

MARIPOSA PUBLIC UTILITY DISTRICT

P.O. BOX 494

MARIPOSA, CA 95338

(209) 966-2515 FAX (209) 966-6615

mpud@sti.net

2011 ANNUAL CONSUMER CONFIDENCE REPORT

STATE WATER SYSTEM #2210001

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 - December 31, 2011

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

Type of water source(s) in use: Surface water, wells

Name & location of source(s): Stockton Creek Reservoir, Merced River, various wells

Drinking water source assessment information: September 2011

Time & place of regularly scheduled Board meetings for public participation: Meetings are held the first Tuesday of every month at 6:30 PM. Meeting place is the MPUD office located at 4992 Seventh St., Mariposa, CA.

For more information contact: Mark L. Rowney, General Manager (209) 966-2515

TERMS USED IN THIS REPORT:

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 MCLs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Primary Drinking Water Standards (PDWs): MCLs and MRDLs contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWS do not affect the health at the MCL levels.

ND: not detectable at testing limit

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

ppb or ug/L: parts per billion or micrograms per liter

pCi/L: picocuries per liter (a measure of radiation)

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.

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 (USEPA).

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

Turbidity (measured in NTU) is a measurement of 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.

TON : Threshold Odor Number

DBP: Disinfection by-products

umho/cm: Conductance-Micromho's per cm

MFL: Million fibers per liter

RAA: Running Annual Average

Si: Saturation Index

meq/L: milligram equivalent CaCo3

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, bacteria and parasites like cryptosporidium and Giardia 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 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 insure that tap water is safe to drink, USEPA and the California Dept. of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by the public water systems, certify treatment facilities and operators. MPUD treats and tests water according to the CDPH and USEPA regulations. District staff includes four employees certified in the operation of water treatment facilities, four employees certified in water distribution and at least one employee certified as a Laboratory Analyst. District staff is on duty 8-9 hours per day, 7 days per week. There is an MPUD employee on call 24 hours per day. The emergency (water and sewer only) pager phone access number is **209-742-2800**.

MPUD provides 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 MPUD legislative body is made up of five Directors elected at large by registered voters residing in the District with individual Directors serving four year terms. The Board of Directors regular meetings are held the first Tuesday of each month in the MPUD office at 4992 Seventh Street at 6:30PM. The members of the Board are Bill Bondshu, Dana Finney, Bob McKnight, Brian Muller and David Radanovich. The Chairman for the year 2012 is Bill Bondshu. The General Manager is Mark Rowney. For more information contact the MPUD administrative office at 966-2515.

The MPUD water supply sources for 2011 include two surface water sources - Merced River at Saxon Creek and the Stockton Creek reservoir; and three ground water wells (3 wells near the Idle Wheels Mobile Home Park). All of the water from the surface water sources is treated at the treatment facility located on Powder House Road east of town. Treatment consists of flocculation, sedimentation, filtration and disinfection. In addition, a blend of sodium phosphates is added at approximately 2.5 parts per million as a corrosion inhibitor. Water from groundwater sources is pumped directly to the distribution system with some disinfection from chlorine injection at each well head.

During the calendar year of 2011 the District pumped 11,304,900 gallons of water from wells and treated 119,279,100 gallons of water from Stockton Creek Reservoir for a total of 130,584,000 gallons. Therefore, 9% of your water was supplied from wells and 91% from Stockton Creek Reservoir. There was no water used from the Saxon Creek water project (Merced River) in 2011.

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 U.S. Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at 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. USEPA/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.

MPUD has secured a grant of \$3,000,000 through the California State Revolving Fund and a grant of \$1,666,667 from the California Proposition 50 funding program. Construction on a new water treatment facility started in September of 2011. Smith Construction of Fresno, California was awarded the construction contract. The primary features of the new facility are a new clarifier, new ultrafiltration membrane fiber filters and granular, activated carbon filters. Construction completion is expected in December of 2012. The treatment improvements will increase turbidity removal, provide more effective barrier to bacteriological contaminants and bring the water system into compliance with the disinfection byproduct drinking water standards established by the Federal EPA and CDPH.

