



A Consumer Confidence Report

Demonstrating its commitment to public health protection and the public's right-to-know about local environmental information, the U.S. Environmental Protection Agency (EPA) requires water suppliers to supply annual drinking water quality reports to its customers. This publication provides detailed 2006 water quality information including source of supply, what it contains and how it compares to state and federal standards.

Sources and Testing:

Carmichael Water District's (District) 43,000+ customers receive approximately 75 percent of their water from the American River (surface water) and 25 percent from District ground-water wells. The water is tested for more than 200 constituents on a daily, weekly, monthly, and/or annual basis. Water samples are subject to the most up-to-date testing methods and then are re-tested for accuracy. Samples are then measured against state and federal standards to ensure quality.

Source Water Assessment

The California Department of Health Services requires water providers to conduct a Source Water Assessment to help protect the quality of future water supplies. This assessment describes where a water system's drinking water comes from, the types of polluting activities that may threaten source water quality and an evaluation of the water's vulnerability to those threats.

To meet the Department of Health Services (DHS) requirements and provide our customers with information about our water supply, the District completed its surface source water assessment in May 2003 and its groundwater source assessment in July 2003.

The results indicate that our surface water source (the American River) is considered most vulnerable to contamination from sewer system spills, body contact recreation, urban runoff and discharge of regulated and unregulated contaminants. The contaminants to which the surface water sources are considered most vulnerable include the following:

Perchlorate, nitrosodimethylamine (NDMA) and volatile organic chemicals discharged into the American River by the Aerojet General Corporation. Aerojet is under the joint regulatory oversight of the EPA, California Department of Toxic Substance Control and the California Regional Water Quality Control Board.

The groundwater sources are considered most vulnerable to contamination from illegal activities and unauthorized dumping, sewer collection systems, dry cleaners, automobile repair shops, chemical/petroleum pipelines, electrical/electronic manufacturing, underground storage tanks and gas stations. The contaminants to which groundwater sources are considered most vulnerable from contaminants detected in the water supply include the following:

- Liquid rocket fuel (NDMA)
- Rocket fuel propellant (Perchlorate)
- Dry cleaning solvent (PCE)
- Gas stations/gasoline additive (MTBE)

A copy of the complete Source Water Assessment is available for inspection at the Carmichael Water District office, 7837 Fair Oaks Blvd., Carmichael, CA, 95608. You may request a summary of the assessment be sent to you by contacting General Manager, Steve Nugent at (916) 483-2452.



2006 Water Quality Report

CARMICHAEL WATER DISTRICT

2006 Water Quality Report

2006 Annual Water Quality Report

The District has taken hundreds of water samples in order to determine the presence of any constituents. This is a complete list of the constituents that are tested and the actual test results of your drinking water after the treatment process compared with the federal/state contaminant level limits and goals. The intent is to give you an idea of where the District stands with regard to water quality standards set by the California Department of Health Services (DHS) and the U.S. Environmental Protection Agency (EPA).

How to Read the Table:

1. Identify constituent in the left column.
2. Compare the detection range and average to the Maximum Contaminant Level (MCL) and the Public Health Goal/Maximum Contaminant Level Goal (PHG/MCLG).

Legend:

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

MFL = Million Fibers per Liter

N/A = Not applicable

N/D = Analyzed; not detected

N/S = No standard

NTU = Nephelometric Turbidity Unit

pCi/L = picoCuries per Liter

PHG = Public Health Goal

PPB = Parts per Billion

PPM = Parts per Million

PPT = Parts per Trillion

TT = Treatment Technique

Microbiological Contaminants

| | Unit Measurement | MCL | PHG (MCLG) | Ground Water Range | Ground Water Average | Surface Water Range | Surface Water Average |
|-------------------------|---------------------|-----|------------|--------------------|----------------------|---------------------|-----------------------|
| Total Coliform Bacteria | % of tests positive | 5% | (zero) | N/D | N/D | N/D | N/D |
| Turbidity | NTU | TT | N/A | .05-1.5 | 0.065 | 0.02-0.04 | 0.025 |

Radioactive Contaminants

| | | | | | | | |
|------------------------------|-------|--------|------|-------|-----|-------|-----|
| Gross Beta Activity DLR=3.00 | pCi/L | 50 | 0 | N/D | N/D | N/D | N/D |
| Strontium 90 | pCi/L | 8 | N/S | N/D | N/D | N/D | N/D |
| Tritium | pCi/L | 20,000 | N/S | N/D | N/D | N/D | N/D |
| Gross Alpha Activity | pCi/L | 15 | 0 | <3.00 | N/D | <3.00 | N/D |
| Radium 226 & 228 (total) | pCi/L | 5 | 0 | N/D | N/D | N/D | N/D |
| Uranium | pCi/L | 20 | 0.43 | N/D | N/D | N/D | N/D |

