



June 15, 2007

To our Customers:

Attached you will find the 2006 Consumer Confidence Report (CCR) brought to you by the City of Redding Water Utility. The purpose of this report is to provide our water customers with summary information on the water quality of the City's water supply sources, the levels of any detected contaminants, and compliance with drinking water regulations. The CCR is prepared and distributed to the City's water customers each year, in accordance with State and Federal regulations. The information contained in this report was taken from water analysis performed through December 2006. We test the drinking water quality for many constituents as required by State and Federal Regulations to ensure that the water supplied to our customers consistently meets both Federal and State Water Quality Standards.

We would like all our customers to have current and factual information about our drinking water. To that end, water customers who receive this report are asked to share this information with any tenant or water user on the premise. The CCR can also be accessed from the Water Utility web page at <http://www.ci.redding.ca.us/water/index.html>.

We welcome public participation in water quality issues. Information that deals with decisions about our water system is addressed during Redding City Council Meetings. These meetings are held the first and third Tuesday of each month at 7:00 pm in the City Council Chambers at the Civic Center. The address is 777 Cypress Avenue, Redding.

We are available to answer questions and provide information if needed. Please see the contact information below.

How to contact us:

Water Quality Information
Utility Customer Service & Billing
Water Conservation Materials

(530) 225-4475
(530) 339-7200
(530) 224-6032

Cross Connection Control/Backflow
General Information
Website: www.ci.redding.ca.us/water/index.html

(530) 224-6031
(530) 224-6068

Este informe contiene información muy importante sobre su agua potable.

Tradúzcalo ó hable con alguien que lo entienda bien

City of Redding Water Utility
2006 Consumer Confidence Report



Water Supply Sources

Our water sources include surface water from the Sacramento River and Whiskeytown Lake and groundwater from the Redding Groundwater Basin. Two water treatment plants and fifteen wells supply water to the City of Redding service area. Our water system is divided into six pressure zones: Enterprise, Cascade, Foothill, Hilltop-Dana, Hill 900, and Buckeye. The Hill 900 and Foothill zones are supplied with Sacramento River water from the Foothill Water Treatment Plant (FWTP). The Enterprise and Cascade zones are supplied by a combination of well water from the Enterprise Wells and surface water from the FWTP. The Hilltop-Dana zone is supplied from both the Enterprise and Buckeye zones. The Buckeye zone is supplied from Whiskeytown Reservoir with water from the Buckeye Water Treatment Plant (BWTP), with secondary supply from the Foothill Zone.

Some of the wells have elevated iron and manganese levels that can precipitate to form black mineral deposits in the distribution system. A sequestrant/corrosion inhibitor (blend of orthophosphate and polyphosphate) is added at these wells to minimize mineral precipitation. Areas supplied by well water are flushed each spring to remove accumulated deposits that can cause “discolored water”. Our water is considered soft, with low to moderate alkalinity, and relatively low levels of disinfection byproducts.

Source Water Assessment

The City of Redding conducted source water assessments for its surface water in July 2001 and groundwater sources in May 2002. For more information, please call (530) 224-6033.

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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, which 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 chemicals, which 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* which can be naturally-occurring or be the result of oil and gas production and mining activities.



Water Quality Standards and Testing Results

In order to ensure that tap water is safe to drink, the USEPA (United States Environmental Protection Agency) and the State Department of Health Services-Office of Drinking Water (DOHS-ODW) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DOHS-ODW regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

The City's water supplies must meet stringent water quality standards that are set forth by the USEPA and the DOHS-ODW. The tables on the following pages list all of the drinking water contaminants that were detected during 2006 sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. DOHS-ODW 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.

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 USEPA'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. 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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Sampling Results

| SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES | |
|--|--|
| Treatment Technique (Type of approved filtration technology used): | Conventional treatment (coagulation, sedimentation, and filtration) or direct filtration (coagulation and filtration) in combination with chlorination |
| Turbidity Performance Standards (that must be met through the water treatment process) | <u>Turbidity of the filtered water must:</u> 1 – Be less than or equal to 0.5 NTU in 95% of measurements in a month 2 – Not exceed 1.0 NTU for more than eight consecutive hours 3 – Not exceed 5.0 NTU at any time |
| Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1. | 99.1% were less than or equal to 0.3 NTU |
| Highest single turbidity measurement during the year | 0.13 NTU (0.2 to 0.13 NTU range) for Foothill Water Treatment Plant 0.47 NTU (0.02 to 0.47 NTU range) for Buckeye Water Treatment Plant |
| Number of violations of any surface water treatment requirements | None |

Note: Turbidity (measured in NTU) is a measurement of the cloudiness of water. We monitor it because it is a good indicator of water quality and to verify compliance with filtration performance requirements.



SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

| Microbiological Contaminants | Highest No. of Detections | No. of Months in Violation | MCL | MCLG | Typical Source of Bacteria |
|----------------------------------|---------------------------|----------------------------|--|------|--------------------------------------|
| Total Coliform Bacteria | 0 (In a mo.) | 0 | Greater than 5% of monthly samples positive. | 0 | Naturally present in the environment |
| Fecal Coliform or <i>E. coli</i> | 0 (In the year) | 0 | A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i> | 0 | Human and animal fecal waste |

SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER

| Lead and Copper | No. of Samples Collected | 90 th Percentile Level Detected | No. Sites Exceeding AL | AL | PHG | Typical Source of Contaminant |
|-------------------------------------|--------------------------|--|------------------------|-----|------|---|
| Lead (ppb) [Sampled July 2004] | 32 | 5 | 0 | 15 | 2 | Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits |
| Copper (ppm) [Sampled July 2004] | 32 | 0.351 | 0 | 1.3 | 0.17 | Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |

SAMPLING RESULTS FOR SODIUM, HARDNESS, AND GENERAL CHEMISTRY

| Contaminant (and reporting units) | Sample Dates | Average Level Detected | Range of Detections | MCL | PHG (MCLG) | Typical Source of Contaminant |
|--|-------------------|---|--|-----|------------|--|
| Sodium (ppm) | 7/99 – 6/05 | 23 | 2 - 95 | N/A | N/A | Generally found in ground & surface water |
| Hardness (ppm) | 7/99 – 6/05 | 74 | 29 - 159 | N/A | N/A | Generally found in ground & surface water |
| Calcium (ppm) | 2006 | 7.6 (BWTP) 15.1 (FWTP raw water) 28.8 (Wells) | 5.9 - 14.0 10.0 - 33.7 11.8 - 44.9 | N/A | N/A | Naturally occurring dissolved mineral |
| pH | 2006 (Monthly) | 7.6 (BWTP) 7.7 (FWTP) 7.47 (Wells) | 7.4 - 7.8 7.4 - 7.8 6.8 - 8.1 | N/A | N/A | pH 6.5 to 8.5 is typical for drinking water |
| Alkalinity (ppm as CaCO ₃) | 2006 (Monthly) | 36 (BWTP) 43 (FWTP) 113 (Wells) | 30 - 41 26 - 54 41 - 187 | N/A | N/A | Measures the buffering capacity of the water |



DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD*

| Contaminant (and reporting units) | Sample Date | Level (or Average) Detected | Range of Detections | MCL [MRDL] | PHG (MCLG) [MRDLG] | Typical Source of Contaminant |
|--|------------------------------|-----------------------------|--|------------|--------------------|---|
| Chlorine (Distribution System) | 2006 | 1 | 0.1 - 2.0 | 4.0 | 4.0 | Disinfectant required by regulation to be added to drinking water |
| Arsenic (ppb) (Enterprise Wells 11 & 13) | 2006 | 4 | 0 - 4 | 10 | N/A | Erosion of natural deposits; runoff from orchards; glass and electronics production wastes |
| Nitrate (ppm as NO ₃) (Wells and Surface Water) | 2006 | 16 3.3 | 0 - 24 (Well E13) 0 - 7.5 (other wells) | 45 | N/A | Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits |
| Total Trihalomethanes (ppb) (Distribution system) | Bimonthly and Quarterly 2006 | 26 | Non-detect - 52 | 80 | N/A | By-product of drinking water disinfection |
| Total of Five Haloacetic Acids – HAA5 (ppb) (Distribution system) | Quarterly 2006 | 22 | 1.6 - 49 | 60 | N/A | By-product of drinking water disinfection |
| Aluminum | 2003 | 70.2 | 70.2 | 1000 | 600 | Erosion of natural deposits; residue from some surface water treatment processes |

* There were no drinking water standard violations in 2006.

DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD*

| Contaminant (and reporting units) | Sample Date | Level (or Average) Detected | Range of Detections | MCL | PHG (MCLG) | Typical Source of Contaminant |
|--------------------------------------|---------------------------|---|----------------------------------|------|------------|---|
| Manganese (ppb) | 2006 | 5.2 (BWTP) 4.4 (FWTP) 26 (Wells) | 1.9 - 12.6 0 - 7.7 0 - 59 | 50 | N/A | Leaching from natural deposits |
| Sulfate (ppm) | 2003 2004 2005 | 3.4 (FWTP) 3 (BWTP) 9.9 (Wells) | 3 - 3.4 2.6 - 9.9 | 500 | N/A | Runoff/leaching from natural deposits; industrial waste |
| Chloride (ppm) | 2003 2004 2005 | 1.75 (FWTP) 1.35 (BWTP) 32.6 Wells | 1.35 - 1.75 4.36 - 32.6 | 500 | N/A | Runoff/leaching from natural deposits; seawater influence |
| Total Dissolved Solids (ppm) | 2003 2004 2003,2005 | 69 (FWTP) 42 (BWTP) 233 (Wells) | 42 - 69 116 - 233 | 1000 | N/A | Runoff/leaching from natural deposits |
| Iron (ppb) | 2006 | 43.2 (BWTP) 140.0 (FWTP) 98 (Wells) | 43 - 145 140 - 499 0 - 223 | 300 | N/A | Leaching from natural deposits; industrial wastes |

* No unregulated contaminant monitoring was required by the EPA in 2006.



TERMS USED IN THIS REPORT:

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 (USEPA).

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.

Maximum Residual Disinfectant Level (MRDL):

The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG):

The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the USEPA.

Primary Drinking Water Standards (PDWS):

MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

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.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Variations and Exemptions: Department permission 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 (ug/L)

ppt: parts per trillion or nanograms per liter (ng/L)

pCi/L: picocuries per liter (a measure of radiation)