

Cabrillo College – Water System

Consumer Confidence Report – 2021

Santa Cruz County Water System I.D. No. 4400753

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.

June 28, 2022

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, 2021 and may include earlier monitoring data.

Cabrillo Community College District has its' own water system. The water system is classified as a "non-transient non-community water system." As such, we are required to provide this Water Quality / Consumer Confidence Report to you, the water user. In 2021, water from the system was tested and compared to the EPA and State drinking water health standards.

This brochure reviews 2021's water quality, including details about where your water comes from, what it contains, and how it compares to State standards.

Dinking 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 USEPA's Safe Drinking Water Hotline (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, person 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 (800-426-4791).



Your 2021 water primarily came from two water production wells drafting from the Purisma Aquifer Formation. The water is pumped from this aquifer to a 300,000-gallon steel water storage tank that supplies potable water for domestic (drinking and washing), irrigation, and fire suppression (hydrants and sprinklers) use at the college. Several booster pumps provide pressure throughout the system and up-gradient to the Horticulture area. The water storage tank is located along Sanders Drive adjacent the horticulture area. Please see the notes below regarding drinking water.

Sources of drinking water (both tap water and bottled water) include river, 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 before it is treated include:

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic system, 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.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.
- 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, agriculture application, and septic systems.

In order to ensure that tap water is safe to drink, the USEPA and the State Water Resources Control Board (SWRCB) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

WATER QUALITY DATA

The attached Tables 1, 2, and 3 list all the drinking water compounds (analytes) that the source well and water distribution system were tested for, the date of the tests, the results of the tests, and the Maximum Contaminant Level (MCL) for that analyte established by the US EPA or the state of California in parts per million (ppm). For comparison, 1-ppm is the equivalent of 1 second in 11.5 days. The presence of any compound in the water does not necessarily indicate that the water poses a health risk. The State requires monitoring for certain compounds less than once per year because the concentrations of these compounds 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.

Source water supplied to and distributed in the system met all EPA and State drinking water standards, *except* for the following instances:

- Iron is present in the source Well-2 (-004 upper) at levels exceeding the secondary MCL. A secondary MCL is a limit that is not based on a health risk, but instead refers to aesthetic qualities in water. 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 other active well [Well-4 (-006 lower)] contains iron below the secondary MCL, which helps to dilute the slightly elevated iron concentration in Well-2 (-004 upper). See Table 1 for details.
- Manganese is present in the source Well-4 (-006 lower) at levels exceeding the secondary MCL. A secondary MCL is a limit that is not based on a health risk, but instead refers to aesthetic qualities in water. The manganese 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 other active well [Well-2 (-004 upper)] contains manganese below the secondary MCL, which helps to dilute the slightly elevated manganese concentration in Well-4 (-006 lower). See Table 2 for details.
- From September to December 2021, six out of forty-one water samples exceeded the MCL for lead. These MCL exceedances were limited to Building 600, Building 900, and the Facilities Receiving Building. The source of the elevated lead concentrations was old water fixtures made with metals containing some limited lead (which was how faucets were produced). Based on our tests, the elevated lead concentrations were associated with the first liter of water drawn from certain old faucets after that faucet had not been used for at least 6-hours. The old faucets causing the elevated lead concentrations have been replaced, which has resolved these exceedance locations. Santa Cruz County Environmental Health Division staff are satisfied with how this issue was handled and ultimately resolved. In general, the concentrations of lead detected (over the MCL but



generally low concentrations) in conjunction with the relatively limited amount of first liter draws people may have taken after the faucet was sitting for 6-hours – leads to the general conclusion that this was not a significant health hazard. In general, a person would have to drink water with these elevated concentrations as a primary water source over many years for a health hazard to exist. See Table 3 for details.

About Lead (in general): Sources in drinking water are generally a result of internal corrosion of household water plumbing systems; discharges from industrial manufacturers; and erosion of natural deposits. Infants and 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 this water over many years may develop kidney problems or high blood pressure.

About Iron and Manganese (in general): Iron and Manganese are naturally occurring minerals and are present in groundwater due to leaching from natural deposits. They are required nutrients in every person's diet and a healthful diet provides adequate iron and manganese for good nutrition (US EPA, 2003). Iron and Manganese are regulated Secondary MCLs (see [drinking water regulations](#)) established to address issues of aesthetics (discoloration, taste, odor), not health concerns. At a concentration greater than 0.05 ppm, Manganese may make the water appear brown. At a concentration greater than 0.3 ppm, Iron may make the water appear a rust-color and may impart a metallic taste to it.

