City Of Merced
Consumer Confidence Report

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 2022 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.

In an effort to help the environment, this report was printed on recycled paper.

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

The City of Merced supplies water through the operation of 21 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 2,300 backflow devices. In 2022, these wells pumped 6.6 billion gallons of water to residents, businesses, and commercial properties.

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 at (800) 426-4791 or visit http://www.epa.gov/lead.

IS MERCED'S WATER ANY GOOD?

YES IT IS! 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.
The City of Merced Water Department works around the clock to ensure the drinking water we deliver to our customers is of the highest quality. 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 2022, we tested for more than 250 contaminants in the water and collected over 4,000 samples taken throughout our water system (results reported inside this report). If you have any questions about your drinking water or the contents of this report, please call the Water Division at 385-6800.

For a copy of this report visit our website:

cityofmerced.org/PublicWorks/Water/ConsumerConfidenceReport

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

WHAT IS WATER CHLORINATION?

Chlorination is the process of adding chlorine to drinking water to disinfect and kill germs. Different processes can be used to achieve safe levels of chlorine in drinking water. Chlorine is available as compressed elemental gas, sodium hypochlorite liquid solution or solid calcium hypochlorite. While the chemicals could be harmful in high doses, when they're added to water, they mix in and spread out, resulting in low levels that kill germs but are still safe to drink. Chlorine levels up to 4 milligrams per liter (mg/L or 4 parts per million (ppm) are considered safe in drinking water. More information can be found on the Center for Disease Control and Prevention website @ www.cdcfoundation.org.

EYEONWATER.COM IS FREE!

Understanding your water use is an important part of conserving water. EyeOnWater is a free tool for City of Merced customers to view their water usage on their desktop or mobile device. EyeOnWater also detects leaks (and can send you alerts of the leak), can help customers understand their water consumption, and discover watering trends. Customers can sign up by visiting www.eyeonwater.com/signup.

WHAT DOES MY WATER METER LOOK LIKE?

Most residential properties have a 1" meter. The base rate includes 20 Hundred Cubic Feet (HCF) of water per month; which converts to 14,960 gallons. Most customers use less than this during non-irrigating months. While irrigation is essential for tree's and gardens, lets continue water conservation by saving water whenever possible. Also, following the watering schedule will save water. You can find the schedule at: www.cityofmerced.org.

WATER CONSERVATION TIPS

*Use a hose nozzle whenever washing cars *never wash down driveways or sidewalks, use a broom *turn off water when brushing teeth or shaving *Use low flow showerheads and toilets *Always follow the City of Merced Watering Schedule *Repair sprinkler leaks immediately *Check sprinkler timers, make sure not on too long and on the right days and time *Turn sprinklers off in winter and during rain *Sign up for EyeonWater.
Let's do our part to *Save water for the future!*

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.

FLUORIDE IN YOUR WATER

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 2022 monitoring showed the fluoride levels in the treated water ranged from 0.18 ppm -1.00 ppm with an average of 0.69ppm. Information about fluoridation and oral health, can be found at: www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html.

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 agencies then work together to remain compliant with these standards. 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.

SUBSTANCES THAT COULD BE IN YOUR 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. In some cases, radioactive material 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.

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, 2022 to December 31, 2022. 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. For questions regarding frequency of contaminant sampling, please call (209) 385-6800 or visit www.epa.gov.

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. The next Regulated contaminants sample event is scheduled for 2023.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AVERAGE DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic[1] (ug/L)	2022	10	0.004	3.5	ND - 7.7	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (mg/L)	2022	1	2	0.21	0.07 - 0.47	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (mg/L)	2022	[4.0 (as Cl2)]	[4.0 (as Cl2)]	0.71	0.28 - 1.04	No	Drinking water disinfectant added for treatment
Chromium [Total] (ug/L)	2022	50	(100)	0.99	ND - 16	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (mg/L)	2022	2	1	0.11	ND - 0.18	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2017/2022	15	(0)	2.6	ND - 9.2	No	Erosion of natural deposits.
Gross Beta Particle Activity[2] (pCi/L)	2017/2022	50	(0)	6.1	ND - 11	No	Decay of natural & man-made deposits.
Radium 226 (Ra 226) (pCi/L)	2022	5	0.05	0.01	ND - .11	No	Erosion of natural deposits.
Nitrate[3] (as N) (mg/L)	2022	10	10	2.4	0.93 - 5.0	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Tetrachloroethylene [PCE] [4] (ug/L)	2022	5	0.06	0.26	ND - 2.2	No	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
Total Trihalomethanes [TTHM] (ug/L)	2022	80	N/A	0.25	ND - 1.0	No	Byproduct of drinking water disinfection
Uranium (pCi/L)	2022	20	0.43	2.07	ND - 8.7	No	Erosion of natural deposits.

