5	0	5	Ppb	N	Leaching from PVC pipes; discharge from factories and dry cleaners
1,2,4- Trichlorobenzene	2019	0	0 – 70	70	70	Ppb	N	Discharge from textile-finishing factories
1,1,1 – Trichloroethane	2019	0	0 – 200	200	200	Ppb	N	Discharge from metal degreasing sites and other factories
1,1,2 - Trichloroethane	2019	0	0 – 5	3	5	Ppb	N	Discharge from industrial chemical factories
Trichloroethylene	2019	0	0 – 5	0	5	Ppb	N	Discharge from metal degreasing sites and other factories
TTHM [Total trihalomethanes]	2019	89.1	0 – 100	0	100/80	Ppb	N	By-product of drinking water chlorination
Toluene	2019	0	0 – 1	1	1	Ppm	N	Discharge from petroleum factories
Vinyl Chloride	2019	0	0 – 2	0	2	Ppb	N	Leaching from PVC piping; discharge from plastics factories
Xylenes	2019	0	0 – 10	10	10	Ppm	N	Discharge from petroleum factories; discharge from chemical factories

Health Effects

Maximum Contaminant Levels (MCL's) are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have one-in-a-million chance of having the described health effect.

Microbiological Contaminants:

Total Coliform – Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. If Coliforms were found in more samples than allowed, this then is a warning of potential problems.

Fecal coliform/E.Coli – Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

Turbidity – Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Total Organic Carbon – Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Radioactive Contaminants:

Beta/Photon emitter – Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Alpha emitters – Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Combined Radium 226/228 – Some people who drink water that contains radium 226 or 228 in excess of the MCL over many years have an increased risk of getting cancer.

Inorganic Contaminants:

Antimony – Some people who drink water that contains antimony well in excess of the MCL over many years could experience increased in blood cholesterol and decrease in blood sugar.

Arsenic – Some people who drink water that contains arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Asbestos – Some people who drink water that contains asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.

Barium – Some people who drink water that contains barium in excess of the MCL over many years could experience an increase in their blood pressure.

Beryllium – Some people who drink water that contains beryllium well in excess of the MCL over many years could develop intestinal lesions.

Cadmium – Some people who drink water that contains cadmium in excess of the MCL over many years could experience kidney damage.

Chromium – Some people who use water that contains chromium well in excess of the MCL over many years could experience allergic dermatitis.

Copper – Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water that contains copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Cyanide – Some people who drink water that contains cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.

Fluoride – Some people who drink water that contains fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

Lead – Infants and children who drink water that contains lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Additional Health Information:

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. Canyon Regional Water Authority is responsible for providing high quality drinking water, but 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>.

Mercury (inorganic) – Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

Nitrate – Infants below the age of six months who drink water that contains nitrate in excess of the MCL could become seriously ill and if untreated could die. Symptoms include shortness of breath and blue-baby syndrome.

Nitrite – Infants below the age of six months who drink water that contains nitrite in excess of the MCL could become seriously ill and, if untreated could die. Symptoms include shortness of breath and blue-baby syndrome.

Selenium – Selenium is an essential nutrient. However, some people who drink water-containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

Thallium – Some people who drink water that contains thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

Synthetic organic contaminants including pesticides and herbicides.

2, 4-D – Some people who drink water that contains the weed killer 2, 4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.

2, 4, 5-TP (Silvex) – Some people who drink water that contains silvex in excess of the MCL over many years could experience liver problems.

Acrylamide – Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.

Alachlor – Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.

Atrazine – Some people who drink water that contains atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.

Benzo(a)pyrene [PAH] – Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.

Carbofuran – Some people who drink water that contains carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive system.

Chlordane – Some people who drink water that contains chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.

Dalapon – Some people who drink water that contains dalapon well in excess of the MCL over many years could experience minor kidney changes.

Di (2-ethylhexyl) adipate – Some people who drink water that contains di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.

Di (2-ethylhexyl) phthalate – Some people who drink water that contains di (2-ethylhexyl) phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.

Dibromochloropropane (DBCP) – Some people who drink water that contains DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.

Dinoseb – Some people who drink water that contains dinoseb well in excess of the MCL over many years could experience reproductive difficulties.

Dioxin (2,3,7,8-TCDD) – Some people who drink water that contains dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.

Diquat – Some people who drink water that contains diquat in excess of the MCL over many years could get cataracts.

Endothall – Some people who drink water that contains endothall in excess of the MCL over many years could experience problems with their stomach or intestines.

