2024 Consumer Confidence Report

Water System Information

Water System Name: Madrone Mutual Water Company

Report Date: April 19, 2025

Type of Water Source(s) in Use: Groundwater

Name and General Location of Source(s): Well03, not used regularly and Well04, used regularly.

Drinking Water Source Assessment Information: An assessment of the drinking water source was completed in 2002. At that time, the sources were considered most vulnerable to septic systems (high density >1/acre)

Time and Place of Regularly Scheduled Board Meetings for Public Participation: We meet annually, typically in the fall.

For More Information, Contact: Christopher Brooks at 707-665-0131 or cxbrooks@gmail.com

About This Report

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 to December 31, 2024, and may include earlier monitoring data.

Importance of This Report Statement in Five Non-English Languages (Spanish, Mandarin, Tagalog, Vietnamese, and Hmong)

Language in Spanish: Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse [Enter Water System's Name] a [Enter Water System's Address or Phone Number] para asistirlo en español.

Language in Mandarin: 这份报告含有关于您的饮用水的重要讯息。请用以下地址和电话联系 [Enter Water System Name]以获得中文的帮助: [Enter Water System's Address][Enter Water System's Phone Number].

Language in Tagalog: Ang pag-uulat na ito ay naglalaman ng mahalagang impormasyon tungkol sa inyong inuming tubig. Mangyaring makipag-ugnayan sa [Enter Water System's Name and Address] o tumawag sa [Enter Water System's Phone Number] para matulungan sa wikang Tagalog.

Language in Vietnamese: Báo cáo này chứa thông tin quan trọng về nước uống của bạn. Xin vui lòng liên hệ [Enter Water System's Name] tại [Enter Water System's Address or Phone Number] để được hỗ trợ giúp bằng tiếng Việt.

Language in Hmong: Tsab ntawv no muaj cov ntsiab lus tseem ceeb txog koj cov dej haus. Thov hu rau [Enter Water System's Name] ntawm [Enter Water System's Address or Phone Number] rau kev pab hauv lus Askiv.

Terms Used in This Report

Term	Definition
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
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).
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.
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.
Regulatory Action Level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
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.
Variances and Exemptions	Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.
ND	Not detectable at testing 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)

Sources of Drinking Water and Contaminants that May Be Present in Source 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.

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 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, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater 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.

Regulation of Drinking Water and Bottled Water Quality

In order to ensure that tap water is safe to drink, the U.S. EPA and the State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

About Your Drinking Water Quality

Drinking Water Contaminants Detected

Tables 1, 2, 3, 4, 5, 6, and 8 list all of the drinking water contaminants that 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 Board allows us 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. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

Table 1. Sampling Results Showing the Detection of Coliform Bacteria

Complete if bacteria are detected.

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
E. coli	(In the year) 0		0	0	Human and animal fecal waste

(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*.

Table 2. Sampling Results Showing the Detection of Lead and Copper

Complete if lead or copper is detected in the last sample set.

Lead and Copper	Sample Date	No. of Samples Collected	90th Percentile Level Detected	No. Sites Exceeding AL	AL	PHG	Typical Source of Contaminant
Lead (ppb)	06/05/2024	5	0	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	06/05/2024	5	0.250	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Table 3. Sampling Results for Sodium and Hardness

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	06-03-2023 06-03-2024	Well04 72 Well03 42	42-72	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	06-03-2023 06-03-2024	Well04 160 Well03 140	140-160	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are

						usually naturally occurring

Table 4. Detection of Contaminants with a Primary Drinking Water Standard

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Arsenic (ug/L)	06/06/2023 06/03/2024	Well04 2.9 Well03 4.6	2.9-4.6	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (mg/L)	06/02/2023 06/03/2024	Well04 0.160 Well03 0.130	0.130-0.160	1	2	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Fluoride (mg/L)	06/02/2023 06/03/2024	Well04 0.220 Well03 0.240	0.220-0.240	2.0	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
TTHMs [Total Trihalomethanes] (µg/L)	06/04/2024	Well site after treatment	5.9	80	N/A	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.

