

## Important Health Information

Some people may be more vulnerable than others to contaminants in drinking water. Immunocompromised 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. The U.S. EPA/CDC (Centers for Disease Control) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.



## Radon

Radon is a radioactive gas that occurs naturally in some groundwater. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Radon is released into homes and groundwater from soil. Inhalation of radon gas has been linked to lung cancer; however, the effects of radon ingested in drinking water are not yet clear. Samples taken from our water source during 1999 indicated an average radon concentration of 347 picocuries per liter (pCi/L). If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information call (800) SOS-RADON.

City of Davis Public Works  
1717 Fifth Street  
Davis, CA 95616

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

**IMPORTANT INFORMATION  
ABOUT YOUR WATER QUALITY**

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CA3338



## Annual Water Quality Report

*Water testing performed in 2004*



PWS ID#: CA5710001

## To Our Water Customers

This report is prepared in accordance with the U.S. Environmental Protection Agency (U.S. EPA) and California regulations under the Safe Drinking Water Act (SDWA) requiring water utilities to provide detailed water quality information to their customers annually. The table contains water testing results done in 2004. This publication also includes information about where your water comes from, what it contains, and how it compares to state and federal standards.

The substance amounts reported in the table as "weighted average" are based on recent water analysis results for each well with respect to how much water the well contributed to the system during the year. The weighted average may not be representative of water at a specific point in the system since there is a constant mixing of water in the system, depending on which wells are operating. The weighted averages are intended to be an indication of the overall water quality.

In addition to the substances reported, approximately 100 other substances were checked with no measurable amounts found.



## Contact Us

For more information about this report or any questions related to your drinking water, please phone Davis Public Works at (530) 757-5686 or e-mail [bschoech@cityofdavis.org](mailto:bschoech@cityofdavis.org).

The city periodically conducts public meetings and workshops concerning water issues. Call us if you would like to be added to our contact list. The city council receives public comments at their regular meetings, which are held several times a month.

Check the City's Web site at [www.cityofdavis.org](http://www.cityofdavis.org) for the schedule of meetings or for more water information.

## Where Does Our Water Come From?

Davis draws water from 22 wells located throughout the city. The wells tap into aquifers beneath the city at depths from 300 to 1,800 feet below ground. The water does not pass through a central treatment or distribution facility, but is filtered naturally by the sand and gravel it passes through in the aquifers.

The only treatment administered is the addition of chlorine (sodium hypochlorite) for disinfection. The 0.2 parts per million dosage is typical of water systems throughout the country. Precautions should be taken when using chlorinated water for medical uses such as dialysis machines or when adding water to fish tanks or ponds.



An assessment of the drinking water source for the city was completed in December 2002. This assessment was done in compliance with the DHS Source Water Assessment Program, the goal of which is to determine the water system's vulnerability to possible sources of contamination. The Assessment determined that our groundwater is most vulnerable to historic and present-day land use activities, including agriculture, the historic use of septic systems, and past practices for dry cleaners, gas stations and light industry. Additionally, the water source is vulnerable to naturally occurring contaminants such as selenium and chromium. Overall, there is a slight to moderate threat that the City's water source could become contaminated by these land use patterns and activities. A copy of the complete Assessment is available online at <http://swap.ice.ucdavis.edu/TSinfo/TSintro.asp>, or at the City of Davis Public Works Office, or contact Marie Graham at (530) 757-5686 or e-mail [mgraham@ci.davis.ca.us](mailto:mgraham@ci.davis.ca.us).



### **PUBLIC NOTICE:** Water System Bacteriological Standard Failure

*Although this report is for calendar year 2004, it includes a notice of bacteriological standard failure for February 2005. It is a requirement to provide written notification to all water customers within a given timeframe.*

The California Department of Health Services (DHS), Division of Drinking Water and Environmental Management, sets drinking water standards and has determined that the presence of coliform bacteria is a possible health concern. Coliform bacteria are common in the environment and are generally not harmful by themselves. The presence of these bacteria in drinking water, however, generally is a result of a problem with water treatment or with the pipes that distribute the water and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. The DHS has set an enforceable drinking water standard for total coliform to reduce the risk of these adverse health effects. Under this standard, no more than 5% of the samples collected during a month can contain these bacteria. Drinking water that meets this standard is usually not associated with a health risk from disease-causing bacteria and should be considered safe. Bacteria can also be present in samples as a result of inadvertent contamination during the sampling or analysis procedure.

During February 2005, 78 bacteriological samples were taken from the Davis/El Macero water distribution system. Four of these samples, or 5.1%, failed to meet the current drinking water standard.

Upon notification by the laboratory of the presence of coliform bacteria, the city contacted the California DHS, which has jurisdiction over public water systems. The DHS recommended that the city increase its chlorine dose from 0.2 to between 0.5 and 0.8 milligrams per liter and collect additional samples from the source water. The city elected not to provide additional disinfection, but collected and analyzed additional samples until all were found to be free of coliform bacteria. No special precautions are recommended at this time. The city will continue to monitor the water system for bacteria on a weekly basis.

