# 2023 Consumer Confidence Report

## Water System Information

Water System Name: Palomar Observatory

Report Date: 06/18/2024

Type of Water Source(s) in Use: Ground Water

Name and General Location of Source(s): Well 3 Palomar Observatory

Drinking Water Source Assessment Information: On file with DDW

Time and Place of Regularly Scheduled Board Meetings for Public Participation: 7:00am Every Wednesday, Palomar Observatory Rec Hall.

For More Information, Contact: Drew Roderick 760-742-2100

## 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, 2023 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 Palomar Observatory a 760-742-2100 para asistirlo en español.

## 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 2, 3, 4, 5, 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 2. Sampling Results Showing the Detection of Lead and Copper

| **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) | 08/14/2023 | 5 | ND | 0 | 15 | 0.2 | Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits |
| Copper (ppm) | 08/14/2023 | 5 | 0.0835 | 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) | 09/2021 | 20.05 | 18.6 - 21.5 | None | None | Salt present in the water and is generally naturally occurring |
| Hardness (ppm) | 09/2021 | 123 | 94 - 152 | 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** |
| --- | --- | --- | --- | --- | --- | --- |
| HAA5 (ppb) | 08/09/2023 | 13.4 |  | 60 | None | Byproduct of drinking water disinfection |
| TTHM (ppb) | 08/09/2023 | 23.72 |  | 80 | None | Byproduct of drinking water disinfection |
| Gross Alpha Particle Activity (pCI/L) | 09/2021 | 3.1 | 3.04 - 3.09 | 15 | 3 | Erosion of natural deposits |
| Aluminum (ppm) | 09/2021 | 0.008 | ND - 0.016 | 1 | 0.6 | Erosion of natural deposits. Residue from some surface water treatment processes |
| Mercury (ppb) | 09/2022 | 0.2 | 0.2 | 2 | 1 | Erosion of natural deposits.  Discharge from refineries and factories, runoff from landfills and cropland. |
| Barium (ppm) | 09/2021 | 0.021 | ND - 0.042 | 2 | 1 | Discharge of oil drilling wastes and metal refineries, erosion of natural deposits |

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 (ppm) | 09/2021 | 13.5 | 16 - 11 | 500 | None | Runoff / Leaching from natural deposits, sea water influence |
| Iron (ppb) | 09/2021 | 275.5 | 324 - 227 | 300 | None | Leaching from natural deposits, industrial wastes |
| Manganese (ppb) | 09/2021 | 19 | 0 - 38 | 50 | 20 | Leaching from natural deposits |
| Conductivity@25C  (Umhos/cm) | 09/2021 | 334 | 412 - 257 | 1600 | None | Substances that form ions when in water. Sea water influence. |
| Color (Units) | 09/2021 | 2 |  | 15 | None | Naturally occurring organic materials |
| Odor (Ton) | 09/2021 | 1 | ND - 2 | 3 | 1 | Naturally occurring organic materials |
| Total dissolved solids (TDS) (ppm) | 09/2021 | 202 | 149 - 256 | 1000 | None | Runoff / leaching from natural deposits. |
| Turbidity (NTU) | 02/2022 | 0.43 | 0.15 - 0.70 | 5 | None | Soil runoff |

### 

### 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>.

### 

### For Water Systems Providing Groundwater as a Source of Drinking Water

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

| **Microbiological Contaminants** | **Total No. of Detections** | **Sample Dates** | **MCL [MRDL]** | **PHG (MCLG) [MRDLG]** | **Typical Source of Contaminant** |
| --- | --- | --- | --- | --- | --- |
| *E. coli* | 1 | 09/06/2023 | 0 | (0) | *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, some of the elderly, and people with severely-compromised immune systems. |

### 

### Summary Information for Fecal Indicator-Positive Groundwater Source Samples.

|  |
| --- |
| **Special Notice of Fecal Indicator-Positive Groundwater Source Sample:**  On September 6, 2023, a routine source sample was collected from the Well 3 wellhead (before chlorine treatment). The source sample tested positive for E.coli. No coliform/E.coli was detected in the routine distribution system (after chlorine treatment) sample that was collected concurrently on September 6 2023.  We believe Well 3 was contaminated by surface water due to its proximity to a creek. Several water samples from the Well3 wellhead and the distribution system have been taken since the E.coli positive test result and all the results have been negative/absent. |