Inorganic Contaminants

| | | | | | | | |
|--------------------------|-----|-----|-------|------------|------|-----|-------|
| Aluminum | ppm | 1 | 0.6 | N/D | N/D | N/A | 0.039 |
| Antimony | ppb | 6 | 20 | N/D | N/D | N/D | N/D |
| Arsenic | ppb | 50 | 0.004 | N/D-3.2 | 1.52 | N/D | N/D |
| Asbestos | MFL | 7 | 7 | N/D | N/D | N/D | N/D |
| Barium | ppm | 1 | 2 | 0.026-0.16 | 0.09 | N/A | 0.012 |
| Beryllium | ppb | 4 | 1 | N/D | N/D | N/D | N/D |
| Cadmium | ppb | 5 | 0.07 | N/D | N/D | N/D | N/D |
| Chromium | ppb | 50 | 100 | 2.2-10 | 5.12 | N/D | N/D |
| Cyanide | ppb | 150 | 150 | N/D | N/D | N/D | N/D |
| Fluoride | ppm | 2 | 1 | N/D-0.19 | 0.08 | N/D | N/D |
| Mercury(inorganic) | ppb | 2 | 1.2 | N/D-0.42 | 0.08 | N/D | N/D |
| Nickel | ppb | 100 | 12 | N/D | N/D | N/D | N/D |
| Nitrate(as nitrite, NO3) | ppm | 45 | 45 | N/D-26 | 8.3 | N/A | 1.1 |
| Nitrite(as nitrogen, N) | ppm | 1 | 1 | N/D | N/D | N/D | N/D |
| Selenium | ppb | 50 | 50 | N/D | N/D | N/D | N/D |
| Thallium | ppb | 2 | 0.1 | N/D | N/D | N/D | N/D |

Volatile Organic Contaminants

| | | | | | | | |
|----------------------------|-----|-----|------|-----|-----|-----|-----|
| Benzene | ppb | 1 | 0.15 | N/D | N/D | N/D | N/D |
| Carbon tetrachloride | ppt | 500 | 100 | N/D | N/D | N/D | N/D |
| 1,2-Dichlorobenzene[o-DCB] | ppb | 600 | 600 | N/D | N/D | N/D | N/D |
| 1,4-Dichlorobenzene[p-DCB] | ppb | 5 | 6 | N/D | N/D | N/D | N/D |
| 1,1-Dichloroethane | ppt | 5 | 3 | N/D | N/D | N/D | N/D |
| 1,2-Dichloroethane | ppb | 500 | 400 | N/D | N/D | N/D | N/D |
| 1,1-Dichloroethylene | ppb | 6 | 10 | N/D | N/D | N/D | N/D |
| cis-1,2-Dichloroethylene | ppb | 6 | 70 | N/D | N/D | N/D | N/D |
| trans-1,2-Dichloroethylene | ppb | 10 | 100 | N/D | N/D | N/D | N/D |
| Dichloromethane | ppb | 5 | 4 | N/D | N/D | N/D | N/D |
| 1,2-Dichloropropane | ppb | 5 | 0.5 | N/D | N/D | N/D | N/D |
| 1,3-Dichloropropane | ppt | 500 | 200 | N/D | N/D | N/D | N/D |
| Ethylbenzene | ppb | 300 | 300 | N/D | N/D | N/D | N/D |

Quality Report

| | Unit Measurement | MCL | PHG (MCLG) | Ground Water Range | Ground Water Average | Surface Water Range | Surface Water Average |
|--|------------------|------|------------|--------------------|----------------------|---------------------|-----------------------|
| Volatile Organic Contaminants (continued) | | | | | | | |
| Methyl-tert-butyl ether | ppb | 13 | 13 | N/D | N/D | N/D | N/D |
| Monochlorobenzene | ppb | 70 | 200 | N/D | N/D | N/D | N/D |
| Styrene | ppb | 100 | 100 | N/D | N/D | N/D | N/D |
| 1,1,2,2-Tetrachlorethane | ppb | 1 | 0.1 | N/D | N/D | N/D | N/D |
| Tetrachloroethylene[PCE] | ppb | 5 | 0.06 | N/D-2.5 | 0.79 | N/D | N/D |
| 1,2,4-Trichlorobenzene | ppb | 5 | 5 | N/D | N/D | N/D | N/D |
| 1,1,1-Trichloroethane | ppb | 200 | 200 | N/D | N/D | N/D | N/D |
| 1,1,2-Trichloroethane | ppb | 5 | 3 | N/D | N/D | N/D | N/D |
| Trichloroethylene[TCE] | ppb | 5 | 0.8 | N/D | N/D | N/D | N/D |
| Toluene | ppb | 150 | 150 | N/D | N/D | N/D | N/D |
| Trichlorofluoromethane | ppb | 150 | 700 | N/D | N/D | N/D | N/D |
| 1,1,2-Trichloro1,2,2-trifluoroethane | ppb | 1.2 | 4 | N/D | N/D | N/D | N/D |
| Vinyl Chloride | ppt | 500 | 50 | N/D | N/D | N/D | N/D |
| Xylenes | ppm | 1.75 | 1.8 | N/D | N/D | N/D | N/D |

