City Of Merced
Consumer Confidence Report
Reporting Year 2019

This Annual Consumer Confidence Report, prepared in cooperation with the California State Water Resources Control Board—Division of Drinking Water, provides important information about Merced's water supply, water quality, and water delivery system. Test results for Merced's 2019 Water Quality Monitoring Program are summarized on the following pages. It is important to read the messages within this report regarding various water quality issues from the U.S. Environmental Protection Agency (US EPA) and from your City of Merced Water Division.

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

Daimntawv tshaj tawm no muaj lus tseemceeb txog koj cov dej haus. Tshab txhais nws, los yog tham nrog tej tug neeg uas totaub txog nws.

SOURCE WATER ASSESSMENT

An assessment of the drinking water source for the City of Merced's water system was completed in March 2003. The source is 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 at 1776 Grogan Avenue, Merced, CA. You may request a summary of the assessment by contacting the Administration Office at (209) 385-6800.

DRINKING WATER FLUORIDATION

Our water system is treated by adding fluoride to the naturally occurring level to help prevent tooth decay. State regulations require the fluoride levels in the treated water be at an optimum dose of 0.70ppm (parts per million). Our monitoring showed the fluoride levels in the treated water ranged from 0.20ppm - 0.98ppm with an average of 0.68ppm. Information about fluoridation, oral health, and current issues is available by visiting www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.

SAFETY 1ST

Before you build that pool, plant those trees or add a mail box, call 811 to have the underground lines marked. It saves time, money and could also save lives.

Remember, Safety 1st is always the right answer!

811 Know what's below. Call before you dig.

This report has been printed on recycled paper.

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 and want your water tested, call us for information at (209) 385-6800. For information on lead in drinking water, testing methods, and steps you can take to minimize exposure, call the Safe Drinking Water Hotline or visit http://www.epa.gov/lead.

KEEP YOUR EYE ON WATER

Understanding your water use is an important part of conserving water. EyeOnWater is a free tool that allows City of Merced customers to connect to their water utility accounts and view their latest water usage on their desktop or mobile device. EyeOnWater helps customers understand their water usage, detect leaks, and discover their watering trends. Customers can sign up by visiting eyeonwater.com/signup.

CITY OF MERCED WEBSITE

The City of Merced has updated it's website to provide the latest information on council meetings, employment opportunities and the ability to pay your water bill online! Go to www.cityofmerced.org and check out the assortment of information on our parks, how to apply for a committee or to look up services from any of our Public Works departments.

CITY COUNCIL MEETINGS - Join us!

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

THE SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. SDWA authorizes the United States Environmental Protection Agency (US EPA) to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. US EPA, states, and water systems then work together to make sure these standards are met. The National Primary Drinking Water Regulations set enforceable maximum contaminant levels for particular contaminants, required ways to treat water to remove contaminants as well as testing the water for those contaminants, and specific reporting requirements of the test results.

WHERE DOES THE CITY OF MERCED GET IT'S WATER?

The City of Merced supplies water through the operation of 20 active wells throughout the City. These wells draw water from the Merced Groundwater Subbasin. Each site can produce over 1,500 gallons per minute. The distribution system is well over 500 miles long, includes over 25,000 service connections, nearly 3,000 fire hydrants and approximately 25,000 water meters, 7,000 main line valves and over 2,100 backflow devices. In 2019, these wells pumped 6.1 billion gallons of water to residents, businesses, and commercial properties.

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/SWRCB) 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. 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.

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.

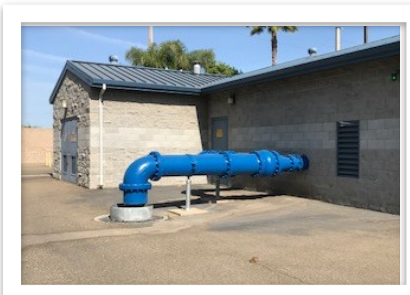
For a copy of this report visit our website at:

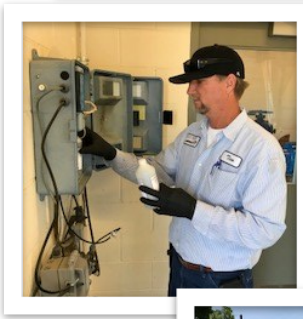
cityofmerced.org/PublicWorks/Water/ConsumerConfidenceReport

or call (209) 385-6800 and we will mail one to you.

HOW DO WE MEASURE UP?

The City of Merced works around the clock to ensure the drinking water we deliver to our customers is of the highest quality and meets all safety requirements. In an effort to meet federal and state standards for drinking water, our highly trained, certified treatment operators monitor our water treatment operations continuously. In 2019, we tested for more than 200 contaminants in the water and collected over 5,000 samples taken throughout our water system. The City of Merced is proud to announce once again that your tap water met or surpassed all US EPA and State drinking water health standards. If you have any questions about your drinking water or the contents of this report, please call the Water Division at 385-6800.





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, 2019 to December 31, 2019. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not frequently change. In these cases, the most recent sample data are included, along with the year in which the samples were collected.

