

Water Quality Report 2016



2016 Water Quality Report

For more than 60 years, the Vallecitos Water District (Vallecitos) has taken pride in the water it delivers to its now more than 97,000 residents. As a result of its commitment to excellence, Vallecitos is proud to provide the 2016 water quality test results for drinking water delivered to its customers.

After more than 150 types of tests conducted by its wholesalers – Metropolitan Water District of Southern California (MWD) and San Diego County Water Authority (SDCWA) – and additional tests performed by the City of Oceanside and Vallecitos, it has been concluded that your water either met or exceeded all state and federal potable drinking water standards.

Along with these tests, your drinking water went through a treatment process that included filtering and disinfecting to ensure acceptable quality. Results of our own testing, along with the City of Oceanside's and our wholesalers' monitoring are found in the tables of this report.

This publication is a summary of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards.

Origins of Your Drinking Water

As of 2014, Vallecitos customers received 100 percent imported water from SDCWA, which purchased the water from MWD from Northern California and the Colorado River. In November of 2015, to reduce dependence on imported water and provide customers an increased level of reliability despite drought and other regulatory issues, Vallecitos customers began receiving ocean water from the Western Hemisphere's largest desalination treatment plant. The Carlsbad Claude "Bud" Lewis Desalination Plant provides superior quality water free of salt and

virtually any mineral, biological or organic compounds by taking water from Carlsbad's Agua Hedionda Lagoon, processing it, and then distributing it through a 54-inch pipeline 10 miles eastward before being delivered to your faucet. In 2015, Vallecitos began receiving a blend of desalinated and imported water from SDCWA. However, in 2016, Vallecitos began receiving water directly from the plant.

Whether imported or local, your water remains safe during its journey due to increased security at key facilities, increased water sampling, and aerial and ground patrols. Protecting your water doesn't end with the thousands of tests performed throughout the year. Vallecitos also supports regulatory changes in public policy to improve water quality.

The end result is more than 5 billion gallons of an exceptional product delivered annually through 19 operational storage reservoirs and 350 miles of pipeline to a 45-square-mile area that includes San Marcos; Lake San Marcos; portions of Escondido, Carlsbad, and Vista; and unincorporated areas in San Diego County.



Sacramento-San Joaquin Delta via the 444-mile CA Aqueduct



Colorado River via the 242-mile Colorado River Aqueduct



Claude "Bud" Lewis Desalination Plant in Carlsbad

The Water We Drink

The U.S. Congress has directed the U.S. Environmental Protection Agency (USEPA) to require water systems to report the quality of the drinking water they serve annually. Vallecitos supports this regulation and has provided Water Quality Reports and other water quality data to all of its customers for many years.

The Reason for Contaminants

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 at (800) 426-4791.



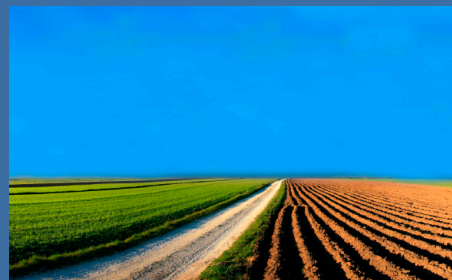
In order to ensure that tap water is safe to drink, the USEPA and the State Water Resources Control Board prescribe regulations that limit the amount of certain contaminants in water provided by

public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Vallecitos and its water wholesalers treat the water according to these regulations.

The sources of drinking water (both bottled and tap water) include rivers, lakes, streams, reservoirs, ponds, 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 human activity.

Contaminants possibly present in source water before treatment 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**, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic compounds that are by-products of industrial processes and petroleum production and can come from gas stations, urban stormwater runoff, agricultural application and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or the result of oil and gas production and mining activities.



Health Advisories Regarding Your Water

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, persons 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/Center for Disease Control guidelines on the appropriate means to lessen the risk of infection by *Cryptosporidium* or other microbial contaminants are available from the **Safe Drinking Water Hotline (800) 426-4791**.

