2019 ANNUAL DRINKING WATER QUALITY REPORT
RICHMOND CITY WATER SYSTEM - UTAH03018

Annual Water Quality Report for the period of January 1 to December 31, 2019.

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

The source of drinking water used by RICHMOND CITY WATER SYSTEM is Ground Water.
For more information regarding this report, contact: Richmond City - Phone 435-285-2092.

Source of Drinking Water - The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include but are not limited to:

- Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. 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. To ensure that tap water is safe to drink, EPA prescribes regulations which limit the number of specific contaminants in water provided by public water systems. FDA regulations establish
limits for contaminants in bottled water which must contain the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants 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 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 are available from the

Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

CONSTITUENT TABLE DEFINITIONS - Below are listed many terms and abbreviations with which you may not be familiar. To help you understand better this report, we have included the following terms/abbreviations and their respective definition.

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

ND/Low - High - For water systems that have multiple sources of water, the Utah Division of Drinking Water has given water systems the option of listing the test results of the constituents in one table, instead of multiple tables. To accomplish this, the lowest and highest values detected in the various sources are recorded in the same space in the report table.

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 (ug/l) - One part per billion corresponds to one minute in 2,000 years or a single penny in $

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 (picograms/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) - A measure of the radioactivity in water.

Millirems per year (mrem/yr) - Measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - Measure of the presence of asbestos fibers that are longer than 20 micrometers.

Nephelometric Turbidity Unit (NTU) - A measure of the clarity of the water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level (AL) - Concentration of a contaminant which, if exceeded, triggers treatment or other action.

Maximum Contaminant Level (MCL) - 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 (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.

Data - Because of the required sampling time frames, i.e., yearly, three years, four years, and six years, sampling dates may seem to be outdated.

Waivers (W) - Because some chemicals are not used or stored in areas around drinking water sources, some water systems have been granted waivers that exempt them from taking specific chemical samples. These waivers are tied to Drinking Water Source Protection Plans.

SOURCE WATER INFORMATION

Source	Type of Water	Source ID
Cherry Canyon Springs	Ground Water	WS001
City Canyon Springs	Ground Water	WS002
WCDI City Well	Ground Water	WS004
Cherry Creek Well	Ground Water	WS005

Microbiological Contaminants

Bacteriological	Date Sampled	+ Sample Count	MCLG	MCL	Violation	Likely Source of Contamination

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Coliform Bacteria	2019	0	0	5	N	Naturally present in the environment
E. coli	2019	0	0	5	N	Naturally present in the environment

Lead and Copper

Definitions: 1) 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. 2) Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead & Copper	Date Sampled	MCLG	AL	90th Percentile	# Sites Over AL	units	Violation	Likely Source of Contamination
Copper	2019	1.3	1.3			ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2019	0	15			ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits

Water Quality Test Results

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5) *	2019			0	60	ppb	N	By-product of drinking water chlorination.

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

Total Trihalomethanes (TThm)*	2019			0	80	ppb	N	By-product of drinking water chlorination

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

Inorganic Contaminants	Collection Date	Lowest Level Detected	Highest Level Detected	M CLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	2014	0	0.6	0	10	ppb	N	Erosion of natural deposits; runoff from orchards; Runoff from glass and electronics production wastes.
Asbestos	2019	ND	ND	0.18	7	MFL	N	
Barium	2014	0.035	0.085	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Nitrate [measured as Nitrogen] #	2019	0.4	1.0	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sulfate	2014	3	5	1000	1000	ppm	N	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland

Total Dissolved Solids (TDS)	2014	112	224	2000	2000	ppm	N	Erosion of natural deposits
Sodium	2014	1.7	7.2	500	None	ppm	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Radioactive Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**M CLG**	**MCL**	**Units**	**Violation**	**Likely Source of Contamination**
Alpha Emitters	2017	1.6	1.5	0	5	pCi/L	N	Erosion of natural deposits
Radium 226	2016	0.06	0.42	0	5	pCi/L	N	Erosion of natural deposits
Radium 228	2017	0.43	0.18	0	5	pCi/L	N	Erosion of natural deposits

#Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider

Richmond City Culinary Water System
Notice as Required by the State Division of Drinking Water

For the 2019 year, the Richmond City water system did have an over the limit for Cooper. No report for Nitrate/Nitrite sampling for the WDCI well (WS-004) was submitted. This well did not operate during Calendar Years 2017-2019. In the past, we have had a series of violations in the lead/copper area. We are required to send in two samples per year from twenty residential homes constructed during a given period, which coincides with a time when building codes saw a great deal of interior plumbing using copper pipes joined by lead seals. This concerns Richmond City and we will be actively working this year in two areas. First, we will be working with the residences where the samples are taken to be as sure as possible that the samples will be taken correctly. For example, the sample is to be the first draw from a cold-water faucet after a designated period of non-use. If a copper screen is present in the faucet, or if the draw should include warm water (copper pipes in the water heater leach out copper when heating), a false positive indication will occur. Relative to lead, in years past, we had an instance where the cooperating resident took the sample from a new Afilter-type@ tap that contained lead. The point of manufacture for the filter unit was outside of the continental United States, and while it may have removed particles, it certainly injected a distorted reading of lead. When a second test was conducted using a different faucet, and the lead reading was well within allowed levels. This is an example of how the best of intentions can end up with unintended consequences. We want to be sure that the samples we are submitting to the laboratory will be correctly drawn and prepared. If we still have violations outside of what is allowable, we will be working with the Division of Drinking Water to determine any required actions that must be taken to prevent leaching. Overall, the most important thing for our culinary water consumer to remember is that you have very high-quality drinking water being provided for your usage. Please respect and enjoy it while conserving and avoiding waste. If you have any questions, please call the City Office (435-258-2092) and ask for Jeremy Kimpton.