REGULATED CONTAMINANTS WITH PRIMARY DRINKING WATER STANDARDS: Enforceable standards and treatment techniques to protect public health by limiting the levels of contaminants in drinking water.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AVERAGE DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
1,2,3 Trichloropropane [TCP] (ppt)	2018	5	0.7	0.1	ND - 0.65	No	Industrial solvents; cleaning and degreasing agent; paint remover
Arsenic[1] (ppb)	2019	10	0.004	3.9	2.1 - 8.1	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2019	1	2	0.23	0.13 - 0.48	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (ppm)	2019	[4.0 (as Cl2)]	[4.0 (as Cl2)]	0.69	0.2 - 1.1	No	Drinking water disinfectant added for treatment
Chromium [Total] (ppm)	2019	50	(100)	0.44	ND - 4.8	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2019	2	1	0.10	ND - 0.16	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)	6.1	ND - 11	No	Decay of natural and man-made deposits
Nitrate[3] (as N) (ppm)	2019	10	10	2.6	1.3 - 4.3	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Tetrachloroethylene [PCE][4] (ppb)	2019	5	0.06	0.23	ND - 14	No	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
Trichloroethylene [TCE] (ppb)	2019	5	1.7	0.03	ND - 1.2	No	Discharge from metal degreasing sites and other factories
Uranium (ppb)	2017	30	0	2.4	ND - 8.7	No	Erosion of natural deposits

REGULATED CONTAMINANTS WITH SECONDARY DRINKING WATER STANDARDS: Non-enforceable guidelines regarding contaminants that may cause cosmetic or aesthetic effects.
***There are no PHGs, MCLGs, or mandatory standard health effects language for these contaminants because secondary MCLs are set on the basis of aesthetic concerns.**

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AVERAGE DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2019	500	NS	8.6	4.5 - 14	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2019	15	NS	0.26	ND - 5	No	Naturally occurring organic materials
Corrosivity[5] (Units)	2019	Non-corrosive	NS	11.8	11 - 12	No	Natural or industrially influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors
Manganese (ppb)	2019	50	NS	0.13	ND - 2.5	No	Leaching from natural deposits
pH, Laboratory	2019	6.5 - 8.5	NS	7.8	7.5 - 8.1	No	Low pH: bitter metallic taste, corrosion. High pH: slippery feel, soda taste; deposits
Sulfate (ppm)	2019	500	NS	9.2	5.9 - 12	No	Runoff/leaching from natural deposits; industrial wastes
Specific Conductance (µS/cm)	2019	1600	NS	349	220 - 580	No	Substances that form ions when in water; seawater influence
Total Dissolved Solids (ppm)	2019	1,000	NS	258	190 - 380	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2019	5	NS	0.12	0.10 - 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 SAMPLED	AL	PHG (MCLG)	AVERAGE DETECTED 90TH %TILE	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2018	1.3	0.3	0.2	0/45	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2018	15	0.2	ND	0/45	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

UNREGULATED AND OTHER SUBSTANCES[6] - No MCL, PHG or MCLG

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AVERAGE DETECTED	RANGE LOW-HIGH
Bromide (ppb)	2018	70	24 - 170
Calcium (ppm)	2019	29.7	17 - 57
Chlorate (ppm)	2014	113	50 - 240
Chlorodifluoromethane (ppb)	2014	0.14	0.081 - 0.18
Hardness (Total) as CACO3 (ppm)	2019	123	63 - 260
Hexavalent Chromium (ppb)	2017	3.5	1.6 - 4.7
Magnesium (ppm)	2019	11.3	4.6 - 13
Molybdenum (ppb)	2016	1.5	ND - 2.9
Perfluorooctanoic Acid (PFOA) (ng/L)	2019	0.11	ND - 1.6
Perfluorooctanesulfonic Acid (PFOS) (ng/L)	2019	0.14	ND - 1.3
Potassium (ppm)	2019	6.8	3.3 - 12
Sodium (ppm)	2019	24	14 - 35
Strontium (ppb)	2014	377	200 - 660
Toluidine (ppb)	2018	0.0019	ND - .034
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. All other well sites were below the MCL. 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. EPA 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) 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 specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.
4) PCE was detected below the MCL as an average at Well Site 5. 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 the drinking water. The U.S. EPA continues to research the health effects of low levels of PCE and TCE.
5) 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.
6) Unregulated contaminant monitoring helps the U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Units of Measure and the equivalence :

To help you better understand the units of measure listed with substances and results (ex: ppm, ppb) please see the table below. If you have any questions, call the Water Department at (209) 385-6800.

Units		Equivalence
mg/L - milligrams per liter	= ppm - parts per million	= 1 second in 11.5 days
ug/L - micrograms per liter	= ppb - parts per billion	= 1 second in nearly 32 years
ng/L - nanograms per liter	= ppt - parts per trillion	= 1 second in nearly 32,000 years

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; by-products of industrial processes and petroleum production, 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.

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.

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

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 Environmental Protection Agency.

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.

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