2020 CONSUMER CONFIDENCE
REPORT ON WATER QUALITY FOR 2019

ANNUAL WATER QUALITY REPORT



Liberty Utilities has been committed to providing customers with safe, quality drinking water. We are proud to present this Water Quality Report (Consumer Confidence Report) that shares detailed information regarding local water service and our compliance with State and Federal quality standards during the 2019 calendar year.

Liberty Utilities makes significant investments each year to ensure the water we deliver to customers meets all safety standards established by the State Water Resources Control Board's Division of Drinking Water (DDW), California Public Utilities Commission (CPUC) and the United States Environmental Protection Agency (USEPA). We invest responsibly in order to maintain the local water infrastructure, because a strong infrastructure is a key factor in delivering quality water. Additionally, we have a top-notch water quality program that ensures the water delivered to your home or business is thoroughly tested by independent laboratories and data is provided to DDW to verify compliance with all primary and secondary State and Federal water quality standards.

We know our customers rely on us to make sure the water at their tap is safe to drink, and we take this responsibility seriously. At Liberty Utilities, the words "Local and Responsive. We Care" are more than a tagline. Our employees live in the local community and take great pride in providing quality water and reliable service to you and your neighbors.

If you have any questions about the information within this report, please don't hesitate to contact us anytime at 760-247-6484. We encourage you to visit our website at www.LibertyUtilities.com to sign up for our email distribution list, so we can keep you informed with timely updates regarding your water service. Also, follow us on Facebook (@LibertyUtilitiesAppleValley) to stay up-to-date.

On behalf of the entire Liberty Utilities family, thank you for being a valued customer and neighbor. We are proud to be your water provider.

Sincerely,

Chris Alario
President, Liberty Utilities-California

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

APPLE VALLEY

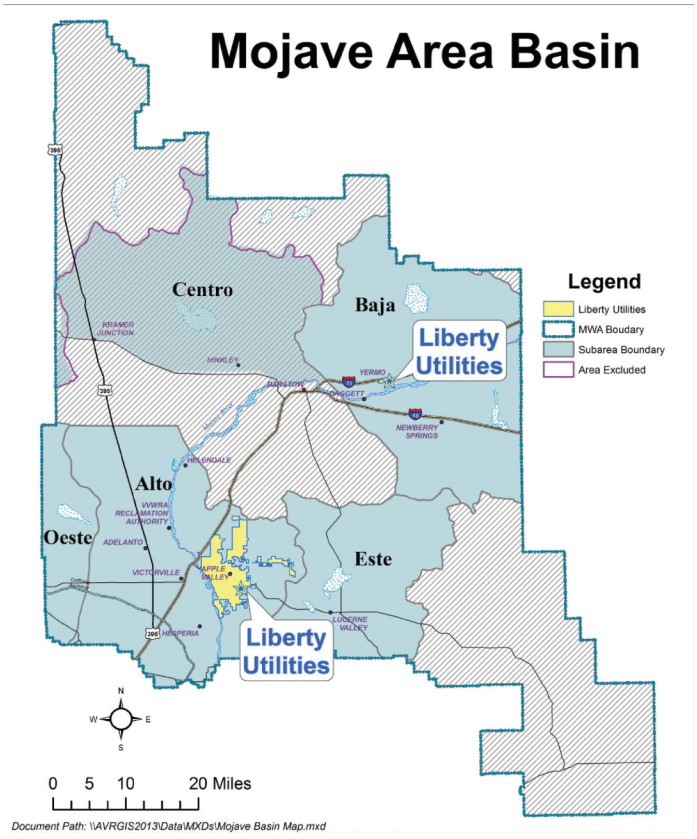
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Where Does My Water Come From?

In 2019 Liberty Utilities – Apple Valley system obtained 100% of its source water from 18 deep wells located throughout the community. These wells draw water from the deep Alto sub-unit of the Mojave ground water basin. This high quality aquifer is recharged from snowmelt from the San Bernardino Mountains to the south, and the Mojave River to the west. Also, the Mojave Water Agency (MWA) imports water from the California State Water Project to spread in the Mojave River to help recharge the ground water. Some of the water we pump has been age-dated close to 10,000 years old by the United States Geologic Survey. That means it has been protected and naturally filtered for a very long time.

