



PWS ID#: 2410009



ANNUAL WATER QUALITY REPORT

REPORTING YEAR

2017

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

We are pleased to present to you the 2017 Annual Drinking Water Quality Report! As always, the Public Works Water Division works hard to provide safe, reliable and high-quality drinking water that meets or exceeds the Federal and State drinking water standards. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

History of Merced Water Supply

The Merced water system had its beginnings in the pioneer efforts of C. H. Huffman and Charles Crocker in 1868, when they established the Merced Water Company. The company was responsible for construction of Lake Yosemite. The first connections to the City of Merced in 1899 were made possible by a 16-inch line from Lake Yosemite. In 1917, the domestic water was changed to a well system and the largest capacity elevated storage tank in California at the time was built (500,000 gallons).

In 1973, the City of Merced Water Division assumed operations from the privately owned Merced Water Company and has maintained operation ever since. The current system is composed of 20 groundwater production wells located throughout the city, approximately 350 miles of main lines, and four water tower tanks for storage. Well pump operators ensure reliability and adequate system pressure at all times to satisfy customer demand. Diesel powered generators help maintain uninterrupted operations during power outages. The City of Merced water system delivered more than 16.7 million gallons of drinking water per day in 2017 to approximately 21,103 residential, commercial, and industrial customer locations. The City of Merced Water Department is a division of the Public Works Department.

RECLAIMED AND REUSED

WASTEWATER TREATMENT IS THE PROCESS THAT REMOVES THE MAJORITY OF THE CONTAMINANTS FROM WASTEWATER OR SEWAGE AND PRODUCES A LIQUID EFFLUENT KNOWN AS TREATED WATER OR RECYCLED WATER. THIS WATER IS SAFE FOR DISCHARGE TO THE NATURAL ENVIRONMENT. IN 2017, THE CITY OF MERCED'S WASTEWATER TREATMENT FACILITY (WWTF) PRODUCED 730 MILLION GALLONS OF TREATED WATER WHICH WAS RECYCLED AND USED FOR IRRIGATION PURPOSES OF THE LAND APPLICATION AREA OF THE WWTF AND 509 MILLION GALLONS OF RECYCLED WATER WHICH WAS DISCHARGED TO THE WILDLIFE REFUGE FOR WETLAND HABITATS. MERCED'S WASTEWATER TREATMENT PLANT IS PARTICIPATING IN THE EFFORTS OF WATER CONSERVATION BY RECYCLING AND REUSING THE TREATED WATER.



POLLUTION PREVENTION



KEEP TRASH & OIL OUT OF THE STORM DRAIN

WHAT DID YOU RECYCLE TODAY?



www.cityofmerced.org

209.385.6800

DON'T POUR FATS, OILS AND GREASE DOWN THE DRAIN...



CAN IT, COOL IT BAG IT, TRASH IT

IMPORTANT HEALTH INFORMATION

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The USEPA/Centers for Disease Control and Prevention (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 (800) 426-4791.

LEAD IN HOME PLUMBING

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 are 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 www.epa.gov/lead.

SCHOOL LEAD SAMPLING

The City of Merced took initiative and conducted the required Lead testing of the drinking water at all schools within the water system service area. With the collaboration of all 30 public and private K-12 schools, the Lead testing was completed by October 2017. The Maximum Contamination Limit (MCL) for Lead is 15 ppb. All schools within the City of Merced water system tested below the MCL.

SOURCE WATER ASSESSMENT

An assessment of the drinking water sources for the City of Merced's water system was completed in March 2003. The sources are considered vulnerable from the following activities: gas stations (current and historic), dry cleaners, leaking underground storage tanks, sewer collection system, chemical/petroleum pipeline, fertilizer, pesticide/herbicide application, agricultural drainage, farm chemical distributor/application service, low density septic system, agricultural wells, and irrigation wells. A copy of the complete assessment is available at the City of Merced, Public Works Department, 1776 Grogan Avenue, Merced, CA 95341. You may request a summary of the assessment to be sent to you by contacting the City of Merced Public Works Customer Service at (209) 385-6800.

DRINKING WATER FLUORIDATION

Our water system is treated by adding fluoride to the naturally occurring level to help prevent dental caries in consumers. State regulations require the fluoride levels in the treated water be at an optimum dose of 0.70ppm. Our monitoring showed that the fluoride levels in the treated water ranged from 0.09ppm-1.05ppm with an average of 0.76ppm. Information about fluoridation, oral health, and current issues is available from www.waterboards.ca.gov/drinking_water/programs/index.shtml.