REGULATED CONTAMINANTS WITH SECONDARY DRINKING WATER STANDARDS: 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 (mg/L)	2022	500	NS	8.5	3.1 - 15	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2022	15	NS	4.7	ND - 10	No	Naturally occurring organic materials
Copper (mg/L)	2022	1.0	NS	0.30	ND -- 0.0065	No	Internal corrosion of household plumbing systems; erosion of natural deposits.
Corrosivity[5] (Units)	2022	Non-corrosive	NS	12	11 - 13	No	Natural or industrially influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors
Odor—Threshold	2022	3 Units	NS	0.05	ND - 1.0	No	Naturally occurring organic materials
pH, Laboratory	2022	6.5 - 8.5	NS	8.0	7.6 - 8.2	No	Low pH: bitter metallic taste, corrosion. High pH: slippery feel, soda taste; deposits
Sulfate (mg/L)	2022	500	NS	8.9	2.1 - 12	No	Runoff/leaching from natural deposits; industrial wastes
Specific Conductance (µS/cm)	2022	1600	NS	350	170 - 640	No	Substances that form ions when in water; seawater influence
Total Dissolved Solids (mg/L)	2022	1000	NS	248	150 - 400	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2022	5 Units	NS	0.28	ND - 1.6	No	Soil runoff

Tap water samples were collected for lead and copper analyses from households meeting criteria within city limits. The next Lead & Copper event is scheduled for 2024.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AVERAGE DETECTED 90TH %TILE	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (mg/L)	2021	1.3	0.3	0.16	0/31	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ug/L)	2021	15	0.2	ND	0/31	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
Alkalinity—Total as $CaCO_3$ (ppm)	2022	140	66 - 290
Bromide (ppb)	2018	70	24 - 170
Calcium (ppm)	2022	28.4	12 - 60
Hardness (Total) as $CACO_3$ (ppm)	2022	114	62 - 260
Hexavalent Chromium (ppb)	2022	3.3	0.49 - 4.7
Magnesium (ppm)	2022	10.6	4.6 - 22
*Perfluorooctanoic Acid (PFOA) (ng/L)	2019	0.11	ND - 1.6
*Perfluorooctanesulfonic Acid (PFOS) (ng/L)	2019	0.14	ND - 1.3
Potassium (ppm)	2022	6.6	3 - 12
Sodium (ppm)	2022	24	13- 36
Toluidine (ppb)	2018	0.0019	ND - .034

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) 50 pCi/L is used as a screening level for Gross Beta Particle Activity.
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) 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. The were no TCE results over the Detection Limit (DLR) for 2022.
5) Corrosivity is not a National Environmental Laboratory Accreditation Program accredited analyte. All sampling results are based and calculated on an average of 21 production wells.
6) Unregulated contaminant monitoring and reporting (UCMR) helps the U.S. EPA and the State Water Board to determine where certain contaminants occur and whether the contaminants should be regulated. These samples are conducted approximately every 3-5 years.

* The July 2018 notification levels for PFOA of 14 ng/L and for PFOS of 13 ng/L were superceded on August 22, 2019, with new notification levels 5.1 ng/L for PFOA and 6.5 ng/L for PFOS.

Units of Measure and the equivalence :

To help you better understand the units of measure listed in these tables (ex: ppm, ppb, mg/L) please see the Equivalence table below. If you have any questions, call the Water Department at (209) 385-6800. This table is provided by the State Water Board- Division of Drinking Water.

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 (Action Level - Regulatory) 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 .

NL (Notification Level) Health-based advisory levels established for chemicals in drinking water that lack maximum contaminant levels.
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.

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.

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

mg/L; ug/L; ng/L; ppm; ppb; ppt: listed above in the equivalence table.