The tables below list all the drinking water contaminants tested for during the 2016 calendar year. Thousands of water quality tests were performed on your drinking water last year. Many more parameters were tested for and not found. The results in this report show that your water met, and in most cases exceeded, all of the stringent state (State Water Resources Control Board) and federal (U.S. Environmental Protection Agency) water quality standards relating to public health and aesthetics, such as taste, odor and color. Unless otherwise noted, the data in the following tables reflect testing from January 1, 2016, through December 31, 2016. The monitoring of certain contaminants is not required annually since they are not expected to vary significantly from year to year. Therefore, though representative of the water quality, some of the data may be more than one year old.

Summary of Vallecitos Water District's 2016 Water Quality Analysis

| Parameter | Units | State or Federal MCL [MRDL] | PHG (MCLG) [MRDLG] | Range Average | Treatment Plant Effluents | | | | | Major Sources in Drinking Water |
|--|---------------------------------------|-----------------------------|--------------------|---------------|---------------------------|-------------------------|-----------------------|-----------------------------|----------------------------|---|
| | | | | | Twin Oaks Treatment Plant | Skinner Treatment Plant | Weese Treatment Plant | Carlsbad Desalination Plant | Olivenhain Treatment Plant | |
| Percent State Project Water | % | NA | NA | Range | NR | 0 - 31 | NR | NA | 0-36 | NA |
| | | | | Average | NR | 8 | NR | NA | 9 | |
| PRIMARY STANDARDS - Mandatory Health-Related Standards - Data provided by the San Diego County Water Authority (Twin Oaks Treatment Plant), the Metropolitan Water District (Skinner Treatment Plant), the City of Oceanside (Weese Treatment Plant), San Diego County Water Authority (Claude "Bud" Lewis Carlsbad Desalination Plant), and the Olivenhain Municipal Water District (David C. McCollom Water Treatment Plant). | | | | | | | | | | |
| CLARITY | | | | | | | | | | |
| Combined Filter Effluent Turbidity | NTU | 0.3 | NA | Average | 0.01 -0.02 | 0.09 | 0.25 | 0.65 | 0.08 | Soil runoff |
| | % | 95 (a) | | % ≤ 0.1 | 100% | 100% | 100% | 100% | 100% | |
| MICROBIOLOGICAL | | | | | | | | | | |
| Total Coliform Bacteria (b) | % | 5.0 | (0) | Range | ND | ND - 0.3 | ND | ND | ND | Naturally present in the environment |
| | | | | Average | ND | ND | ND | ND | ND | |
| E. coli (c) | (c) | (c) | (0) | Range | ND | ND | NR | ND | | Human and animal fecal waste |
| | | | | Average | ND | ND | NR | ND | ND | |
| Heterotrophic Plate | CFU/mL | TT | NA | Range | ND | TT | NR | ND - 48 | ND - 65 | Naturally present in the environment |
| | | | | Average | ND | TT | NR | 1.3 | 0.92 | |
| INORGANIC CHEMICALS | | | | | | | | | | |
| Arsenic | ppb | 10 | 0.004 | Range | Single Sample | ND | NA | ND | NR | Natural deposits erosion; runoff from orchards; glass and electronics production wastes |
| | | | | Average | 2.4 | ND | ND | ND | NR | |
| Barium | ppb | 1,000 | 2,000 | Range | Single Sample | 129 | NA | ND - 1.6 | 132 | Oil and metal refineries discharges; natural deposits erosion |
| | | | | Average | 100 | 129 | 100 | 0.8 | 132 | |
| Fluoride Treatment-Related | Optimal Fluoride Control Range | | | | 0.7 | 0.6 - 1.2 | NA | NA | NA | Erosion of natural deposits; water additive for dental health; discharge from fertilizer and aluminum factories |
| | ppm | 2.0 | 1 | Range | 0.5 - 0.9 | 0.6 - 0.9 | Not Added | 0 - 1.45 | 0.42 - 0.89 | |
| | | | | Average | 0.7 | 0.7 | Not Added | 0.7 | 0.69 | |
| Nitrate (as N) (f) | ppm | 10 | 10 | Range | ND - 0.6 | ND | ND - 0.3 | ND | NR | Runoff and leaching from fertilizer use; sewage; natural deposits erosion |
| | | | | Average | ND | ND | 0.18 | ND | NR | |
| RADIOLOGICALS | | | | | | | | | | |
| Gross Alpha Particle Activity | pCi/L | 15 | (0) | Range | 4 - 7 | ND - 5 | NA | -0.507 - 0.742 | ND - 6 | Erosion of natural deposits |
| | | | | Average | 5 | ND | 2.3 | 0.118 | ND | |
| Gross Beta Particle Activity (g) | pCi/L | 50 | (0) | Range | 4 - 6 | 5 | NA | 0.0 - 28.61 | ND - 5 | Decay of natural and man-made deposits |
| | | | | Average | 5 | 5 | NA | 10.19 | ND | |
| Uranium | pCi/L | 20 | 0.43 | Range | 2.7 - 3.1 | 1 - 2 | NA | 2.189 | 2 - 3 | Erosion of natural deposits |
| | | | | Average | 2.9 | 2 | 3.6 | 2.189 | 2 | |
| DISINFECTION BY-PRODUCTS PRECURSORS | | | | | | | | | | |
| Bromate (h) | ppb | 10 | 0.1 | Range | 3.0 - 8.2 | ND - 9.1 | NR | NA | NR | By-product of drinking water ozonation |
| | | | | Highest RAA | 5.9 | 4.2 | NR | NA | NR | |
| DBP Precursors Control (TOC) | ppm | TT | NA | Range | TT | TT | NR | ND | 3.2 - 3.4 | Various natural and man-made sources |
| | | | | Average | TT | TT | NR | ND | 3.3 | |

