



# ANNUAL WATER QUALITY REPORT

*Water testing performed in 2005*

*Proudly Presented By:*  
**CITY OF  
LOMA LINDA**

PWS ID#: CA3610013

## Continuing Our Commitment

Once again we proudly present our annual water quality report. This edition covers all testing completed from January through December 2005. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

For more information about this report, or for any questions relating to your drinking water, please call Greg Snyder, Water Utilities Supervisor, at (909) 799-4420.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The city council meets the second and fourth Tuesday of each month beginning at 7:00 p.m. at the City of Loma Linda Council Chamber, 25541 Barton Road, Loma Linda, California.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. 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.



## Drinking Water Source Assessment

To find and protect against any potential contamination sources to our water supply, the City of Loma Linda completed a drinking water source assessment for each well. These assessments were completed as follows: Mt. View Well #3, November 1999; Richardson Well #4, February 2000; Mt. View Well #4, May 2000; Richardson Wells #1 and #3, November 2000; and Mt. View Well #5, February 2003.

The drinking water source assessment is the first step in the development of a complete drinking water source protection program. The assessment includes a delineation of the area around a drinking water source through which contaminants might move and reach that drinking water supply. In addition, it includes an inventory of activities that might lead to the release of microbiological or chemical contaminants within the delineated area. This enables us to determine whether the drinking water source might be vulnerable to contamination. All information obtained during the assessment process is provided to CDHS for review.

A copy of the assessment can be obtained by contacting us during regular business hours.



## Where Does My Water Come From?

The City of Loma Linda's customers are fortunate because we enjoy an abundant groundwater supply. We operate six wells: Richardson wells 1, 3, and 4 and Mt. View wells 3, 4, and 5. All of the city's wells are located in the Bunker Hill Basin, a vast, natural underground water storage area referred to as an aquifer. The Bunker Hill Basin stretches from the San Bernardino Mountain Range to the south hills of Loma Linda. The water that replenishes the Bunker Hill Basin comes from annual rainfall and snowmelt from the San Bernardino Mountains. The wells are located in the north area of the City of Loma Linda.

Loma Linda also uses a supplemental supply of water from the City of San Bernardino Municipal Water Department. Both the City of Loma Linda and the City of San Bernardino Municipal Water Department fall under the same regulations for water set forth by the U.S. Environmental Protection Agency (U.S. EPA) and the State of California Department of Health Services (CDHS).

## New Arsenic Regulation

Arsenic contamination of drinking water sources may result from either natural or human activities. Volcanic activity, erosion of rocks and minerals, and forest fires are natural sources that can release arsenic into the environment. Although about 90% of the arsenic used by industry is for wood preservatives, it is also used in paints, drugs, dyes, soaps, metals, and semiconductors. Agricultural applications, mining, and smelting also contribute to arsenic releases. Arsenic is usually found in the environment combined with other elements such as oxygen, chlorine, and sulfur (inorganic arsenic); or combined with carbon and hydrogen (organic arsenic). Organic forms are usually less harmful than inorganic forms.

Low levels of arsenic are naturally present in water -- about two parts arsenic per billion parts of water (ppb). Thus, you normally take in small amounts of arsenic in the water you drink. Some areas of the country have unusually high natural levels of arsenic in rock, which can lead to unusually high levels of arsenic in water.

In January 2001, the U.S. EPA lowered the arsenic Maximum Contaminant Level (MCL) from 50 to 10 ppb in response to new and compelling research linking high arsenic levels in drinking water with certain forms of cancer. All water utilities are required to implement this new MCL starting in 2006.

Removing arsenic from drinking water is a costly procedure but well worth the expenditure considering the health benefits. For a more complete discussion visit the U.S. EPA's arsenic Web site at [www.epa.gov/safewater/arsenic.html](http://www.epa.gov/safewater/arsenic.html).