COMMUNITY PARTICIPATION

The City Council meets every first and third Monday of the month beginning at 6:00 pm at the Civic Center, 678 West 18th Street, Merced. The public is welcome to attend.

Changes for Our Water Conservation Regulations

The City of Merced has a new multi-level approach to conservation. Basic conservation practices that we have been accustomed to are part of Level 1. Level 1 is always in effect, it is a general prohibition against water waste. Water waste is defined in detail in the Merced Municipal Code (MMC) 15.42.050.

Level 2 is in effect when the state says our groundwater basin is in a state of critical overdraft. Overdraft is when more groundwater is being pumped out than is replenished into the aquifer. Level 2 defines the three-day per week watering schedule, in addition to the Level 1 prohibitions against water waste.

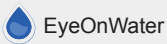
Level 3 is in effect when the governor declares a drought emergency. Level 3 is when we are only allowed to water two-days per week, plus the water waste prohibitions.

Level 4 is the strictest level of conservation, implemented in the case of natural disaster or system failure. During Level 4, landscape irrigation is prohibited with some exceptions for trees and shrubs to be watered, plus the water waste prohibitions.

Because the levels are defined by specific triggers, you can check on the level of conservation by going to www.cityofmerced.org/savewater or checking on the water conservation Facebook page. Also, you can monitor your water use and check for leaks by signing up for Eye On Water, see the instructions below. Or call us for questions at 385-6800.

How to sign up for Eye On Water

- Sign up to see water use on your accounts & set leak alerts
- Start by going to www.eyeonwater.com
- Click on Create Account, under the Sign In button
- To sign up & link multiple accounts, call 385-8892



[Help](#)

Steps to Create an EyeOnWater Account

1. Select your utility by entering your service address ZIP Code.
2. Enter your account number as it appears on your water bill. Don't have a copy of your water bill? Contact your utility

SAMPLE WATER BILL		
CUSTOMER NAME	SERVICE LOCATION	ACCOUNT NUMBER
JOHN SMITH	123 MAIN STREET	88888888
DUE DATE		CURRENT CHARGES
01/15/2017		\$45.50

3. Enter and confirm your email address.
4. Create and confirm your password.
5. Read and accept the [Terms of Use](#).
6. Verify your email address in the confirmation email.
7. Enjoy using EyeOnWater!

County:

United States of America

Service Address ZIP Code:

Enter Your Service Address ZIP Code

Account Number:

Enter Your Account Number

Next

Already have an account? [Sign in here](#).

SAMPLING RESULTS

The tables below list all drinking water contaminants that we tested for and detected according to State drinking water requirements. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless noted, the data presented in this report are from testing accomplished from January 1, 2017, to December 31, 2017. The State requires us to monitor for certain substances once every three to five years because the concentrations of these substances do not frequently change. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES WITH PRIMARY DRINKING WATER STANDARDS

SUBSTANCE (UNIT OF MEASURE)	YEAR	MCL	PHG (MCLG)	AVERAGE	RANGE		TYPICAL SOURCE
	SAMPLED	[MRDL]	[MRDLG]	DETECTED	LOW-HIGH	VIOLATION	
Aluminum (ppm)	2017	1	0.6	0.01	ND-0.22	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic ¹ (ppb)	2017	10	0.004	3.9	1.8-8.7	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2017	1	2	0.23	0.10-0.49	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (ppm)	2017	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	0.67	0.1-1.06	No	Drinking water disinfectant added for treatment
Chromium (ppb)	2017	50	(100)	3.8	ND-5.3	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2017	2	1	0.13	0.09-0.17	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2017	15	(0)	2.4	ND-12	No	Erosion of natural deposits
Gross Beta Particle Activity ² (pCi/L)	2017	50	(0)	6.3	ND-11	No	Decay of natural and man-made deposits
Hexavalent Chromium ³ (ppb)	2017	10 ³	0.02	3.5	1.6-4.7	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion
Lead (ppb)	2017	15	0.2	0.22	ND-1.2	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers, erosion of natural deposits
Nitrate ⁴ (as N) (ppm)	2017	10	10	3.3	1.6-5.6	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes]-Stage 2 (ppb)	2017	80	NA	0.7	ND-1.7	No	By-product of drinking water disinfection
Tetrachloroethylene [PCE] ⁵ (ppb)	2017	5	0.06	0.09	ND-2.2	No	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
Trichloroethylene [TCE] (ppb)	2017	5	1.7	0.01	ND-.69	No	Discharge from metal degreasing sites and other factories
Uranium (pCi/L)	2017	20	0.43	2.4	ND-8.7	No	Erosion of natural deposits