This analysis report lists only the detected parameters which are required by law to be published. However, more than 150 parameters were monitored. If you would like a copy of the full reports, including the non-detected contaminants, call the District's Public Information Office at (760) 744-0460 or the reports can be viewed on our website at www.vwd.org.

Summary of Vallecitos Water District's 2016 Water Quality Analysis - Continued

| Parameter | Units | State or Federal MCL [MRDL] | PHG (MCLG) [MRDLG] | Range Average | Treatment Plant Effluents | | | | | Major Sources in Drinking Water |
|--|-------|-----------------------------|--------------------|----------------------|---------------------------|-------------------------|-----------------------|-----------------------------|----------------------------|--|
| | | | | | Twin Oaks Treatment Plant | Skinner Treatment Plant | Weese Treatment Plant | Carlsbad Desalination Plant | Olivenhain Treatment Plant | |
| SECONDARY STANDARDS - Aesthetic Standards - Data provided by the San Diego County Water Authority, Metropolitan Water District, Olivenhain Municipal Water District, and the City of Oceanside. | | | | | | | | | | |
| Aluminum (k) | ppb | 200 | NA | Range Highest RAA | ND ND | 52 52 | 78 - 370 139 | ND ND | 93 93 | Residue from water treatment process; natural deposits erosion |
| Chloride | ppm | 500 | NA | Range Average | Single Sample 110 | 102 - 104 103 | 85 - 96 92 | 35.8 - 105 63.83 | 93 93 | |
| Color | Units | 15 | NA | Range Average | ND ND | 1 - 2 2 | ND ND | ND ND | ND - 2 0.182 | Naturally occurring organic materials |
| Manganese | ppb | 50 | NL = 500 | Range Average | ND ND | ND ND | NR NR | ND - 0.00127 0.00003 | NR NR | |
| Odor Threshold (l) | TON | 3 | NA | Range Average | Single Sample 2 | 3 3 | ND ND | ND ND | ND ND | Naturally occurring organic materials |
| Silver | ppb | 100 | NA | Range Average | Single Sample ND | ND ND | NR NR | ND ND | NR NR | |
| Specific Conductance | µS/cm | 1,600 | NA | Range Average | Single Sample 1000 | 965 - 1030 998 | NR NR | 195.3 - 481 347.19 | 934 - 993 964 | Substances that form ions in water; seawater influence |
| Sulfate | ppm | 500 | NA | Range Average | Single Sample 240 | 229 - 238 234 | 203 - 268 240 | 10.7 - 27.4 17.3 | 217 - 231 224 | |
| Total Dissolved Solids (TDS) | ppm | 1,000 | NA | Range Average | Single Sample 650 | 615 - 632 624 | 517 - 642 596 | 0 - 482 182 | 578 - 603 591 | Runoff/leaching from natural deposits |
| Turbidity (a) | NTU | 5 | NA | Range Average | ND ND | ND ND | 0.05 - 0.80 0.15 | 0.02 - 0.79 0.06 | ND - 0.58 0.06 | |