Endrin – Some people who drink water that contains endrin in excess of the MCL over many years could experience liver problems.

Epichlorohydrin – Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.

Ethylene dibromide – Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.

Glyphosate – Some people who drink water that contains glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.

Heptachlor – Some people who drink water that contains heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.

Heptachlor epoxide – Some people who drink water that contains heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.

Hexachlorobenzene – Some people who drink water that contains hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.

Hexachlorocyclopentadiene – Some people who drink water that contains hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.

Lindane – Some people who drink water that contains lindane in excess of the MCL over many years could experience problems with their kidneys or liver.

Methoxychlor – Some people who drink water that contains methoxychlor in excess of the MCL over many years could experience reproductive difficulties.

Oxamyl [Vydate] – Some people who drink water that contains oxamyl in excess of the MCL over many years could experience slight nervous system effects.

PCBs [Polychlorinated biphenyls] – Some people who drink water that contains PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.

Pentachlorophenol – Some people who drink water that contains pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.

Picloram – Some people who drink water that contains picloram in excess of the MCL over many years could experience problems with their liver.

Simazine – Some people who drink water that contains simazine in excess of the MCL over many years could experience problems with their blood.

Toxaphene – Some people who drink water that contains toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.

Volatile Organic Contaminants:

Benzene – Some people who drink water that contains benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.

Bromate – Some people who drink water that contains bromate in excess of the MCL over many years may have an increased risk of getting cancer.

Carbon Tetrachloride – Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.

Chloramines – Some people who use water that contains chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water that contains chloramines well in excess of the MRDL could experience stomach discomfort or anemia.

Chlorine – Some people who use water that contains chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water that contains chlorine well in excess of the MRDL could experience stomach discomfort.

Chlorite – Some infants and young children who drink water that contains chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water that contains chlorite in excess of the MCL. Some people may experience anemia.

Chlorine dioxide – Some infants and young children who drink water that contains chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water that contains chlorine dioxide in excess of the MRDL. Some people may experience anemia.

Chlorobenzene – Some people who drink water that contains chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.

o-Dichlorobenzene – Some people who drink water that contains o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.

p-Dichlorobenzene – Some people who drink water that contains p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.

1,2-Dichloroethane – Some people who drink water that contains 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.

Cis-1,2-Dichloroethylene – Some people who drink water that contains cis-1,2-dichloroethylene in excess of the MCL over many year could experience problems with their liver.

Trans-1,2-Dichloroethylene – Some people who drink water that contains trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.

Dichloromethane – Some people who drink water that contains dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.

1,2-Dichloropropane – Some people who drink water that contains 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

Ethylbenzene – Some people who drink water that contains ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.

Haloacetic Acids (HAA's) – Some people who drink water that contains haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Styrene – Some people who drink water that contains styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.

Tetrachloroethylene – Some people who drink water that contains tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.

1,2,4-Trichlorobenzene – Some people who drink water that contains 1,2,4-trichlorobenzene in excess of the MCL over many years could experience changes in their adrenal glands.

1,1,1-Trichloroethane – Some people who drink water that contains 1,1,1-trichloroethane in excess of the MCL over many year could experience problems with their liver, nervous system, or circulatory system.

1,1,2-Trichloroethane – Some people who drink water that contains 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.

TTHMs [Total Trihalomethanes] – Some people who drink water that contains trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Toluene – Some people who drink water that contains toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.

Vinyl Chloride – Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.

Xylenes – Some people who drink water that contains xylenes in excess of the MCL over many years could experience damage to their nervous system.

Detects of arsenic, nitrates, lead, cryptosporidium and radon.

Arsenic – ND

Nitrates – Less than 5 mg/L. The MCL is 10 mg/L.

Lead – ND

Cryptosporidium – We constantly monitor the water supply for various constituents. We have detected cryptosporidium in the source water (Lake Dunlap). We detected this constituent in 2009 and have been in a bin 2 category from that time. A bin 2 category requires the Lake Dunlap Water Treatment Plant (WTP) to achieve a 4-Log removal or inactivation of cryptosporidium. Lake Dunlap WTP has accomplished a 4-Log removal or inactivation of cryptosporidium over the complete bin 2 category duration, and continues to achieve this removal rate. We believe it is important for you to know that cryptosporidium may cause serious illness in immune-compromised persons such as person with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders. These people should seek advice from their health care providers.

