Cathedral Hills Mutual Water Company

Consumer Confidence Report – 2022

Santa Cruz County Water System I.D. No. 4400652

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

June 15, 2023

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, 2022 and may include earlier monitoring data.

The Cathedral Hills Mutual Water Company has its' own water system. The water system is classified as a "community water system." As such, we are required to provide this *Water Quality / Consumer Confidence Report* to you, the water user. In 2022, water from the system was tested and compared to the EPA and State drinking water health standards.

This brochure reviews 2022's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

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 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 water comes from two water production wells. The primary well is located at the top of Newell Drive and is drilled approximately 1,000-feet underground into a deep source of groundwater. The water is pumped to a nearby 22,000-gallon storage tank. The second well is located on Redwood Drive and acts as a back-up source for the 22,000-gallon storage tank. The back-up well had been out of service since 2015 but was brought back online in November of 2019. The back-up well provides support for the primary well during high usage periods when more water is used than the primary well can supply. The height of the storage tank provides gravity pressure throughout the water system, though some residents utilize private pressure pumps. Please see the notes below regarding drinking water quality.

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 wells 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:

- On 11/4/19, iron and manganese concentrations exceeded the secondary Maximum Contaminant Level (MCL) in the backup well (Redwood Well). Secondary MCLs are set to protect the odor, taste, and appearance of drinking water and do not affect health at that level. Water with elevated iron and manganese concentrations can result in reddish-brown and dark brown stains on fixtures and washed clothing. The primary Newell Well supplies most of the potable water, which has low iron and manganese concentrations. The Redwood Well only turns on during periods of higher demand, when the Newell Well is unable to produce enough water. Due to this water blending process, the potable water delivered to end users is significantly lower in iron and manganese than the Redwood Well results would suggest.

- On April 15 & 18, 2022, coliform bacteria was detected in the water distribution system at the Goetz House. E Coli bacteria was not detected in the water distribution system. 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. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments. The cause of the coliform bacteria detection was that plumbers allowed some soil to enter the potable water pipes that they were repairing. Once additional water was flushed through the water pipes, the resulting test on April 29, 2023 did not detect coliform bacteria. Thus, this issue was resolved.

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

Please direct any questions about the potable water system to:

Peter Goetz – President of Cathedral Hills Mutual Water Company (831-251-1158)

OR

Shawn Mixan (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 *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)

Table 1: Summary of Newell Well (-003) Analytical Results

Cathedral Hills MWC, Aptos, CA - Water System I.D. No. 4400652 (-003)

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
SDWIS - INORGANICS			
Aluminum (Al)	2/12/21	ND	1 | 0.2 [2]
Antimony (Sb)	2/12/21	ND	0.006
Arsenic (As)	2/12/21	ND	0.01
Barium (Ba)	2/12/21	ND	1.0
Beryllium (Be)	2/12/21	ND	0.004
Boron (B)	2/12/21	ND	*CA-AL: 1
Cadmium (Cd)	2/12/21	ND	0.005
Chromium (Cr)	2/12/21	ND	0.05
Cyanide (CN)	2/12/21	ND	0.15
Fluoride (F)	2/12/21	ND	2.0
Lead (Pb)	2/12/21	ND	*AL: 0.015
Mercury (Hg)	2/12/21	ND	0.002
Nickel (Ni)	2/12/21	ND	0.1
Selenium (Se)	2/12/21	ND	0.05
Thallium (Tl)	2/12/21	ND	0.002
SDWIS - SECONDARY/GP			
Bicarbonate Alkalinity (as HCO_3)	2/12/21	210	--
Carbonate Alkalinity (as CO_3)	2/12/21	ND	--
Total Alkalinity (as $CaCO_3$)	2/12/21	170	--
Calcium (Ca)	2/12/21	48	--
Chloride (Cl)	2/12/21	32	500 [2]
Color (Co/Pt) (Units)	2/12/21	ND	15
Copper (Cu)	2/12/21	ND	(AL: 1.3) 1.0 [2]
MBAS (Surfactants)	2/12/21	ND	0.5 [2]
Total Hardness (as $CaCO_3$)	2/12/21	290	--
Hydroxide as Calcium Carbonate			
Iron (Fe); total	2/12/21	0.1	0.3 [2]
Magnesium (Mg)	2/12/21	41	--
Manganese (Mn) [†]	2/12/21	ND	0.05 [2]
Odor T.O.N. (Threshold Number)	2/12/21	ND	3 [2]
pH value (pH units)	2/12/21	8	6.5 - 8.5
Potassium (K)	2/12/21	4.1	--

Table 1: Summary of Newell Well (-003) Analytical Results

Cathedral Hills MWC, Aptos, CA - Water System I.D. No. 4400652 (-003)

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
Silver (Ag)	2/12/21	ND	0.1 [2]
Sodium (Na)	2/12/21	41	--
Specific Conductance (µS/cm)	2/12/21	700	1,600 µS/cm [2]
Sulfate (SO_4)	2/12/21	160	500 [2]
Total Dissolved Solids	2/12/21	450	1,000 [2]
Turbidity (NTU)	2/12/21	1.1	5 [2]
Zinc	2/12/21	0.058	5 [2]
NITRATES			
Nitrate (as N)	2/9/22	ND	10
	2/12/21	ND	
	2/3/20	ND	
Nitrite (as N)	2/12/21	ND	1
Nitrate-N + Nitrite-N	2/12/21	ND	10
OTHER			
Hexavalent Chromium (Cr^{+6})	2/7/18	ND	0.01
Perchlorate	4/17/18	ND	0.006
	4/13/21	ND	
Synthetic Organic Compounds	7/7/20	All ND	varies
Volatile Organic Compounds	2/4/19	All ND	varies
1,2,3 TCP	11/18/21	ND	0.000005
	11/5/18	ND	
Gross Alpha	8/5/19	1.23	15 pCi/L