ABBREVIATIONS AND DEFINITIONS

| | |
|--|---|
| A - Absent | NRA - No Running Average - Single Sample Collected |
| CFU/mL - Colony-Forming Units per milliliter | NR - Not Reported |
| DBP - Disinfection By-Products | ND - Not Detected |
| LRAA - Locational Running Annual Average; highest LRAA is the highest of all Locational Running Annual Averages calculated as average of all samples collected within a 12-month period | NTU - Nephelometric Turbidity Units |
| 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 are set to protect the odor, taste and appearance of drinking water. | NL - Notification Level - The level at which notification of the public water system's governing body is required. |
| 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. Environmental Protection Agency. | pCi/L - picoCuries per liter |
| MPN - Most Probable Number | PHG - Public Health Goal - The level of a contaminant in drinking water below which there is no known or drinking water below which expected risk to health. PHGs are set by the California Environmental Protection Agency. |
| 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. | ppb - parts per billion or micrograms per liter (µg/L) |
| 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. | ppm - parts per million or milligrams per liter (mg/L) |
| N - Nitrogen | RAA - Running Annual Average |
| NA - Not Applicable | SI - Saturation Index (Langelier) |
| | TOC - Total Organic Carbon |
| | TT - Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water. |
| | µS/cm - microSiemen per centimeter; also equivalent to µmho/cm (micromho per centimeter) |
| | Primary Standards - (Primary Drinking Water Standards) - MCLs and MRDLs are set to provide the maximum feasible protection to public health. They regulate contaminant levels based on toxicity and adverse health affects. |
| | Secondary Standards - (Secondary Drinking Water Standards) - Requirements that ensure appearance, taste and smell of drinking water are acceptable. |

FOOTNOTES

- (a) - The turbidity level of the filtered water shall be less than or equal to 0.3 NTU (0.1 NTU at Twin Oaks Treatment Plant) in 95% of the measurements taken each month and shall not exceed 1 NTU at anytime. Turbidity is a measure of the cloudiness of the water and is an indicator of treatment performance. The monthly averages and ranges of turbidity shown in the Secondary Standards section were based on the treatment plant effluents.
- (b) - Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. Compliance is based on the combined distribution system sampling from all the treatment plants. The MCL was not violated.
- (c) - *E. coli* MCLs: The occurrence of 2 consecutive total coliform-positive samples, one of which contains fecal coliform/*E. coli*, constitutes an acute MCL violation. The MCL was not violated.
- (d) - All distribution samples collected had detectable total chlorine residuals and no HPC was required. HPC reporting level is 1 CFU/mL.
- (e) - MWD and SDCWA were in compliance with all provisions of the State's Fluoridation System Requirements.
- (f) - State MCL is 45 mg/L as nitrate, which equals 10 mg/L as N.
- (g) - SWRCB considers 50 pCi/L to be the level of concern for beta particles; the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ.
- (h) - Reporting level is 0.5 ppb for each of the following: bromodichloromethane, bromoform, chloroform, and dibromochloromethane.
- (i) - Reporting level is 1.0 ppb for each of the following: dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid; and 2.0 ppb for monochloroacetic acid.
- (j) - Reporting level is 3.0 ppb for Bromate.
- (k) - Aluminum, copper, MTBE and thiobencarb have both primary and secondary standards.
- (l) - Metropolitan utilizes a flavor-profile analysis method that can detect odor occurrences more accurately. Call MWD at (213) 217-6850 for more information.