Questions regarding this notice should be directed to City of Davis Public Works, Water Division, at (530) 757-5686.

## What Does Our Water Contain?

We have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. We feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

PRIMARY DRINKING WATER STANDARD (Regulated in order to protect against possible adverse health effects.)							
SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	PHG (MCLG)	WEIGHTED AVERAGE	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2004	50	NA	4.6	ND-11	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2004	1	2	ND	ND-0.22	No	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium (ppb)	2004	50	(100)	17	2-50	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2004	2	1	0.20	ND-0.4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha particle Activity (pCi/L)	2002	15	NA	2.9	0.49-7.08	No	Erosion of natural deposits
Gross Beta particle Activity (pCi/L)	2002	50	NA	1.8	ND-4.15	No	Decay of natural and man-made deposits
Nickel (ppb)	2004	100	12	ND	ND-10	No	Erosion of natural deposits; discharge from metal factories
Nitrate (as nitrate, NO <sub>3</sub> ) <sup>1</sup> (ppm)	2004	45	45	14	2-54	No	Runoff and leaching from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (ppb)	2004	50	(50)	8.6	ND-36	No	Discharge from petroleum, glass and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
Total Coliforms (% positive samples)	2004	5% positive samples	(0)	1.3	NA	No	Naturally present in the environment
Trichloroethylene [TCE] (ppb)	2004	5	0.8	<0.50	ND-0.64	No	Discharge from metal degreasing sites and other factories
TTHMs [Total Trihalomethanes] (ppb)	2004	80	NA	<4.1	ND-4.1	No	By-product of drinking water chlorination

Tap water samples were collected for lead and copper analyses from 30 homes throughout the service area

SUBSTANCE (UNITS)	YEAR SAMPLED	ACTION LEVEL	PHG (MCLG)	AMOUNT DETECTED (90th% TILE)	HOMES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2003	1.3	0.17	0.27	0	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2003	15	2	2.5	0	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY DRINKING WATER STANDARD (Regulated in order to protect the odor, taste and appearance of drinking water.)

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	PHG (MCLG)	WEIGHTED AVERAGE	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2004	500	NS	56	13-190	No	Runoff/leaching from natural deposits; seawater influence
Iron (ppb)	2004	300	NS	ND	ND-760	No	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2004	50	NS	19	ND-100	No	Leaching from natural deposits
Specific Conductance (µmhos/cm)	2004	1,600	NS	907	480-1,600	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2004	500	NS	77	23-290	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids [TDS] (ppm)	2004	1,000	NS	554	290-1,000	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2004	5	NS	ND	ND-5.3	No	Soil runoff

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	WEIGHTED AVERAGE	RANGE LOW-HIGH
Boron (ppb)	2004	748	500-1,000
Bromoform (ppb)	2004	<0.50	ND-3.0
Calcium (ppm)	2004	37	16-69
Chloroform (ppb)	2004	<0.50	ND-2.4
Hardness (ppm)	2004	350	98-670
Magnesium (ppm)	2004	63	14-120
pH (Units)	2004	8.2	8.0-8.4
Potassium (ppm)	2004	1.1	ND-3.0
Radon (pCi/L)	1999	347	224-553
Sodium (ppm)	2004	80	45-110

<sup>1</sup> Monthly sampling is required on wells that exceed 30 ppm for nitrate. One sample exceeded the MCL in April while the well was out of service. The average annual for the well based on 13 samples was 29.1 ppm.

## Table Definitions

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

**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 (2nd MCL) are set to protect the odor, taste and appearance of drinking water.

**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. EPA.

**NA:** Not applicable

**ND:** Not detected

**NS:** No standard

**pCi/L (picocuries per liter):** A measure of radioactivity.

**PDWS (Primary Drinking Water Standard):** MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**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 EPA.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

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

**µmhos/cm (micromhos per centimeter):** A measure of electrical conductance.

## UCMR Violation

The City of Davis was in violation of the Unregulated Contaminant Monitoring Regulation (UCMR) for failing to report to the U.S. EPA all of the results for the distribution system's monitoring assessment. Although the testing had been done in the appropriate timeframe, all results did not get transmitted to the U.S. EPA in a timely manner. After contacting our analytical laboratory, the data was transmitted in June 2004.

## Substances Commonly Found in Drinking 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.

In order to ensure that tap water is safe to drink, the U.S. EPA and the California Department of Health Services (CDHS) prescribe regulations that limit the amount of certain substances in water provided by public water systems. CDHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some substances. The presence of contaminants does not necessarily indicate that water poses a health risk.

Substances 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 by-products of industrial processes and petroleum production, and which can also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants**, which can be naturally occurring or can be the result of oil and gas production and mining activities.

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