Radon – Not Present

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or is man-made. All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency’s Safe Drinking Water Hotline at 1-800-426-4791.

Violations

Below are listed the violations Canyon Regional Water Authority Lake Dunlap WTP had experienced for 2019.

April – June 2019	MCL Average Bromate
July – September 2019	MCL Average Bromate
October – December 2019	MCL Average Bromate
January 2019	LT2 Monitoring Violation
February 2019	LT2 Monitoring Violation
March 2019	LT2 Monitoring Violation
April 2019	LT2 Monitoring Violation
January 2019	LT2 Treatment Violation
February 2019	LT2 Treatment Violation
March 2019	LT2 Treatment Violation
April 2019	LT2 Treatment Violation

Contact Information: If you have any questions please contact -

Adam Telfer	Phone: (830) 609-0543
Operations Manager	Email: adam@crwa.com
Canyon Regional Water Authority	

2019 Annual Drinking Water Quality Report
(Consumer Confidence Report)
CITY OF SCHERTZ
Water System # TX0940003
210-619-1800

Special Notice: *Required language for ALL community public water supplies*

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; those 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.

Our Drinking Water Meets or Exceeds All Federal (EPA) Drinking Water Requirements: This report is a summary of the quality of the water we provide our customers. 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 is in your drinking water.

Information About Your 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. More information about contaminants and potential health effects can be obtained by calling the EPA's 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 system's business office.

En Espanol:

Este informe incluye informacion importante sobre el agua potable. Si tiene preguntas o comentarios sobre este informe en espanol, favor de llamar at tel. (210) 619-1800- para hablar con una persona bilingue en espanol.

Public Participation Opportunities:

To learn about future public meetings concerning your drinking water or to request to a meeting, please call us.

Date: Monday – Friday

Time: 8:00 am to 5:00 pm

Location: 10 Commercial Place, Bldg 2

Phone Number: 210-619-1800

Where do we get our drinking water?

Our drinking water is obtained from two ground water sources: The Schertz Seguin Well Field water comes from the CARRIZO-WILCOX Aquifer and the Naco Well 1 & 2 water comes from the EDWARDS Aquifer. The Naco Wells are only used when water supply from the Schertz Seguin Well is limited. 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 in this susceptibility and previous sample data. Any detection of these contaminants may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact Schertz Public Works 210-619-1800.

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 cause 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.

About the following pages:

The pages that follow list all of the federally regulated or monitored contaminants which have been found in your drinking water. The U.S. EPA requires water systems to test for up to 97 contaminants.

Definitions:**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. ALG's allow for a margin of safety.

Average (AVG)

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

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 has been found in our water 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 has been found in our water system on multiple occasions.

Maximum Contaminant Level (MCL)

The highest permissible level of a contaminant 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 health risk. 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 disinfectants to control microbial contamination.

Treatment Technique (TT)

A required process intended to reduce the level of a contaminant in drinking water.

Abbreviations:

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

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

na - not applicable

NTU - Nephelometric Turbidity Units

pCi/l - picocuries per liter (a measure of radioactivity)

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

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

ppq - parts per quadrillion, or picograms per liter

ppt - parts per trillion, or nanograms per liter

Coliform Bacteria

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	5% of monthly samples are positive.	1.9		0	N	Naturally present in the environment.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2019	1.3	1.3	0.12	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems

2019 Water Quality Test Results

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)	2019	3	0 - 5	No goal for the total	60	ppb	N	By-product of drinking water disinfection.

* The value in the Highest Level or Average Detected column is the highest average of all HAA5 sample results collected at a location over a year'

Total Trihalomethanes (TTHM)	2019	14	4.1 - 30.8	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
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* The value in the Highest Level or Average Detected column is the highest average of all TTHM sample results collected at a location over a year'

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	02/08/2017	0.1	0.1 - 0.1	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	02/08/2017	0.13	0.13 - 0.13	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]	2019	0.13	0 - 0.13	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 Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	02/08/2017	6.7	6.7 - 6.7	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.

Disinfectant Residual

' A blank disinfectant residual table has been added to the CCR template, you will need to add data to the fields. Your data can be taken off the Disinfectant Level Quarterly Operating Reports (DLQOR).'

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
	2019			4	4		ppm	Water additive used to control microbes.

Violations

Chlorine			
Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.			
Violation Type	Violation Begin	Violation End	Violation Explanation
Disinfectant Level Quarterly Operating Report (DLQOR).	07/01/2019	09/30/2019	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.