SECONDARY DRINKING WATER STANDARDS

| | | | | | | | |
|--------------------------------|-----------|---------------|-----|----------|-------|---------|-------|
| Aluminum | ppb | 200 | N/S | N/D | N/D | N/A | 0.039 |
| Color | units | 15 units | N/S | 0-3 | 1 | N/A | 5 |
| Copper | ppm | 1 | N/S | N/D-.029 | 0.01 | N/D | N/D |
| Corrosivity | --- | Non-corrosive | N/S | N/D | N/D | N/D | N/D |
| Foaming Agents [MBAS] | ppb | 500 | N/S | N/D | N/D | N/D | N/D |
| Iron | ppb | 300 | N/S | N/D-92 | 40 | N/A | 0.034 |
| Manganese | ppb | 50 | N/S | N/D-72 | 27.9 | N/D | N/D |
| Methyl-tert-butyl ether [MTBE] | ppb | 5 | N/S | N/D | N/D | N/D | N/D |
| Odor-Threshold | units | 3 units | N/S | 1.0-3.0 | 2.2 | N/A | 1 |
| Silver | ppb | 100 | N/S | N/D | N/D | N/D | N/D |
| Thiobencarb | ppb | 1 | N/S | N/D | N/D | N/D | N/D |
| Turbidity | units | 5 units | N/S | .05-1.5 | 0.65 | .01-.04 | 0.03 |
| Zinc | ppm | 5 | N/S | N/D-.014 | 0.006 | N/D | N/D |
| Total Dissolved Solids | ppm | 1000 | N/S | 110-350 | 208 | N/A | 56 |
| Specific Conductance | micromhos | 1600 | N/S | 107-506 | 277 | N/A | 62 |
| Chloride | ppm | 500 | N/S | 2.6-36 | 13.8 | N/A | 1.7 |
| Sulfate | ppm | 500 | N/S | 4.3-26 | 12.5 | N/A | 2.7 |

UNREGULATED CONTAMINANTS AND CONSTITUENTS OF INTEREST

| | | | | | | | | |
|-------------------------------|-----|-----|-----|-----------|------|-----|-----|--|
| 1, 4 Dioxane | ppb | N/S | N/S | N/D | N/D | N/D | N/D | Total Trihalomethanes = Sum of results for Chloroform, Bromoform, Dibromochloromethane and Bromochloromethane |
| N-Nitrosodimethylamine (NDMA) | ppb | N/S | N/S | N/D | N/D | N/D | N/D | |
| Perchlorate | ppb | 6 | N/S | N/D-2.4 | N/A | N/D | N/D | |
| Sodium | ppm | N/S | N/S | 6.6-27 | 12.6 | N/A | 5.9 | Water quality information is based on data collected from 2005 through 2006. |
| Calcium | ppm | N/S | N/S | 10.0-44.0 | 22 | N/A | 5.6 | |
| Hardness | ppm | N/S | N/S | 50-213 | 105 | N/A | 23 | |
| Magnesium | ppm | N/S | N/S | 8.6-25 | 12.1 | N/A | 2.1 | |



Water Quality Measurement Units:

Micromhos – a measure of the ability of water to conduct electricity.

Million Fibers per Liter (MFL) – a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Units (NTU) - a measure of water's clarity. Turbidity in excess of 5 NTU is just noticeable to the average person.

No Standard (NS) - a standard has not yet been established.

None Detected (ND) - a detection of the contaminant was not found at or above the test detection limit in the samples taken.

Parts per billion (PPB) - a measurement of the concentration of a substance roughly equivalent to one drop in one of the largest tanker trucks used to haul gasoline or one part in 1,000,000,000.

Parts per million (PPM) - a measurement of the concentration of a substance roughly equivalent to 4 drops in 55 gallons or one part in 1,000,000.

Parts per trillion (PPT) - a measurement of the concentration of a substance roughly equivalent to one drop in a 12-million-gallon reservoir or 1 part in 1,000,000,000,000.

Picocuries per Liter (pCi/L) – a measure of the radioactivity in water.

Definitions:

Maximum Contaminant Level (MCL) - the highest concentration level of a contaminant that is allowed by the state of California in drinking water. Primary MCLs are set as close to the public health goals and maximum contaminant level goals as 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.

Primary Drinking Water Standards (PDWS) - maximum contaminant levels for contaminants that affect health.

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.