## Sampling Results

During the past year 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. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

PRIMARY DRINKING WATER STANDARD (Regulated In Order To Protect Against Possible Adverse Health Effects)							
Substance (Units)	Year Sampled	MCL	PHG (MCLG)	Amount Detected	Range Low-High	Violation	Typical Source
Aluminum (ppb)	2005	1,000	600	10.3	ND-62	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb) <sup>1</sup>	2005	50	0.004	14.5	ND-33	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Dibromochloropropane (DBCP) before TT (ppt)	2005	200	1.7	0.043	ND-0.18	No	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
Dibromochloropropane (DBCP) after TT (ppt)	2005	200	1.7	5.5	ND-73	No	
Fluoride before TT (ppm)	2005	2.0	1.0	1.32	0.85-2.7	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Fluoride after TT (ppm)	2005	2.0	1.0	1.26	1-1.5	No	
Nitrate (as Nitrate, NO <sub>3</sub> ) (ppm)	2005	45	45	1.63	ND-5.5	No	Runoff and leaching from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate + Nitrite (as Nitrogen, N) (ppm)	2005	10	10	0.36	ND-1.2	No	
Total Coliforms (# of positive samples)	2005	1 positive monthly sample	(0)	1	NA	No	Naturally present in the environment

SECONDARY DRINKING WATER STANDARD (Regulated In Order To Protect The Odor, Taste And Appearance Of Drinking Water)							
Substance (Units)	Year Sampled	SMCL	PHG (MCLG)	Amount Detected	Range Low-High	Violation	Typical Source
Chloride (ppm)	2005	500	NS	23	11-34	No	Runoff/leaching from natural deposits; seawater influence
Odor--Threshold (Units)	2005	3	NS	1	1-1	No	Naturally occurring organic materials
Specific Conductance (μmhos/cm)	2005	1,600	NS	330	260-410	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2005	500	NS	33.2	20-43	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids [TDS] (ppm)	2005	1,000	NS	220	160-290	No	Runoff/leaching from natural deposits
Turbidity (Units)	2005	5	NS	0.52	0.1-1.9	No	Soil runoff

## OTHER SUBSTANCES

Substance (Units)	Year Sampled	Amount Detected	Range Low-High
Calcium (ppm)	2005	5.32	2.2-18
Magnesium (ppm)	2005	0.28	ND-1.7

<sup>1</sup> Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

## PERCHLORATE SAMPLING RESULTS

Substance (Units)	Year Sampled	Amount Detected	Range Low-High
Perchlorate before TT (ppb)	2005	4.1	ND-13
Perchlorate after TT (ppb)	2005	0.08	ND-4.5

## Table Definitions

**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 (SMCLs) 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.

**MRDL (Maximum Residual Disinfectant Level):** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

**MRDLG (Maximum Residual Disinfectant Level Goal):** 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 U.S. EPA.

**NA:** Not applicable

**ND:** Not detected

**NS:** No standard

**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).

**ppt (parts per trillion):** One part substance per million parts water (or nanograms per liter).

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

**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.

## Substances That Might Be 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 State Department of Health Services (Department) prescribe regulations that limit the amount of certain substances in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water, which 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 can 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, agricultural applications, 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.

## Perchlorate in the News

Perchlorate is an inorganic chemical used in manufacturing rocket fuels and explosives. At high concentrations in drinking water, it can interfere with the ability of the thyroid gland to produce hormones necessary for normal growth and development. Perchlorate was first detected in drinking water wells in northern California in 1997. It was later detected in many water wells elsewhere in the state, as well as in the Colorado River (an important source of drinking water). The source of contamination of the Colorado River has been determined to be an industrial site in Nevada.

In January 2002, the U.S. EPA revised the health-related guideline for perchlorate. The new guideline indicates that the advisory level issued by the CDHS may be too high, so the agency has reduced the advisory level for perchlorate to 4 ppb. CDHS has not yet issued a Maximum Contaminant Level for perchlorate.

We will be watching this situation closely. We are confident that sufficient action is underway to remove the source of contamination to the Colorado River. Please call us for more information or for an update on the removal process.

## Contamination from Cross-Connections

Cross-connections that could contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continually jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

For more information, visit the Web site of the American Backflow Prevention Association ([www.abpa.org](http://www.abpa.org)) for a discussion on current issues.