2019 DRINKING WATER CONSUMER CONFIDENCE REPORT
MARIPOSA PUBLIC UTILITY DISTRICT
STATE WATER SYSTEM #2210001

Last year, the Mariposa Public Utility District water system met all U.S. EPA and State drinking water health standards. The water system has not violated a maximum contaminant level or any other water quality standard. This brochure is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

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

Administrative Information

The Mariposa Public Utility District (MPUD) provides public water, wastewater, and fire protection services to the general area of the Mariposa town basin. MPUD is a Special District, independent of Mariposa County government.

The Board of Directors regular meetings are held the first Tuesday of each month in the MPUD administrative office at 4992 Seventh Street at 6:30 PM. The legislative body is made up of five Directors elected at large by registered voters residing in the MPUD service area with individual Directors serving four-year terms. The members of the Board include: Dana Finney, Larry Enrico, Bill Bondshu, Frank Mock and Mike Cleary (2020 Chairman). The General Manager is Mark Rowney.

District staff includes five employees certified in the operation of the water treatment facilities, five employees certified in water distribution and at least one employee certified as a Laboratory Analyst. District staff is on duty 8-9 hours a day, seven days a week. There is a MPUD employee on call 24-hours per day. The emergency (water and wastewater only) pager phone access number is **209-282-0100**. Fire emergencies should be reported through the 911 emergency phone system.

For more information contact the MPUD administrative office at 966-2515 or web site at https://www.mariposapud.org.

Water Sources and Treatment

The MPUD surface water sources include Stockton Creek Reservoir and the Merced River as a secondary source. All surface water is treated at the Surface Water Treatment Facility (SWTF) (completed in July 2013) which includes a solids contact clarifier, two ultra-filtration membrane filter racks, two granular activated carbon (GAC) vessels, chlorination and corrosion control treatment.

The water system also utilizes ground water pumped from four active hard rock wells (Wells: IW #1, IW #7, MPUD #5 and MPUD #6) as part of the system source capacity. MPUD provides continuous chlorination of the groundwater pumped from active hard rock wells, which is necessary since it is blended with treated surface water.

There are two 1.0-million gallon and one 72,000-gallon capacity treated water storage tanks in the distribution system.

During the 2019 calendar year, District customers used 110,268,599 gallons of surface and ground water.

	***Surface Water**	**Ground Water**
	Stockton Creek Reservoir	Wells: IW #1 & #7 MPUD #5 & #6
Gallons	70,914,299	39,354,300
% of supply	64	36

MPUD treats and tests water according to the State Water Resources Control Board and U.S. EPA drinking water standards.

***Merced River water (Saxon Creek) was not used in calendar year 2019.

Water Quality Monitoring

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 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 and mining activities.

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

An assessment of MPUD's drinking water sources was completed in April 2003. (Ground and surface water sources are described on page 1, *Water Sources and Treatment*.) These sources are considered most vulnerable to the following activities, although not associated with any detected contaminants: transportation corridors – freeways/state highways, road right-of-way's [herbicide use areas]; septic systems – high density [>1/acre]; automobile – gas stations; historic gas stations; and wastewater treatment plants and disposal facilities.

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).

Water Quality Terminology

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).
Public Health Goal (PHG): The level 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.
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.
Running Annual Average (RAA): is the average of sample analytical results taken at a particular monitoring location during the previous four calendar quarters.
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.
Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Variances and Exemptions: State Water Board permission to exceed a MCL or not comply with treatment technique under certain conditions.
ND: not detectable at analysis minimum reporting 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)

The following tables list drinking water constituents that have assigned contaminant levels, and 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 Water Board allows the District 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. Many other water analyses are completed, however not reported if results were not detectable (ND). The District's water system did not exceed or violate an AL, MCL, MRDL, or TT.

SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER
(Sample Taken from Customer Tap)
Monitoring for October 2019 – next monitoring required 2022
90th percentile of all samples collected must be below the regulatory action level. (<AL)

Lead and Copper (reporting units)	**Number of samples collected**	**90th percentile level detected**	**No. sites exceeding AL**	**AL**	**PHG**	**Typical Source of Contaminant**
Lead (ppb)	20	ND	0	15	0.2	Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits.
Copper (ppm)	20	0.450	0	1.3	0.3	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. MPUD 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 (1-800-426-4701) or at http://www.epa.gov/lead.

SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	Sample Date Range	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2017-19	1-11	None	None	Salt present in the water and is generally naturally occurring.
Hardness as $CaCO_3$ (ppm)	2017-19	5-250	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring.

SAMPLING RESULTS FOR DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS AND DISINFECTION BY-PRODUCT PRECURSORS

PRIMARY STANDARDS For Distribution System, 2019 Calendar Year	MCL	PHG (MCLG)	RAA	Distribution System Range RAA	Typical Source	
Disinfection Byproducts						
Total Trihalomethanes, (TTHM)	80 (ppb)	N/A	57.8 (ppb)	33-75	By-product of drinking water disinfection.	
Haloacetic Acids	60 (ppb)	N/A	39.8 (ppb)	26-70		
Disinfection						
Chlorine	MRDL = 4.0 (ppm) as Cl_2	MRDLG = 4 (ppm) as Cl_2	0.92 (ppm)	0.54-0.92 (ppm)	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.	
Microbiological Contaminants			**No. of months in violation**			
Total Coliform Bacteria *(state Total Coliform Rule)*	**MCL:** 1 positive monthly sample		0			
Fecal Coliform Bacteria *(state Total Coliform Rule)*	**MCL:** A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or *E. coli* positive		0		Naturally present in the environment. Human and animal fecal waste.	
			Bacteria were not detected in the distribution system.			
E. coli (federal Revised Total Coliform Rule)	(a)		0			

Note: The Mariposa Public Utility District was in compliance with disinfection requirements at all times during the 2019 calendar year.