For more information on Iron and Manganese you may see the following references:

- [WHO, 2004 \(PDF\)](#), Iron in Drinking-water, Background document for development of WHO Guidelines for Drinking-water Quality, World Health Organization, 2004.
- [WHO, 2004 \(PDF\)](#), Manganese in Drinking-water, Background document for development of WHO Guidelines for Drinking-water Quality, World Health Organization, 2004.
 - See also: [WHO, Chemical Hazards in Drinking Water - Manganese](#).
- [US EPA, 2017, Secondary Drinking Water Standards Guidance for Nuisance Chemicals](#)

The laboratory analytical results are summarized in the attached Tables 1, 2, and 3

Please direct any questions about the potable water system to:

Tom Wyner

Assistance Director

Facilities Planning and Plant Operations

thwyner@cabrillo.edu

OR

Craig Drizin (Certified Water Operator - Weber, Hayes and Associates) at 831.722.3580



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 <i>E. coli</i> 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)

Table 1: Summary of Source **Well-2 (-004 Upper)** Analytical Results 2021

Cabrillo College, Water System I.D. No. 4400753 (-006)

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
PRIMARY INORGANICS			
Aluminum (Al)	11/8/08	ND	0.2 ² 1
Antimony (Sb)	11/8/18	ND	0.006
Arsenic (As)	11/8/18	ND	0.01
Barium (Ba)	11/8/18	ND	1
Beryllium (Be)	11/8/18	ND	0.004
Boron (B)	11/8/18	0.67	*CA-AL: 1
Cadmium (Cd)	11/8/18	ND	0.005
Chromium (Cr)	11/8/18	0.00048	0.05
Copper (Cu)	11/8/18	ND	*AL: 1.3 1.0 ²
Fluoride (F)	11/8/18	0.38	2.0
Lead (Pb)	11/8/18	0.00042	*AL: 0.015
Mercury (Hg)	11/8/18	ND	0.002
Nickel (Ni)	11/8/18	ND	0.1
Nitrate (as N)	12/21/2021	ND	10
	6/22/21		
Nitrite (as N)	12/21/21	ND	1
Nitrate-N + Nitrite-N	12/21/21	ND	10
Selenium (Se)	11/8/18	ND	0.05
Silver (Ag)	11/8/18	ND	0.1 ²
Thallium (Tl)	11/8/18	ND	0.002
SECONDARY / GENERAL MINERAL			
pH value	11/8/18	8	6.5 - 8.5
Conductivity (micromhos/cm)	11/8/18	710	1,600 $\mu\text{S}/\text{cm}^2$
Bicarbonate Alkalinity (as HCO_3)	11/8/18	300	--
Carbonate Alkalinity (as CO_3)	11/8/18	ND	--
Calcium (Ca)	11/8/18	56	--
Chloride (Cl)	11/8/18	30	500 ²
Magnesium (Mg)	11/8/18	29	--
Manganese (Mn)	11/8/18	ND	0.05 ²

Table 1: Summary of Source **Well-2 (-004 Upper)** Analytical Results 2021

Cabrillo College, Water System I.D. No. 4400753 (-006)

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
Potassium (K)	11/8/18	3.7	--
Sodium (Na)	11/8/18	64	--
Sulfate (SO ₄)	11/8/18	77	500 ²
Total Iron (Fe)	11/8/18	0.75 *	0.3 ²
Total Hardness (as CaCO ₃)	11/8/18	260	--
Total Alkalinity (as CaCO ₃)	11/8/18	240	--
Total Dissolved Solids	11/8/18	390	1,000 ²
Zinc (Zn)	11/8/18	0.011	5 ²
GENERAL PHYSICAL			
Color (Co/Pt) (Units)	11/8/18	3.0	15
Odor (Threshold Number)	11/8/18	ND	3 ²
Turbidity (NTU)	11/8/18	0.7	5 ²
OTHER			
Perchlorate	6/22/21	ND	0.006
Synthetic Organic Compounds	12/21/21	ND	varies
Volatile Organic Compounds ***	11/8/18	ND	varies
1,2,3 TCP	12/10/21	ND	0.000005
Gross Alpha	6/22/21	0.776	15 pCi/L

All values QC'd by S Mixan on 6/16/2022

NOTES:

Not all analytes are sampled every year. Most recent data is shown.

ppm = parts per million; which is equivalent to milligrams per liter (mg/L)

MCL = Maximum Contaminant Level. Primarily based on US Environmental Protection Agency (EPA) & California drinking water regulations

ND = Not Detected at or above the laboratory's Reporting Limit

* = Manganese exceeded a secondary MCL. See line below about secondary MCL's

² = Secondary MCLs are set to protect the odor, taste, and appearance of drinking water and DO NOT affect health at that level

^a = MCL is no longer in effect

*California (CA-NL) and/or EPA Action Levels (AL) are shown for analytes which do not have an MCL

** Indicates a secondary MCL exceedance. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water and DO NOT affect health at that level. See report text for more details.

