2020 Consumer Confidence Report

Water System Information

Water System Name: UC Davis School of Veterinary Medicine Water System - CA5401006 (serving the UC Davis Veterinary Medicine Teaching & Research Center and California Animal Health and Food Safety Laboratory in Tulare, CA)

Report Date: 6/29/2021

Type of Water Source(s) in Use: Groundwater

Name and General Location of Source(s): Well #3 (primary domestic water supply) and Well #1 (irrigation supply and backup domestic water supply) located on the VMTRC/CAHFS campus at 18830 Road 112 and 18760 Road 112, Tulare CA 93274.

Drinking Water Source Assessment Information: A source water assessment was conducted for Well #3 on November 8, 2016. The source is most vulnerable to the following activities: chemical and petroleum processing/ storage and agricultural operations.

For More Information Contact:

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About This Report

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 to December 31, 2020 and may include earlier monitoring data.

Terms Used in This Report

Term	Definition
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 (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 (U.S. EPA).
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.
Primary Drinking Water Standards (PDWS)	MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
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.
Regulatory Action Level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Secondary Drinking Water Standards (SDWS)	MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.
Variances and Exemptions	Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.
ND	Not detectable at testing limit.
ppm	parts per million or milligrams per liter (mg/L)
ppb	parts per billion or micrograms per liter (µg/L)
ppt	parts per trillion or nanograms per liter (ng/L)
ppq	parts per quadrillion or picogram per liter (pg/L)
pCi/L	picocuries per liter (a measure of radiation)

Sources of Drinking Water and Contaminants that May Be Present in Source 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.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that 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 stormwater 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 stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

Regulation of Drinking Water and Bottled Water Quality

In order to ensure that tap water is safe to drink, the U.S. EPA and the State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

General Information on Drinking Water

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 U.S. EPA's Safe Drinking Water Hotline (1-800-426-4791).

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. U.S. EPA/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 (1-800-426-4791).

About Your Drinking Water Quality

Drinking Water Contaminants Detected

The tables below list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report. If multiple samples were collected during the monitoring period a range of values is shown.

Table 1. Sampling Results Showing the Detection of Coliform Bacteria

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria (State Total Coliform Rule)	(In a month) 0	0	1 positive monthly sample [(a)]	0	Naturally present in the environment
Fecal Coliform or *E. coli* (State Total Coliform Rule)	(In the year) 0	0	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or *E. coli* positive	None	Human and animal fecal waste
E. coli (Federal Revised Total Coliform Rule)	(In the year) 0	0	(b)	0	Human and animal fecal waste

(a) Two or more positive monthly samples is a violation of the MCL

(b) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

Table 2. Sampling Results Showing the Detection of Lead and Copper

Lead and Copper	Sample Date	No. of Samples Collected	90th Percentile Level Detected	No. Sites Exceeding AL	AL	PHG	No. of Schools Requesting Lead Sampling	Typical Source of Contaminant
Lead (ppb)	9/18/2018	5	0.0028	0	15	0.2	Not applicable	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	9/18/2018	5	0.08	0	1.3	0.3	Not applicable	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

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. The UC Davis School of Veterinary Medicine Water System 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 do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants. 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 (1-800-426-4791) or at http://www.epa.gov/lead.

Table 3. Sampling Results for Sodium and Hardness

Chemical or Constituent (and reporting units)	Well #1		Well #3		MCL	PHG (MCLG)	Typical Source of Contaminant
	Sample Year	Level Detected (range)	Sample Year	Level Detected (range)			
Sodium (ppm)	2020	110	2015	107	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2020	97.9	2015	7.1	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

Table 4A. Detection of Contaminants with a Primary Drinking Water Standard – Source Water

Chemical or Constituent (and reporting units)	Well #1		Well #3		MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
	Sample Year	Level Detected (range)	Sample Year	Level Detected (range)			
Dichloromethane (ppm) [(a)]	2020	ND	2020	0.77 (ND-0.77)	0.005	0	Discharge from drug and chemical factories
Gross Alpha Particle Activity (pCi/L)	2020	3.11	2017	ND	15	0	Erosion of natural deposits
Radium 228 (pCi/L)	2020	1.07	2017	0.53	1	0.019	Erosion of natural deposits
Aluminum (ppm)	2020	ND	2018	690	1	0.6	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb) [(b)]	2020	7	2018	1.8	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2020	ND	2018	29	1	2	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Fluoride (ppm)	2020	ND	2019	0.58	2.0	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm) [(c)]	2020	4.6 (1.4-4.6)	2020	ND	10 (as N)	10 (as N)	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

(a) Dichloromethane was detected in the groundwater sample collected from Well #3 on 9/9/2020. Two follow up samples were collected in 12/2020 and 3/2021 to confirm presence of dichloromethane. Both follow up samples resulted in no levels of dichloromethane being detected. It is suspected that the detect result in 9/2020 was due to sample contamination or laboratory error.

(b) 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 cost of removing arsenic from drinking water. The U.S. Environmental Protection Agency 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.

(c) Nitrate was non-detect in Well #3, the primary source of drinking water supply for the site. Well #1, which is used primarily for irrigation supply and also as backup drinking water supply, has low levels of nitrate detected below the drinking water MCL.

Table 4B. Detection of Contaminants with a Primary Drinking Water Standard – Distribution

Chemical or Constituent (and reporting units)	Sample Year	Level Detected (range)	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
TTHMs [Total Trihalomethanes] (ppb)	2020	13	80	N/A	Byproduct of drinking water disinfection
HAA5 [Sum of 5 Haloacetic Acids] (ppb)	2020	2.2	60	N/A	Byproduct of drinking water disinfection

Table 5. Detection of Contaminants with a Secondary Drinking Water Standard

Chemical or Constituent (and reporting units)	Well #1		Well #3		SMCL[(a)]	Typical Source of Contaminant
	Sample Year	Level Detected (range)	Sample Year	Level Detected (range)		
Aluminum (ppm)	2020	ND	2018	690	0.2	Erosion of natural deposits; residual from some surface water treatment processes
Iron (ppb)	2020	100	2015	ND	300	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2020	40	2015	ND	50	Leaching from natural deposits
Odor---Threshold (units)	2020	1	2015	ND	3 units	Naturally-occurring organic materials
Turbidity (NTU)	2020	0.6	2015	4.2	5 NTU	Soil runoff
Total Dissolved Solids [TDS] (ppm)	2020	420	2015	317	1,000	Runoff/leaching from natural deposits
Specific Conductance (µS/cm)	2020	725	2015	545	1,600	Substances that form ions when in water; seawater influence
Chloride (ppm)	2020	25	2015	82.3	500	Runoff/leaching from natural deposits; seawater influence
Sulfate (ppm)	2020	86	2015	9.7	500	Runoff/leaching from natural deposits; industrial wastes

(a) Note: There are no PHGs, MCLGs, or mandatory standard health effects language for these constituents because secondary MCLs are set on the basis of aesthetic concerns.

Table 6. Detection of Unregulated Contaminants

Chemical or Constituent (and reporting units)	Well #1		Well #3		Notification Level	Health Effects Language
	Sample Year	Level Detected (range)	Sample Year	Level Detected (range)		
Vanadium (ppb)	2020	4	N/A	N/A	50	Vanadium exposures resulted in developmental and reproductive effects in rats.
Boron (ppm)	2020	0.2	N/A	N/A	1	Boron exposures resulted in decreased fetal weight (developmental effects) in newborn rats.