Summary of Vallecitos Water District's 2016 Water Quality Analysis - Continued

Other Detected Constituents That May be of Interest to Consumers

| Parameter | Units | State or Federal MCL | PHG (MCLG) [MRDLG] | Range Average | Treatment Plant Effluents | | | | | Major Sources in Drinking Water |
|--|----------|----------------------|--------------------|------------------|---------------------------|-------------------------|-----------------------|--------------------------|----------------------------|---|
| | | | | | Twin Oaks Treatment Plant | Skinner Treatment Plant | Weese Treatment Plant | Carlsbad Treatment Plant | Olivenhain Treatment Plant | |
| Alkalinity | ppm | NA | NA | Range | Single Sample | 118 - 125 | 84 - 130 | 0 - 110 | 119 - 129 | |
| | | | | Average | 120 | 122 | 113 | 56.22 | 124 | |
| Boron | ppb | NL = 1,000 | NA | Range | Single Sample | 140 | NA | 0.29 - 0.78 | 140 | Runoff/leaching from natural deposits; industrial wastes |
| | | | | Average | 130 | 140 | NA | 0.49 | 140 | |
| Calcium | ppm | NA | NA | Range | Single Sample | 70 - 74 | 56 - 82 | 13.5 - 40.5 | 66 - 72 | |
| | | | | Average | 67 | 72 | 69 | 24.1 | 69 | |
| Chlorate | ppb | NL = 800 | NA | Range | Single Sample | 170 - 450 | 51 | NR | NA | By-product of drinking water chlorination; industrial processes |
| | | | | Average | 283 | 26 - 60 | NR | NA | NR | |
| Chromium VI (a) | ppb | 10 | 0.02 | Range | Single Sample | ND - 0.09 | ND | NR | NA | Industrial waste discharge; could be naturally present as well |
| | | | | Average | 0.06 | ND | NR | NA | NR | |
| Corrosivity (b) (Aggressiveness Index) | AI | NA | NA | Range | Single Sample | 12.4 - 12.5 | NR | 11.36 - 11.9 | NR | Elemental balance in water; affected by temperature, other factors |
| | | | | Average | 13 | 12.5 | NR | 11.62 | NR | |
| Corrosivity (c) (Saturation Index) | SI | NA | NA | Range | Single Sample | 0.62 - 0.66 | NR | 0.04 - 0.53 | NR | Elemental balance in water; affected by temperature, other factors |
| | | | | Average | 0.67 | 0.64 | NR | 0.28 | NR | |
| Hardness | ppm | NA | NA | Range | Single Sample | 274 - 294 | 230 - 320 | 43.5 - 104 | 257 - 278 | The sum of naturally occurring poly-valent cations present in the water |
| | | | | Average | 270 | 284 | 279 | 59.8 | 268 | |
| Magnesium | ppm | NA | NA | Range | Single Sample | 24 - 25 | 22 - 29 | 0.33 - 4.810 | 23 - 24 | |
| | | | | Average | 25 | 25 | 26 | 0.592 | 24 | |
| N-Nitrosodimethylamine (NDMA) | ppt | NL = 10 | 3 | Range | Single Sample | ND - 2.3 | NR | NA | NR | By-product of drinking water chloramination; industrial processes |
| | | | | Average | ND | ND - 5.1 | NR | NA | NR | |
| pH | pH Units | NA | NA | Range | Single Sample | 7.4 - 8.6 | 8.1 - 8.2 | 7.5 - 8.3 | 6.68 - 8.69 | 8.0 - 8.2 |
| | | | | Average | 8.1 | 8.1 | 7.9 | 8.49 | 8.1 | |
| Potassium | ppm | NA | NA | Range | Single Sample | 4.8 - 4.9 | NR | 0.84 - 2.94 | 4.7 | |
| | | | | Average | 4.6 | 4.9 | NR | 1.93 | 4.7 | |
| Sodium | ppm | NA | NA | Range | Single Sample | 101 - 104 | NA | 25.8 - 74.5 | 92 - 93 | The salt present in the water, generally naturally occurring |
| | | | | Average | 99 | 102 | 95 | 47.14 | 92 | |

ABBREVIATIONS, DEFINITIONS AND FOOTNOTES

Abbreviations and Definitions- (Please refer to main table for other abbreviations and definitions)

- NR** - Not Reported
- NL** - Notification Level - The level at which notification of the public water system's governing body is required.
- ppt** - parts per trillion or nanograms per liter (ng/L).
- NRA** - No Running Average - Single Sample Collected

Footnotes:

- (a)** - Reporting level is 0.03 ppb for Chromium VI.
- (b)** - AI <10.0 = Highly aggressive and very corrosive water
AI ≥ 12.0 = Non-aggressive water
AI (10.0 - 11.9) = Moderately aggressive water
- (c)** - Positive SI index = non-corrosive; tendency to precipitate and/or deposit scale on pipes
Negative SI index = corrosive; tendency to dissolve calcium carbonate