Liberty Utilities – Apple Valley has provided dedicated service to its customers for 70 years. In 2019 we produced 9,364 acre-feet of high quality potable drinking water to over 21,000 residential and business customers. This equates to over 3 billion gallons of water served over an area of approximately 50 square miles that encompasses approximately 81% of the Town of Apple Valley and portions of the surrounding area through a network of 474 miles of underground pipe.



From The United States Environmental Protection Agency (USEPA)

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, that 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 that 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 that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application, and septic systems.
- Radioactive contaminants that can be naturally-occurring or be the result of oil and gas production or mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the State Water Resources Control Board (SWRCB) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB also establishes limits for contaminants in bottled water that provide the same protection for public health.

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 USEPA Safe Drinking Water Hotline at 1-800-426-4791.

Sensitive Populations May Be More Vulnerable

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 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. The USEPA and Centers for Disease Control (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 at 1-800-426-4791.

What Are The Drinking Water Standards?

Drinking water standards are the regulations set by the USEPA to control the level of contamination in the nation's drinking water. The USEPA and the SWRCB are the agencies responsible for establishing drinking water quality standards in California. These standards are part of the Safe Drinking Water Act's "multiple barrier approach" to drinking water protection.

What Are The Drinking Water Standards? (cont.)

This approach includes assessing and protecting drinking water sources; protecting wells and surface water; making sure water is treated by qualified operators; ensuring the integrity of the distribution system; and making information about water quality available to the public. The water delivered to your home meets the standards required by the USEPA and the SWRCB.

If you would like more information about water quality, or to find out about upcoming opportunities to participate in public meetings, please call Jeremy Caudell at 760-240-8334.

This report describes those contaminants that have been detected in the analyses of almost 200 different potential contaminants, nearly 100 of which are regulated by the USEPA and the SWRCB.

Liberty is proud to tell you that there have been no contaminants detected that exceed any federal or state drinking water standards. Hundreds of samples analyzed every month by Liberty's contract certified laboratory assures that all primary (health-related) and secondary (aesthetic) drinking water standards are being met. Sample results are available on the Table that is part of this report.

This report is intended to provide information for all water users. If received by an absentee landlord, a business, or a school, please share the information with tenants, employees or students. We are happy to make additional copies of this report available. You may also access this report on the Liberty Utilities web page at www.libertyutilities.com.

Source Water Assessment

The 1996 Safe Drinking Water Act amendments required states to perform an assessment of potentially contaminating activities near drinking water sources of all water utilities. Liberty Utilities completed the Source Water Assessment in 2002 and continues to monitor nearby land uses. Apple Valley wells are considered most vulnerable to the following activities: high density housing; septic systems – low and high density; parks; irrigated crops; golf courses; sewer collection systems; gas stations; roads and streets; railroads; storm water injection wells; storm drain discharge points; storm water detention facilities; agricultural and irrigation water wells; historic grazing; historic waste dumps and landfills; machine shops; and leaking underground storage tanks.

A copy of the complete assessment is available at Liberty Utilities' Apple Valley office, and at the SWRCB office in San Bernardino. You may request a summary of the assessment by contacting Jeremy Caudell with Liberty Utilities – Apple Valley at 760-240-8334; or by contacting the SWRCB office in San Bernardino at 909-383-4328.

Important Health Information

Nitrate

Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Gross Alpha

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.

Arsenic

While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The USEPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Lead

While there have never been any problems with lead in our water system, the USEPA and the SWRCB require the following information be presented in this report. 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. Liberty Utilities 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/lead.

Lead Testing in Schools

Regulation was passed requiring the testing of public schools for lead. To date, 11 schools in the Liberty Utilities Apple Valley system have been tested, all in which had no detectable levels of lead.

Primary Standards - Health Based	Primary MCL	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Inorganic Constituents						
Arsenic (µg/L)	10	0.004	ND - 3.9	ND	2019	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes
Fluoride (mg/L)	2.0	1	0.21-0.48	0.34	2019	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate [as N] (mg/L)	10	10	ND - 4.2	1.56	2019	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radioactive Constituents						
Gross Alpha Activity (pCi/L)	15	(0)	1.21-4.95	2.58	2019	Erosion of natural deposits
Uranium (pCi/L)	20	0.43	ND - 1.9	0.69	2019	Erosion of natural deposits