REGULATED SUBSTANCES WITH SECONDARY DRINKING WATER STANDARDS

SUBSTANCE (UNIT OF MEASURE)	YEAR	MCL	PHG	AVERAGE	RANGE		TYPICAL SOURCE
	SAMPLED	[MRDL]	[MRDLG]	DETECTED	LOW-HIGH	VIOLATION	
Chloride (ppm)	2017	500	NS	9.5	4.8-15	No	Runoff/leaching from natural deposits; seawater influence
Copper (ppm)	2017	1	NS	0.003	ND-0.016	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Corrosivity ⁶ (Units)	2017	Noncorrosive	NS	12	12-13	No	Natural or industrially influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors
Iron (ppb)	2017	300	NS	3.7	ND-73	No	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2017	50	NS	3.3	ND-65	No	Leaching from natural deposits
Odor (Threshold)	2017	3 Units	NS	1	ND-1	No	Naturally occurring organic materials
Sulfate (ppm)	2017	500	NS	10.4	6.8-14	No	Runoff/leaching from natural deposits; industrial wastes
Specific Conductance (µS/cm)	2017	1600	NS	366	210-580	No	Substances that form ions when in water; seawater influence
Total Dissolved Solids (ppm)	2017	1000	NS	263	190-370	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2017	5	NS	0.08	ND-0.86	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR	PHG	AVERAGE DETECTED		VIOLATION	TYPICAL SOURCE
	SAMPLED	AL	(MCLG)	(90TH %TILE)		
Copper (ppm)	2015	1.3	0.3	0.19	0/35	No Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2015	15	0.2	ND	0/35	No Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

UNREGULATED AND OTHER SUBSTANCES⁷

SUBSTANCE (UNIT OF MEASURE)	YEAR	AVERAGE	RANGE
	SAMPLED	DETECTED	LOW-HIGH
Calcium (ppm)	2017	30	16-52
Chlorate (ppm)	2014	113	50-240
Chlorodifluoromethane (ppb)	2014	0.14	0.081-0.18
Hardness (Total) as CaCO ₃ (mg/L)	2017	126	62-220
Magnesium (ppm)	2017	12.3	4.7-24
Molybdenum (ppb)	2016	1.5	ND-2.9
pH, Laboratory	2017	7.8	7.2-8.2
Potassium (ppm)	2017	6.3	ND-12
Sodium (ppm)	2017	23.8	14-34
Strontium (ppb)	2014	377	200-660
Vanadium (ppb)	2014	21	16-28
1,4 Dioxane (ppb)	2014	0.094	0.092-0.095

1) Arsenic results at Well Site 2 for all three wells are within the blending MCL of 10 ppb. 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.

2) SWRCB considers 50 pCi/L to be the level of concern for beta particles.

3) There is currently no MCL for Hexavalent Chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

4) 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 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 specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

5) PCE results and TCE results were detected below the MCL. All other city well sites reported no detection. While your drinking water meets federal and state standards, it may contain low levels of contaminants below detection limits and below the Regulatory Action Level. The PCE and TCE standard balances the current understanding of possible health effects against the cost of removing contaminants from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels for PCE and TCE.

6) Corrosivity is not a National Environmental Laboratory Accreditation Program accredited analyte. All sampling results are based and calculated on an average of 20 production wells.

7) Unregulated contaminant monitoring helps USEPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

SUBSTANCES THAT COULD BE IN 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.

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

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 can 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, which are by-products of industrial processes and petroleum production, and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

DEFINITIONS

AL (Regulatory Action Level):

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL (Maximum Contaminant Level):

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 (SMCLs) are set to protect the odor, taste and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): 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. EPA.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

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

PHG (Public Health Goal): 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 EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).



QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Public Works Administration at (209) 385-6800.