

ANNUAL WATER QUALITY REPORT

Water testing performed in 2007



Presented By:
CITY OF LOMA LINDA

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Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1, 2007 through December 31, 2007. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

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 may 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 and Prevention) 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.

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 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).

In June, 2006, an arsenic removal facility was installed to treat water at our Mt. View #3 and Mt. View #5 wells. This was done to maintain compliance in response to the EPA's decision to lower the MCL (maximum contaminant level) from 50 ppb to 10 ppb.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources.

According to the Source Water Assessment Plan, our water system had a susceptibility rating of 'medium'. If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular office hours.

“WELL-INFORMED CUSTOMERS
ARE OUR BEST ALLIES.”

Substances That Could Be in 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. Environmental Protection Agency (U.S. EPA) and the State Department of Public Health (Department) 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. 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.

Contaminants that may be present in source 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 can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, that 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, that 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.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council (NRDC), bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25% of bottled water is actually just bottled tap water (40% according to government estimates).

The Food and Drug Administration (FDA) is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled water makes it unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70% of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The city council meets on 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.

Questions?

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

Q & A

How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.



Is It Safe to Drink Water from a Garden Hose?

Substances used in vinyl garden hoses to keep them flexible can get into the water as it passes through the hose. These chemicals are not good for you, nor are they good for your pets. Allow the water to run for a short time in order to flush the hose before drinking or filling your pet's drinking containers. Hoses made with food-grade plastic will not contaminate the water. Check your local hardware store for this type of hose.

Contamination from Cross-Connections

Cross-connections that 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 continuously 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, review the Cross-Connection Control Manual from the U.S. EPA's Web site at www.epa.gov/safewater/crossconnection.html.

You can also call the Safe Drinking Water Hotline at (800) 426-4791.



Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.



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.

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.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic ¹ (ppb)	2007	10	0.004	3.5	ND–9.3	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (ppm)	2007	2.0	1	0.92	0.83–1.2	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2007	15	(0)	0.9	ND–3.8	No	Erosion of natural deposits
Nitrate [as nitrate] (ppm)	2007	45	45	2.48	ND–8.2	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate + Nitrite as Nitrogen (ppb)	2007	10,000	10,000	568	ND–1,900	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2007	80	NA	0.56	ND–1.5	No	By-product of drinking water chlorination
Trichloroethylene [TCE] (ppb)	2007	5	0.8	0.18	ND–0.88	No	Discharge from metal degreasing sites and other factories

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2007	500	NS	17.8	9–29	No	Runoff/leaching from natural deposits; seawater influence
Odor–Threshold (TON)	2007	3	NS	1	1–1	No	Naturally-occurring organic materials
Specific Conductance (µS/cm)	2007	1,600	NS	334	260–420	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2007	500	NS	35.4	23–44	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2007	1,000	NS	174	120–250	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2007	5	NS	0.2	0.2–0.2	No	Soil runoff

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Boron (ppb)	2007	24	ND–120
Sodium (ppm)	2007	67.8	48–80
Vanadium (ppb)	2007	51.2	11–99

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Bicarbonate (ppm)	2007	123.8	59–160
Calcium (ppm)	2007	11.4	1.9–29
Carbonate (ppm)	2007	2.6	ND–13.0
Magnesium (ppm)	2007	0.6	ND–3.0
Potassium (ppm)	2007	1.26	ND–2.6
Total Alkalinity (as CaCO₃) (ppm)	2007	104.2	71–130
Total Hardness (CaCO₃) (ppm)	2007	33.4	7.2–57
pH (Units)	2007	8.4	7.7–8.8

¹ Effective 01/23/2006, the federal arsenic MCL is 10 ppb. A new state MCL has not yet been adopted and remains as 50 ppb.

Definitions

Action Level (Regulatory Action Level):

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

µS/cm (microsiemens per centimeter):

A unit expressing the amount of electrical conductivity of a solution.

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): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

PDWS (Primary Drinking Water Standard): MCLs and MRDLs 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).

TON (Threshold Odor Number): A measure of odor in water.