Table 5. Detection of Contaminants with a Secondary Drinking Water Standard

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	SMCL	PHG (MCLG)	Typical Source of Contaminant
Chloride (mg/L)	06/06/2023 06/03/2024	Well 04 65.0 Well03 54.0	54.0-65.0	500		Runoff/leaching from natural deposits; seawater influence
Iron (ug/L)	**06/06/2023** **12/09/2024**	**Well04** **320** **Well03** **1400**	**320-1400**	**300**		**Leaching from natural deposits; industrial wastes**
Manganese (ug/L)	**12/09/2024** **12/09/2024**	**Well04** **110** **Well03** **160**	**110-160**	**50**		**Leaching from natural deposits**
Specific Conductance (µS/cm)	06/06/2023 06/03/2024	Well04 570 Well03 450	450-570	1600		Substances that form ions when in water; seawater influence
Sulfate	06/06/2023 06/03/2024	Well04 22.0 Well03 26.0	22.0-26.0	500		Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	06/06/2023 06/03/2024	Well04 350 Well03 290	290-350	1000		Runoff/leaching from natural deposits
Turbidity (Units)	06/06/2023 06/03/2024	Well04 2.500 Well03 1.100	1.110-2.500	5		Soil runoff

Table 6. Detection of Unregulated Contaminants

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects
None					

Additional General Information on Drinking Water

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).

Lead-Specific Language: 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. [Enter Water System's Name] 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. [Optional: If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.] 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 (1-800-426-4791) or at http://www.epa.gov/lead.

Additional Special Language for Nitrate, Arsenic, Lead, Radon, and *Cryptosporidium*:

Arsenic – Systems with arsenic above 5 µg/L (50 percent of the MCL), but below or equal to 10 µg/L (the MCL) must include the following statement:

> 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 costs 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.

State Revised Total Coliform Rule (RTCR): N/A

Summary Information for Violation of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement

Table 7. Violation of a MCL, MRDL, AL, TT or Monitoring Reporting Requirement

Violation	Explanation	Duration	Actions Taken to Correct Violation	Health Effects Language
Iron	Initially, Well04 had no iron. On 6/6/23, Well04 had 320 uG/L, which is in violation of the secondary standard. We do not regularly use Well03, it was last used in 2022 for 10 days. On 12/05/2024, Well03 had 1100 uG/L, which is an improvement from 2022, when Well03 was 1600 uG/L	On going	We have always had high iron levels. Well 03 has somewhat better levels than our previous well. Well04 initially had no iron and now has iron.	Iron was found at levels that exceed the secondary MCL of 300 µg/L. The iron MCL was set to protect you against unpleasant aesthetic effects (e.g., color, taste, and odor) and the staining of plumbing fixtures (e.g., tubs and sinks) and clothing while washing. The high iron levels are due to leaching of natural deposits.
Manganese	Initially, Well04 met the standard, but on 12/5/24, Well04 had 110 uG/L, which violated the secondary standard. Ono 6/6/23. Well04 had 68.0 ug/L. Well03 was measured on 12/6/23 at 160 uG/L	Ongoing	We were hoping that Well04 would meet the standard.	Manganese exposures resulted in neurological effects. High levels of manganese in people have been shown to result in adverse effects to the nervous system.

Actions taken to Correct the Violation for Iron and Manganese: Note that we are testing Well03 quarterly for iron and manganese and Well04 quarterly for manganese. If we are found to be over the secondary MCL, then we may choose to apply for a waiver. To get a waiver, we will need to get an estimate for iron and manganese removal, then calculate how much rates would increase and then survey the customers. If the customers decide that we don't want to pay for removal, then we can decline iron and manganese treatment and we will test less often for iron and manganese.

If our levels are more than 3x the secondary MCL, then getting a waiver is not possible. In Well03, our iron level is just over 2x the secondary MCL and our manganese level is just over the secondary MCL, so this is not an issue.
Note that if the iron and manganese causes other violations such as iron bacteria in the pipes harboring E. Coli., then we may be required to treat iron and manganese so as to address the other violation.

Note that the State Water Resources Control Board website states the following about Manganese:

"**Children are considered to be particularly susceptible to possible effects of high levels of manganese exposure because they absorb and/or retain more manganese than adults (ATSDR, 2012).**"

To view our sampling results, search the web for "Madrone Mutual Monitor Results" or go to:
https://sdwis.waterboards.ca.gov/PDWW/JSP/WaterSystemDetail.jsp?tinwsys_is_number=4874&tinwsys_st_code=CA&wsnumber=CA4900513

More About Our Friend, Manganese:
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Manganese.html
--start--

Manganese in Drinking Water

Announcement

The Division of Drinking Water (DDW) has initiated the process of revising the current notification and response levels for manganese.

More information can be found on the Drinking Water Notification Levels page.

Background Information

Manganese is the 12th most abundant element of the earth's crust, which makes it ubiquitous in the environment. It can naturally occur in both surface water and groundwater sources.