Summary of Vallecitos Water District's 2016 Water Quality Analysis - Continued

| Parameter | Units | State or Federal MCL [MRDL] | PHG (MCLG) [MRDLG] | Range Average | Within VWD's System | Major Sources in Drinking Water |
|---|-------|-----------------------------|--------------------|---|------------------------|---|
| Summary of Water Quality Tests Within VWD's Distribution System - Data Provided by Vallecitos Water District | | | | | | |
| Total Coliform Bacteria (a) | % | 5.0 (a) | (0) | Range Average | ND ND | Naturally present in the environment |
| Fecal Coliform & E. coli (b) | (b) | (b) | (0) | Range Average | ND ND | Human and animal fecal waste |
| Total Trihalomethanes (TTHM) (c) | ppb | 80 | NA | Range Highest RAA | 0.0 - 42 33 | By-product of drinking water chlorination |
| Haloacetic Acids (five) (HAA5) (d) | ppb | 60 | NA | Range Highest RAA | 0.0 - 26 15 | By-product of drinking water chlorination |
| Total Chlorine Residual (e) | ppm | [4.0] | [4.0] | Range Highest RAA | 0.2 - 4.0 2.04 | Drinking water disinfectant added for treatment |
| General Physical Sampling (f) | (f) | (f) | (f) | Secondary Standards (aesthetics) testing required by SWRCB within VWD's Distribution System | | |
| Unregulated Contaminants (UCMR3) (i) | | | | | | |
| Molybdenum | ppb | NA | NA | Range Average | 3.8 - 4.6 4.18 | Naturally present in the environment |
| Strontium | ppb | NA | NA | Range Average | 910 - 1100 1027.5 | Naturally present in the environment |
| Vanadium | ppb | NA | NL = 50 | Range Average | <0.2 <0.2 | Naturally present in the environment |
| Chromium, Hexavalent | ppb | NA | 0.02 | Range Average | 0.05 - 0.06 0.053 | By-product of industrial process |
| Chlorate | ppb | NA | NL = 800 | Range Average | 46 - 88 72.3 | By-product of drinking water chlorination |
| MONITORED AT CUSTOMERS' TAP | | | | | | |
| Copper (g) | ppb | AL = 1,300 | 300 | 90th Percentile | 410 | House pipes internal corrosion; erosion of natural deposits; leaching from wood preservatives |
| Lead* (g) | ppb | AL = 15 | 0.2 | 90th Percentile | ND | House pipes internal corrosion; erosion of natural deposits; discharges from industrial manufacturers |
| Special Lead and Copper Monitoring due to new source as required by SWRCB | | | | | | |
| Special Copper (h) | ppb | AL = 1,300 | 300 | 90th Percentile | May = 160 Aug = 280 | House pipes internal corrosion; erosion of natural deposits; leaching from wood preservatives |
| Special Lead* (h) | ppb | AL = 15 | 0.2 | 90th Percentile | May = ND Aug = ND | House pipes internal corrosion; erosion of natural deposits; discharges from industrial manufacturers |

ABBREVIATIONS AND DEFINITIONS

- | | |
|---|---|
| <p>AL - Action Level</p> <p>HAA5 - Haloacetic Acids (five)</p> <p>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 are set to protect the odor, taste and appearance of drinking water.</p> <p>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. Environmental Protection Agency.</p> <p>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.</p> | <p>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.</p> <p>NL - Notification Level</p> <p>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.</p> <p>ppb - parts per billion or micrograms per liter (µg/L)</p> <p>ppm - parts per million or milligrams per liter (mg/L)</p> <p>TTHM - Total Trihalomethanes</p> <p>RAA - Running Annual Average</p> |
|---|---|