Secondary Standards - Aesthetic	Secondary MCL	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Chloride (mg/L)	500	n/a	11.0 - 76	29	2019	Runoff/leaching from natural deposits; seawater influence
Specific Conductance (µS/cm)	1600	n/a	200 - 570	334	2019	Substances that form ions when in water; seawater influence
Total Dissolved Solids (mg/L)	1000	n/a	130-350	214	2019	Runoff/leaching from natural deposits
Other Parameters	**Notification Level**	**PHG (MCLG)**	**Range of Detection**	**Average Level**	**Most Recent Sampling Date**	**Typical Source of Constituent**
Alkalinity (mg/L)	n/a	n/a	68-89	79	2019	
Calcium (mg/L)	n/a	n/a	20-29	23	2019	
Hardness [as CaCO3] (mg/L)	n/a	n/a	69-110	81	2019	The sum of polyvalent cations present in the water, generally magnesium and calcium; the cations are usually naturally occurring
Hardness [as CaCO3] (grains/gal)	n/a	n/a	4.0-6.4	4.7	2019	
Magnesium (mg/L)	n/a	n/a	1.7-13	5.2	2019	
pH (pH units)	n/a	n/a	7.9-8.2	8.1	2019	
Potassium (mg/L)	n/a	n/a	1.5-1.8	1.7	2019	
Sodium (mg/L)	n/a	n/a	13-85	36	2019	Refers to the salt present in the water and is generally naturally occurring
Unregulated Drinking Water Constituents	**Notification Level**	**PHG (MCLG)**	**Range of Detection**	**Average Level**	**Most Recent Sampling Date**	
Hexavalent Chromium (µg/L)	10	0.02	ND - 3.7	1.7	2019	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
UCMR4						
Germanium (µg/L)	n/a	n/a	ND	ND	2019	
Manganese (µg/L)	n/a	n/a	0 - 5.9	1.005	2019	
Bromide	n/a	n/a	26 - 330	131.6	2019	

Microbiological Constituents	Primary MCL	PHG (MCLG)	Value	Most Recent Sampling Date	Typical Source of Constituent
Total Coliform Bacteria ≥40 Samples/Month (Present / Absent)	More than 5% of monthly samples are positive	(0)	Highest percent of monthly samples positive was 1 %	2019	Naturally present in the environment

Disinfection Byproducts and Disinfectant Residuals	Primary MCL (MRDL)	PHG (MRDLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Chlorine [as Cl_2] (mg/L)	(4.0)	(4)	0.2 - 1.6	0.75	2019	Drinking water disinfectant added for treatment
TTHMs [Total of Four Trihalomethanes] (µg/L)	80	n/a	22	22	2019	Byproduct of drinking water disinfection

Lead and Copper Rule	Action Level	PHG (MCLG)	Sample Data	90th % Level	Most Recent Sampling Date	Typical Source of Constituent
Copper (mg/L)	1.3	0.3	0 of the 30 samples collected exceeded the action level.	<0.05	2019	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (µg/L)	15	0.2	0 of the 30 samples collected exceeded the action level.	ND	2019	Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits



Meets/Exceeds Regulations

Terms To Know

DEFINITIONS

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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 are set by the U.S. Environmental Protection Agency.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard (PDWS): MCLs, MRDLs and treatment techniques (TTs) for contaminants that affect health, along with their monitoring and reporting requirements.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants

Maximum Residual Disinfectant Level Goal (MRDLG): The level of 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

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

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

KEY TO ABBREVIATIONS AND FOOTNOTES

mg/L or ppm = milligrams per liter or parts per million

µg/L or ppb = micrograms per liter or parts per billion

ng/L or ppt = nanograms per liter or parts per trillion

pCi/L = picoCuries per liter

NA or N/A = Not applicable or Not required

ND = Not detected

TT = Treatment Technique

NL = Notification Level

NTU = Nephelometric Turbidity Units. This is a measure of suspended material in the water

(a) = Turbidity is a measure of the cloudiness of the water and is a good indicator of water quality and filtration performance

(b) = The state allows us to monitor for some parameters less than once per year because the concentrations of these parameters in groundwater sources do not change frequently. Some of the data, though representative, are more than one year old.

[c] = An aggressive Index of 11 or greater indicates the water is non-aggressive (non-corrosive)

(d) = Hardness is the sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally occurring.

[e] = Sodium refers to the salt present in the water and is generally naturally occurring.