Manganese is an essential nutrient and enzyme cofactor that is naturally present in many foods and available as a dietary supplement, but despite its nutritional benefits, adverse health effects can be caused by over-exposure. There is substantial evidence that demonstrates that exposure to manganese at high levels can pose a neurotoxic risk (ATSDR, 2012; US EPA, 2004; WHO, 2004). Occupational manganese exposure has been shown to cause a distinct neurologic condition known as manganism, a clinical syndrome of cognitive and motor dysfunction that resembles Parkinson disease.

The main route of manganese absorption is through the gastrointestinal tract, but absorption also occurs in the lungs following inhalation exposure of airborne manganese. There is little evidence that dermal contact with manganese results in significant absorption through the skin and dermal contact is not generally viewed as an important source of exposure (ATSDR, 2012).

Children are considered to be particularly susceptible to possible effects of high levels of manganese exposure because they absorb and/or retain more manganese than adults (ATSDR, 2012).

Attention to the potential health concerns of high levels of manganese in drinking water is appropriate, as the 0.5-mg/L notification level provides, given the possibility of neurologic effects at very high concentrations. Similar advisory levels for manganese have been established by the US EPA, which has a manganese health advisory level of 0.3 mg/L (USEPA, 2004), and the World Health Organization, which has a manganese health guideline level of 0.4 mg/L (WHO, 2004).

Drinking Water Notification Level for Manganese

The current notification level for manganese is 0.5 milligram per liter (0.5 mg/L). When manganese is present in water served to customers at concentrations greater than the notification level, certain requirements and recommendations apply, as described below.

The notification level applies to all public water systems, regardless of being covered by the current regulation of manganese.

A health-based notification level for manganese is helpful in addressing high manganese levels in drinking water sources, in several ways:

- It provides guidance and information to systems with manganese above the secondary MCL, as they deal with the regulatory requirements associated with exceeding the secondary standard (PDF), such as addressing costs associated with treatment.
- It provides guidance to DDW staff in evaluating waivers from treatment requirements to meet the secondary MCL. Currently, consumers are to be surveyed about their acceptance of exceeding a secondary MCL. A notification level allows health-based considerations to enter into the consumer survey and waiver from treatment process.
- It allows consumers of water from NTNC systems to be informed about the potential for health concerns associated with sources that have high levels of manganese.

When manganese is present in concentrations greater than the notification level, the following requirements and recommendations apply:

- Systems with drinking water sources with manganese concentrations greater than the notification level are required to notify local city and county governing bodies, just as for other contaminants with notification levels and for contaminants that exceed MCLs.
- Consumer notification is recommended at levels greater than the notification level. This may be handled through the water systems' annual consumer confidence reports. Other means could be used as well, if more appropriate, such as direct mailing, or posting a notice. These should be coordinated with the local DDW district office.
- Source removal is recommended at ten times the notification level.

Monitoring for manganese is required within the framework of secondary MCL regulations, but generally not outside that framework. For sources not subject to the secondary MCL requirements, DDW recommends analyses of sources that are near other sources that have very high manganese levels.

For community systems subject to the secondary MCL monitoring and compliance requirements (22 CCR §64449) with manganese greater than the notification level, DDW recommends that information about the health concerns associated with high manganese exposures be provided to consumers as part of the required consumer dissatisfaction determination.

Current Regulation of Manganese

Manganese is regulated by a 0.05-mg/L secondary maximum contaminant level (MCL) (see drinking water regulations). The secondary standard was established to address issues of aesthetics (discoloration), not health concerns. In California, secondary MCLs are enforceable. (USEPA's 0.05-mg/L federal secondary standard for manganese is a non-enforceable guideline.)

Secondary MCLs are enforceable standards in California but are applicable only to community systems. Thus, noncommunity systems, particularly nontransient noncommunity (NTNC) systems such as schools and workplaces, do not receive the benefits of the secondary standard.

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For Water Systems Providing Groundwater as a Source of Drinking Water

Table 8. Sampling Results Showing Fecal Indicator-Positive Groundwater Source Samples

Microbiological Contaminants (complete if fecal-indicator detected)	Total No. of Detections	Sample Dates	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
E. coli	(In the year) 0		0	(0)	Human and animal fecal waste
Enterococci	(In the year) 0		TT	N/A	Human and animal fecal waste
Coliphage	(In the year) 0		TT	N/A	Human and animal fecal waste

Summary Information for Fecal Indicator-Positive Groundwater Source Samples, Uncorrected Significant Deficiencies, or Violation of a Groundwater TT

Special Notice of Fecal Indicator-Positive Groundwater Source Sample: N/A

Special Notice for Uncorrected Significant Deficiencies: N/A

Table 9. Violation of Groundwater TT

Violation	Explanation	Duration	Actions Taken to Correct Violation	Health Effects Language
None				