FOOTNOTES

- (a) - The District tested more samples than required by the SWRCB. 1,352 samples were analyzed in 2016 and all samples tested negative for Total Coliform bacteria. The District was in compliance with the Total Coliform MCL for 2016.
- (b) - The District tested more samples than required by the SWRCB. 1,352 samples were analyzed in 2016 and all samples tested negative for Fecal/E. coli bacteria. The District was in compliance with the Fecal/E. coli MCL for 2016.
- (c) - The MCL for Total Trihalomethanes (TTHM) is determined by using a running annual average of the last four quarterly tests. The District was in compliance with the regulations concerning Total Trihalomethanes (TTHM) for 2016.
- (d) - The MCL for Haloacetic Acids (HAA5) is determined by using a running annual average of the last four quarterly tests. The District was in compliance with the regulations concerning Haloacetic Acids (HAA5) for 2016.
- (e) - Total chlorine is the sum of free and combined chlorine. Free chlorine is defined as the concentration of residual chlorine in water present as dissolved gas (Cl₂), hypochlorous acid (HOCl), and/or hypochlorite ion (OCl⁻). Combined chlorine is defined as the residual chlorine existing in water in chemical combination with ammonia or organic amines which can be found in natural or polluted waters. Ammonia is sometimes deliberately added to chlorinated public water supplies to provide inorganic chloramines. This process is generally referred to as "chloramination". The water provided to you has had inorganic chloramines added as a disinfectant.
- (f) - These samples were tested for turbidity, odor, and color. The District was in compliance with the Secondary Standards for these tests in 2016.
- (g) - The federal and state standards for Lead and Copper are treatment techniques requiring agencies to optimize corrosion control treatment. The District is required to take 30 samples every three years. The data shown is from 31 samples taken during the 2015 period. Our next sample period is scheduled for June, 2018. The District was in compliance with the "Lead and Copper Rule" in 2015.
- (h) - The federal and state standards for Lead and Copper are treatment techniques requiring agencies to optimize corrosion control treatment. The District received water from a new source the Carlsbad Desalination Plant and was required to collect 30 samples in 2016.
- (i) - UCMR3 = Unregulated Contaminants Monitoring Rule 3. The EPA requires monitoring in order to determine if there is a need to regulate these compounds. This monitoring occurred in 2015.

*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. Vallecitos 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. If you are concerned about lead in your drinking 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 or at <http://www.epa.gov/safewater/lead>.



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 (760) 744-0460
www.vwd.org

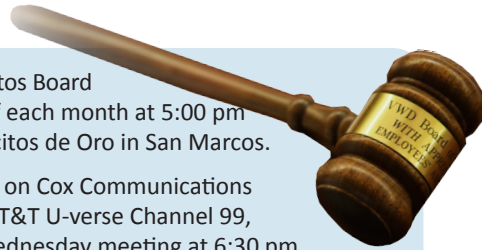
- Special Edition - 2016 Water Quality Report

Board of Directors

Division 1: Betty Evans
 Division 2: Jim Hernandez
 Division 3: Craig Elitharp
 Division 4: Mike Sannella
 Division 5: Hal Martin

Management Staff

Glenn Pruum, General Manager
 Tom Scaglione, Assistant General Manager
 Rhondi Emmanuel, Administrative Services Manager
 John Fusco, Finance Manager
 James Gumpel, District Engineer
 Ed Pedrazzi, Operations and Maintenance Manager



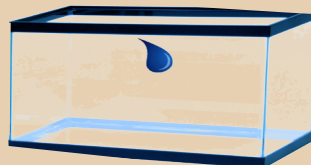
The public is welcome to attend the Vallecitos Board Meetings the first and third Wednesday of each month at 5:00 pm in the Administration building—201 Vallecitos de Oro in San Marcos.

Meetings are also aired on San Marcos TV on Cox Communications Channel 19, Time Warner Channel 24 or AT&T U-verse Channel 99, which air on the Monday following the Wednesday meeting at 6:30 pm. Visit www.san-marcos.net/smtv for programming schedule.



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Parts per million (ppm) =
 One drop in a 10-gallon aquarium



Parts per billion (ppb) =
 One drop in a residential swimming pool

FOR MORE INFORMATION: This report is only a summary of the water quality activities during the past year. If you have any questions about your water quality or Vallecitos Water District, please visit our web site at www.vwd.org or call (760) 744-0460 during business hours (Monday through Friday, 8 a.m. to 5 p.m.). The District’s headquarters is located at 201 Vallecitos de Oro, San Marcos, CA 92069. Questions specific to water quality can be directed to Shawn Askine, Water Systems Supervisor, at (760) 744-0460, ext. 268. Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Para más información llame al (760) 744-0460. For additional information, contact:

- * **U.S. Environmental Protection Agency (USEPA)** - (800) 426-4791 - <http://water.epa.gov/drink/index.cfm>
- * **National Center for Disease Control** - (404) 639-3311 - www.cdc.gov
- * **State Water Resources Control Board** - Division of Drinking Water (916) 449-5577 - http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/CCR.shtml
- * **Metropolitan Water District of Southern California** - (213) 217-6000 - www.mwdh2o.com