Secondary Drinking Water Standards (SDWS) - maximum contaminant levels for contaminants that affect taste, odor or appearance of the drinking water. Contaminants with secondary drinking water standards do not affect health at the MCL levels.

Treatment Technique (TT) - a required process intended to reduce the level of a contaminant in drinking water.

Special Information for Sensitive Populations

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as cancer patients undergoing chemotherapy, people 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. EPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available by calling the Safe Drinking Water Hotline at (800)426-4791.

Information You Should Know

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800)426-4791.

Drinking Water Contaminants - the sources of drinking water (both tap 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.

In order to ensure that tap water is safe to drink, the EPA and DHS prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

Contaminants that may be present in source water (pre-treated 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 storm water 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 storm water 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 storm water runoff and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

Sodium and Hardness:

Sodium is a naturally occurring chemical element that is present in our source water. The level of sodium measured during 2006 was 5.9 ppm from our surface water source and an average of 12.6 ppm from our groundwater source.

Hardness of the water in our system depends on your location within the district and the season, due to the source of supply. The level of hardness measured during fall and winter of 2006 was 23 ppm which classifies the water in the "soft" category based on water quality standards. During spring and summer 2006 when we supplement with groundwater the hardness ranges from 23 ppm to 210 ppm depending on your location within the District. This classifies the water between "soft" and "very hard" due to the increase in groundwater usage.

Consumer Confidence Chart

The consumer confidence chart requires identifying only those constituents detected at a Maximum Contaminant Level (MCL) as determined by state and federal regulations. This information is required by law to be provided to every water user. These constituents are compared to state and federal goals—the Public Health Goal (PHG) and the Maximum Contaminant Level Goal (MCLG).

Detected Primary Drinking Water Constituents

| Constituent | Unit Measurement | MCL | PHG (MCLG) | Groundwater Range | Groundwater Average | Surface Water (Annual Tests) | Typical Sources |
|---|------------------|-----|------------|-------------------|-------------------------------------|------------------------------|---|
| Organic Constituents | | | | | | | |
| Tetrachloroethylene [PCE] | ppb | 5 | 0.06 | N/D-1.7 | 0.49 | N/D | Discharge from factories, dry cleaners and auto shops (metal degreaser) |
| Detected Secondary Drinking Water Constituents | | | | | | | |
| Manganese | ppb | 50 | N/A | N/D-72 | 27.9 | N/D | Leaching from natural deposits |
| Other Unregulated Constituents of Interest | | | | | | | |
| Perchlorate | ppb | N/S | 6 | N/D-2.4 | N/A | N/D | Blasting agents—fireworks, rock propellant |
| Constituent | Unit Measurement | AL | PHG | 90th Percentile | Number of sites exceeding AL out of | Typical Sources | |
| Lead and Copper (Sampled 2005) | | | | | | | |
| Lead | ppb | 15 | 2 | N/D | Zero | | Internal corrosion of household plumbing systems |
| Copper | ppm | 1.3 | 0.17 | 0.083 | Zero | | Internal corrosion of household plumbing systems |
| Organic Samples from the Distribution System (a) Based on the running annual average | | | | | | | |
| THMs [total trihalomethanes] (a) | ppb | 80 | N/S | | Range: 7.1-20 Average: 10.2 | | By-product of drinking water chlorination |
| HAA5 [haloacetic acids] (a) | ppb | 60 | N/S | | Range: 5.4-20 Average: 10.0 | | By-product of drinking water chlorination |

Detected Constituents Notes:

The secondary MCL for manganese was exceeded in a single well sample. The MCL for manganese is set to protect against unpleasant aesthetic effects such as color, taste, odor, and staining of laundry and plumbing fixtures. A manganese sample exceeding the MCL does not pose a health risk.

Perchlorate (unregulated constituent of interest) was detected in a single well sample. The sample did not exceed the PHG of 6 ppb. Perchlorate is both a naturally occurring and man-made chemical. Most of the perchlorate manufactured in the U.S. is used as the primary ingredient of solid rocket propellant.

The other constituents are listed on this report for informational purposes only. All other tested and regulated constituents meet their respective MCL.



CARMICHAEL WATER DISTRICT

2006 Water Quality Report

7837 Fair Oaks Boulevard
Carmichael, CA 95608
(916) 483-2452
www.carmichaelwd.org

Board of Directors
Paul Selsky
President, Division 5
John Wallace
Vice-President, Division 3
Sanford Kozlen
Division 1
Mark Emmerson
Division 2
Ron Greenwood
Division 4

General Manager
Steve Nugent



Printed on Recycled Paper

PRSR STD
U.S. Postage
PAID
Permit No. 1233
Oxnard, CA

CARMICHAEL WATER DISTRICT

2006 Water Quality Report

www.carmichaelwd.org

Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.

This report contains important information about your drinking water.

Please translate it or speak with someone who understands it.