1,2,3-TCP = 1,2,3-Trichloropropane

pCi/L = picocuries per liter

NTU = Nephelometric Turbidity Units

Table 2: Summary of Source **Well-4 (-006 Lower)** Analytical Results 2021

Cabrillo College, Water System I.D. No. 4400753 (-006)

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
PRIMARY INORGANICS			
Aluminum (Al)	12/10/21	ND	0.2 ² 1
Antimony (Sb)	12/10/21	ND	0.006
Arsenic (As)	12/10/21	ND	0.01
Barium (Ba)	12/10/21	0.017	1
Beryllium (Be)	12/10/21	ND	0.004
Boron (B)	11/8/18	0.36	*CA-AL: 1
Cadmium (Cd)	12/10/21	ND	0.005
Chromium (Cr)	12/10/21	ND	0.05
Copper (Cu)	11/8/18	ND	*AL: 1.3 1.0 ²
Fluoride (F)	12/21/21	0.39	2.0
Lead (Pb)	11/8/18	ND	*AL: 0.015
Mercury (Hg)	12/10/21	ND	0.002
Nickel (Ni)	12/10/21	ND	0.1
Nitrate (as N)	11/18/21	ND	10
Nitrite (as N)	11/18/21	ND	1
Nitrate-N + Nitrite-N	11/18/21	ND	10
Selenium (Se)	12/10/21	ND	0.05
Silver (Ag)	11/8/18	ND	0.1 ²
Thallium (Tl)	12/10/21	ND	0.002
SECONDARY / GENERAL MINERAL			
pH value	11/8/18	7.8	6.5 - 8.5
Conductivity (micromhos/cm)	4/29/21	510	1,600 $\mu\text{S}/\text{cm}^2$
Bicarbonate Alkalinity (as HCO_3)	11/8/18	320	--
Carbonate Alkalinity (as CO_3)	11/8/18	ND	--
Calcium (Ca)	11/8/18	61	--
Chloride (Cl)	11/8/18	47	500 ²
Magnesium (Mg)	11/8/18	20	--
Manganese (Mn)	11/8/18	0.13 *	0.05 ²

Table 2: Summary of Source **Well-4 (-006 Lower)** Analytical Results 2021

Cabrillo College, Water System I.D. No. 4400753 (-006)

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
Potassium (K)	11/8/18	6.1	--
Sodium (Na)	11/8/18	81	--
Sulfate (SO ₄)	11/8/18	85	500 ²
Total Iron (Fe)	11/8/18	0.13	0.3 ²
Total Hardness (as CaCO ₃)	11/8/18	240	--
Total Alkalinity (as CaCO ₃)	11/8/18	260	--
Total Dissolved Solids	11/8/18	480	1,000 ²
Zinc (Zn)	11/8/18	0.029	5 ²
GENERAL PHYSICAL			
Color (Co/Pt) (Units)	11/8/18	ND	15
Odor (Threshold Number)	11/8/18	ND	3 ²
Turbidity (NTU)	11/8/18	3	5 ²
OTHER			
Perchlorate	4/27/22	ND	0.006
	4/29/21	ND	
Synthetic Organic Compounds	12/10/21	ND	varies
Volatile Organic Compounds ***	11/8/18	ND	varies
1,2,3 TCP	11/18/21	ND	0.000005
Gross Alpha	8/10/21	2.06	15 pCi/L

All values QC'd by S Mixan on 6/16/2022

NOTES:

Not all analytes are sampled every year. Most recent data is shown.

ppm = parts per million; which is equivalent to milligrams per liter (mg/L)

MCL = Maximum Contaminant Level. Primarily based on US Environmental Protection Agency (EPA) & California drinking water regulations

ND = Not Detected at or above the laboratory's Reporting Limit

* = Manganese exceeded a secondary MCL. See line below about secondary MCL's

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^a = MCL is no longer in effect

*California (CA-NL) and/or EPA Action Levels (AL) are shown for analytes which do not have an MCL

** Indicates a secondary MCL exceedance. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water and DO NOT affect health at that level. See report text for more details.

1,2,3-TCP = 1,2,3-Trichloropropane

pCi/L = picocuries per liter

NTU = Nephelometric Turbidity Units

Table 3: Summary of **Distribution System** Analytical Results 2021

Cabrillo College, Water System I.D. No. 4400753

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
Bacteria			
Coliform	Jan - Dec 2021	Absent	if detected
E. Coli	Jan - Dec 2021	Absent	if detected
Disinfection By-Products			
Total Trihalomethanes	4/29/21	0.35	0.80
Total HAA	4/29/21	0.40	0.60
Total Trihalomethanes	12/28/21	0.33	0.80
Total HAA	12/28/21	0.06	0.60
Lead & Copper			
Lead	Sep to Dec 2021 (41 tests)	6 highest results: 0.21, 0.025, 0.023, 0.022, 0.016, 0.015 35 other results: ND to 0.010	AL: 0.015
Copper	Sep to Dec 2021 (41 tests)	ND to 0.93	AL: 1.3 1.0 ²

All Data & MCLs QC'd on 6/21/22 by: S. Mixan (WHA)

NOTES:

ppm = parts per million; which is equivalent to milligrams per liter (mg/L)

MCL = Maximum Contaminant Level. Primarily based on US Environmental Protection Agency (EPA) & California drinking water regulations

ND = Not Detected at or above the laboratory's Reporting Limit

2 = Secondary MCLs are set to protect the odor, taste, and appearance of drinking water and DO NOT affect health at that level

AL = California (CA-NL) and/or EPA Action Levels (AL) are shown for analytes which do not have an MCL

* Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. Coliforms are not considered a health hazard in themselves. This result may be a false positive because the follow up re-tests two days later all were " Absent" for coliforms. See report text for more details