All Data & MCLs QC'd on 6/5/23 by: S. Mixan (WHA)

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

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

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

Table 1: Summary of Newell Well (-003) Analytical Results

Cathedral Hills MWC, Aptos, CA - Water System I.D. No. 4400652 (-003)

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)

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

pCi/L = picocuries per liter

Boron (B) = this analyte is not required per the SDWIS website

Table 2: Summary of Redwood Well (-002) Analytical Results

Cathedral Hills MWC, Aptos, CA - Water System I.D. No. 4400652 (-002)

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
SDWIS - INORGANICS			
Aluminum (Al)	11/18/22	ND	0.2 [2] | 1
Antimony (Sb)	11/18/22	ND	0.006
Arsenic (As)	11/18/22	ND	0.01
Barium (Ba)	11/18/22	ND	1
Beryllium (Be)	11/18/22	ND	0.004
Boron (B)	11/4/19	ND	*CA-AL: 1
Cadmium (Cd)	11/18/22	ND	0.005
Chromium (Cr)	11/18/22	ND	0.05
Cyanide (CN)	11/4/19	ND	0.15
Fluoride (F)	11/18/22	ND	2.0
Lead (Pb)	11/4/19	ND	*AL: 0.015
Mercury (Hg)	11/18/22	ND	0.002
Nickel (Ni)	11/18/22	ND	0.1
Selenium (Se)	11/18/22	ND	0.05
Thallium (Tl)	11/18/22	ND	0.002
SDWIS - SECONDARY/GP			
Bicarbonate Alkalinity (as HCO3)	11/4/19	240	--
Carbonate Alkalinity (as CO3)	11/4/19	ND	--
Total Alkalinity (as CaCO3)	11/4/19	200	--
Calcium (Ca)	11/4/19	33	--
Chloride (Cl)	11/4/19	34	500 [2]
Color (Co/Pt) (Units)	11/4/19	ND	15
Copper (Cu)	11/4/19	ND	*AL: 1.3 | 1.0 [2]
MBAS (Surfactants)	11/4/19	ND	0.5 [2]
Total Hardness (as CaCO3)	11/4/19	280	--
Hydroxide as Calcium Carbonate	---	---	---
Iron (Fe), total	11/4/19	0.32 **	0.3 [2]
Magnesium (Mg)	11/4/19	48	--
Manganese (Mn)	11/4/19	0.57 **	0.05 [2]
Odor T.O.N. (Threshold Number)	11/4/19	ND	3 [2]
pH value (pH units)	11/4/19	8	6.5 - 8.5
Potassium (K)	11/4/19	3.3	--
Silver (Ag)	11/4/19	ND	0.1 [2]
Sodium (Na)	11/4/19	25	--

Table 2: Summary of Redwood Well (-002) Analytical Results

Cathedral Hills MWC, Aptos, CA - Water System I.D. No. 4400652 (-002)

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
Specific Conductance (uS/cm)	11/4/19	600	1,600 µS/cm [2]
Sulfate (SO4)	11/4/19	95	500 [2]
Total Dissolved Solids	11/4/19	360	1,000 [2]
Turbidity (NTU)	11/4/19	1.5	5 [2]
Zinc (Zn)	11/4/19	0.076	5 [2]
SDWIS - NITRATES			
Nitrate (as N)	11/18/22	ND	1
	11/5/21	ND	
Nitrite (as N)	11/18/22	ND	10
Nitrate (as N) + Nitrite (as N)	11/18/22	ND	10
OTHER			
Perchlorate	10/18/22	ND	0.006
Synthetic Organic Compounds	11/4/19	All ND	varies
Volatile Organic Compounds	11/4/19	All ND	varies
1,2,3 TCP	10/18/22	ND	0.000005
Gross Alpha	11/4/19	1.66	15 pCi/L

All Data & MCLs QC'd on 6/5/23 by: S. Mixan (WHA)

NOTES:

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

ppm = parts per million; which is eqivalent 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

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

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

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

pCi/L = picocuries per liter

Boron (B) = this analyte is not required per the SDWIS website

Table 3: Summary of Distribution System Analytical Results

Cathedral Hills MWC, Aptos, CA - Water System I.D. No. 4400652

Analyte	Date Sampled	RESULT (ppm)	MCL (ppm)
Bacteria			
Coliform	Jan - Mar 2022	Absent	if detected
Coliform	April 15 & 18, 2022	Present	if detected
Coliform	April 29, 2022	Absent	if detected
E Coli	Jan - Dec 2022	Absent	if detected
Lead & Copper			
Lead	8/25/22	ND	AL: 0.015
Lead	8/25/22	ND	AL: 0.015
Lead	8/25/22	ND	AL: 0.015
Lead	8/25/22	ND	AL: 0.015
Lead	9/26/22	ND	AL: 0.015
Copper	8/25/22	ND	AL: 1.3 | 1.0 [2]
Copper	8/25/22	ND	AL: 1.3 | 1.0 [2]
Copper	8/25/22	ND	AL: 1.3 | 1.0 [2]
Copper	8/25/22	ND	AL: 1.3 | 1.0 [2]
Copper	9/26/22	ND	AL: 1.3 | 1.0 [2]

All Data & MCLs QC'd on 6/5/23 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