The following table lists drinking water contaminants that were detected during the most recent sampling for the constituent. Your drinking water was tested for other constituents not listed, however, analysis results were “non-detect” or less than the minimum laboratory detection limit. The presence of the listed contaminants in the water does not necessarily indicate that the water poses a health risk. CDPH requires water purveyors to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

SAMPLING RESULTS FOR SODIUM AND HARDNESS - SURFACE WATER					
CHEMICAL OR CONSTITUENT	SAMPLE DATE	RANGE OF DETECTIONS	MCL	PHG MCLG	TYPICAL SOURCE OF CONTAMINANT
Sodium (mg/L)	5-3-10	1.6 - 5.4	None	None	Generally found in ground & surface water
Hardness (meq/L)	5-3-10	14 - 83	None	None	Generally found in ground & surface water

SAMPLING RESULTS FOR LEAD AND COPPER (AT CUSTOMER TAP)					
Monitoring from 2009 - next monitoring required 2012					
	90 TH Percentile Level Detected	# Sites Exceeding AL	AL	PHG	Typical Source of Contaminant
Lead at customer plumbing fixture 90 th percentile for 20 sample sites (ppm)	.0027	None	.015	.002	Internal corrosion of household water plumbing systems, discharges from industrial manufacturers; erosion of natural deposits.
<i>Health Effects Lead: Infants & children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink water containing lead in excess of the MCL over many years may develop kidney problems or high blood pressure.</i>					
	90 TH Percentile Level Detected	# Sites Exceeding AL	AL	PHG	Typical Source of Contaminant
Copper at customer plumbing fixture 90 th percentile for 20 sample	.330	None	1.3	0.17	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
<i>Health Effects 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 may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.</i>					

SAMPLING RESULTS FOR DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS AND DISINFECTION BY-PRODUCTS PRECURSORS				
CONTAMINANT	MCL	RANGE OF DETECTIONS	MAJOR SOURCES IN DRINKING WATER	HEALTH EFFECTS LANGUAGE
TTHMS - Total Trihalomethanes (ppb) (samples quarterly)	0.080 ppb RAA	46.5-76.5 ppb quarterly RAA	By-product of drinking water chlorination	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney or central nervous system problems, and may have an increased risk of getting cancer.
Haloacetic Acids (ppb)	0.060 ppb RAA	29.5-101.4 ppb quarterly RAA	By-product of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of MCL over many years may have an increased risk of getting cancer.
Chlorine (ppm)	4.0 ppm	65-90 ppm	Drinking water disinfectant added for treatment	Some people who use water containing chlorine well in excess of the MCL could experience irritating effects to their eyes and nose and/or have

				stomach discomfort.
Control of DBP precursors (TOC)	See "sampling results showing treatment of surface water sources"	See "sampling results showing treatment of surface water sources"	Various natural and man-made sources	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by-products. These by-products include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products 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 cancer.

Please review attachment for DBP results and violation for 1st quarter 2012

SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES

<i>Treatment Technique</i> (Type of approved filtration technology used)	Dual media pressure filters
<i>Turbidity Performance Standards</i> (that must be met through the water treatment process)	<u>Turbidity of the filtered water must:</u> 1 - Be less than or equal to .3 NTU in 95% of measurements in a month 2 - Not exceed 1 NTU for more than 8 consecutive hours 3 - Not exceed 2 NTU at any time
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1	100%
Highest single turbidity measurement during the year	0.290 NTU
TOC removal ratio running annual average indicates reduction in DBP precursors	TOC removal must exceed 1.0

DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

PRIMARY INORGANICS	UNIT	CALIF. MCL	PHG MCL	SURFACE WATER STOCKTON CREEK	SURFACE WATER MERCED RIVER	DIST. WELLS (RANGE)	TYPICAL SOURCE OF CONTAMINANT	HEALTH EFFECTS LANGUAGE
Regulated organic chemicals				N/D	N/D	N/D		
Nitrogen as NO ₃	mg/L	45		N/D	N/D	4.6 - 15	Runoff from fertilizer leaching from septic tanks, erosion of natural deposits	Age of 6 months who drink water containing nitrate become seriously ill and, if untreated, may die because of the capacity of the infant's blood to carry oxygen. High nitrate levels cause breathing and blueness of the skin. High nitrate levels in the blood of pregnant women
Turbidity - Groundwater only	NTU	5		See Page 4	See Page 4	.041 - .076		Health effects. However, high levels of turbidity can provide a medium for microbial growth. Turbidity-causing organisms. These organisms include bacteria that cause symptoms such as nausea, cramps, diarrhea
Aluminum	mg/L	1	0.2	0.014	.380	4.6 - 24	Erosion of natural deposits, residue from some surface water treatment processes	Drinking water containing aluminum in excess of the MCL may cause short-term gastrointestinal tract effects.
Barium	mg/L	1	2	0.017	0.018	N/D 3.5	Discharge of drilling wastes, discharge from	Drinking water containing barium in excess of the MCL may cause an increase in blood pressure.

							metal refineries, erosion of natural deposits	
Chromium	ug/L	50		N/D	1.7	N/D		Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis. Some forms of
Perchlorate	ug/L	6.0		N/D	N/D	N/D		Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland, and to thereby reduce the production of thyroid hormones, leading to adverse effects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and
Gross Alpha (8-28-2007)	pCi/L avg. composite	15	0	0.605	0.528	0.6		is radioactive and may emit a form of radiation. People who drink water containing alpha emitters may have an increased risk of getting cancer

DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD								
PRIMARY INORGANICS	UNIT	CALIF. MCL	PHG MCL	SURFACE WATER STOCKTON CREEK	SURFACE WATER MERCED RIVER	DIST. WELLS (RANGE)	TYPICAL SOURCE OF CONTAMINANT	HEALTH EFFECTS LANGUAGE
Calcium	mg/L			18	4.3	29-39		
Magnesium	mg/L			9.4	0.89	26-31		
Tot. Alkalinity as CaCO ₃	mg/L			100	20	160-190		
Bicarbonate Alkalinity	mg/L			120	N/D	200-240		
Sulfate as SO ₄	mg/L	500		6.7	2.7	10-18	Runoff from industrial wastes, erosion of natural deposits	
Chloride	mg/L	500		3.4	N/D	5.7-8.6	Runoff from natural deposits, sea water influence	
pH **	Unit	6.5-8.5		7.3	7.3	7.5		
Specific Conductance	umho/cm	900-1600		180	33	300-380	Substance that forms ions in water, runoff/leaching of natural deposits	
Tot. Dissolved Solids (TDS)	mg/L	500-1000		120	24	200-260	Erosion of natural deposits	
Color	color units	15		5.0	10	<1.0		
Odor	TON	3		1.0	1.0	N/D		
Langelier Index @ 60°C	Si			-0.83	-2.08	-0.17 to -0.28		
MBAS (Foaming Agents)	mg/L	0.5		<0.05	<0.05	<0.05		
Iron **	mg/L	0.3		<0.03		N/D	Erosion of natural deposits	
Manganese ** (1)	mg/L	0.05		N/D-0.020		N/D	Erosion of natural deposits	

Fluoride	mg/L	2		0.12	N/D	N/D - .11		
Potassium				1.2	N/D	N/D		
Zinc	mg/L	5		N/D	N/D	0055-0073		

** Surface water after treatment

(1) Manganese is a secondary drinking water standard. Contaminate limit is a guideline for aesthetic quality - not an adverse affect on public health.

updated 4/5/12