(a) 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*.

SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES	
Treatment Technique[(a)] (type of approved filtration technology used)	Coagulation, sedimentation, ultra-filtration membranes, activated carbon and disinfection.
Turbidity Performance Standards[(b)] (that must be met through the water treatment process)	Turbidity of the filtered water must: 1 – Be less than or equal to .1 NTU in 95% of measurements in a month 2 – Not exceed 1 NTU at any time
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1	100%
Highest single turbidity measurement during the year	0.02 NTU
The number of violations of surface water treatment requirements	None

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

(b) Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

FOOTNOTES
Major Sources of Contamination in Drinking Water
(use where indicated in the next two pages, "Typical Source of Contaminant" column)

1 Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion or natural deposits.

2 Discharge from petroleum refineries; industrial chemical factories.

3 Erosion of natural deposits.

4 Erosion of natural deposits; residue from some surface water treatment process

5 Leaching from natural deposits

6 Leaching from natural deposits; industrial wastes

7 Naturally-occurring organic materials

8 Runoff/leaching from natural deposits; seawater influence

9 Runoff from fertilizer leaching from septic tanks, erosion of natural deposits.

10 Runoff/leaching from natural deposits

11 Runoff/leaching from natural deposits; industrial wastes

12 Soil runoff

13 Substances that form ions when in water; seawater influence

14 Discharge from steel and pulp. Mills and chrome plating; erosion of natural deposits.

DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	MCL [MRDL]	PHG (MCLG) [MRDLG]	Surface Water - untreated		Ground Water Wells				Typical Source of Contaminant (see Footnote, page 5)
			Stockton Creek	Merced River	IW #1	IW #7	MPUD #5	MPUD #6	
Inorganic Contaminants									
Aluminum (mg/L)	1	0.6	ND	0.46	ND	ND	ND	ND	4
Sample date			5/14/2019	5/14/2019	5/15/2018		5/15/2018	5/30/2017	
Barium (mg/L)	1	2	ND	ND	ND	ND	0.0012	ND	15
Sample date			5/14/2019	5/14/2019	5/15/2018		5/15/2018	5/30/2017	
Nickel (µg/L)	100	12	ND	ND	1.3	1.3	1.5	ND	3
Sample date			5/14/2019	5/14/2019	5/15/2018		5/15/2018	5/30/2017	
Nitrate, (as Nitrogen, N) (mg/L)	10	10	ND	ND	2.8	1.1	0.5	1.5	9
Sample date			5/14/2019	5/14/2019	5/28/2019		5/28/2019	5/28/2019	
Perchlorate (µg/L)	6	1	ND	ND	4	4	4	4	17
Sample date			5/14/2019	5/14/2019	5/15/2018		5/15/2018	5/30/2017	
Radioactive Contaminants									
Gross Alpha Particle Activity (pCi/L)	15	(0)	ND	ND	ND	ND	ND	ND	3
Sample date			5-31-2016	5-31-2016	5-31-2016		8-12-2015	5-31-2016	
Radium 228 (pCi/L)	5	0.019	0.07	0.87	0.20		<1.0	<1.0	3
Sample date			2/28/2018	2/28/2018	2/28/2018		2/28/2018	2/28/2018	

DETECTION OF CONTAMINANTS WITH SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	MCL	Surface Water- untreated		Ground Water Wells				Typical Source of Contaminant (see Footnote, page 5)
		Stockton Creek (sample date 5-14-2019) Level Detected	**Merced River** (sample date 5-14-2019) Level Detected	**IW #1** (sample date 5-15-2018) Level Detected	**IW #7** (sample date 5-18-2018) Level Detected	**MPUD #5** (sample date 5-15-2018) Level Detected	**MPUD #6** (sample date 5-30-2017) Level Detected	
Sulfate (mg/L)	500	7.7	ND	18	14	4.8	20	6
Chloride (mg/L)	500	2.2	ND	9.5	8.1	2.3	6.7	8
Specific Conductance (µS/cm)	1600	210	13	470	400	400	480	13
Total Dissolved Solids (mg/L)	1000	120	13	340	290	220	280	10
Turbidity – Groundwater only, NTU	5	See page 5	See page 5	Range 0.12 – 0.10		0.10	0.10	12
Color units	15	5.0	25	ND	ND	ND	ND	7
Odor threshold	3 units	ND	ND	ND	1.0	1.0	ND	7
*Iron (µg/L)	300	58	470	ND	ND	ND	ND	6
*Manganese (µg/L)	50	25	14	ND	ND	ND	ND	5

*After water filtration, Iron was detected at <20 µg/L and Manganese ranged from <7–18 µg/L.

DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)		Surface Water - untreated		Ground Water Wells				
		Stockton Creek (sample date 5-14-2019) Level Detected	**Merced River** (sample date 5-14-2019) Level Detected	**IW #1** (sample date 5-15-2018) Level Detected	**IW #7** (sample date 5-15-2018) Level Detected	**MPUD #5** (sample date 5-15-2018) Level Detected	**MPUD #6** (sample date 5-30-2017) Level Detected	
Calcium (mg/L)		22	1.5	38	29	35	43	
Magnesium (mg/L)		11	0.31	28	25	23	36	

CCR prepared May 2020