

*Annual*  
**WATER**  
**QUALITY**  
**REPORT**

*Reporting Year 2013*



*Presented By*  
**City of Loma Linda**

PWS ID#: 3610013

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

## There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2013. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

## 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 or <http://water.epa.gov/drink/hotline>.

## Water Conservation

You can play a role in conserving water and save 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 a 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.

## 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 Tuesday of each month beginning at 7:00 p.m. at the City of Loma Linda Council Chamber, 25541 Barton Road, Loma Linda, California.

## 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 before it was filled 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.

## Source Water 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: Mountain View Well #3, November 1999; Richardson Well #4, February 2000; Richardson Wells #1 and #3, November 2000; Mountain View Well #5, February 2003; Richardson Well #6, August 2009; and Mt. View Well #6 and Richardson Well #5, April 2009.

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 process is provided to California Department of Public Health for review.

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

## QUESTIONS?

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

## What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders, and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above-mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

*Serratia* will not survive in chlorinated drinking water.

## Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food, on our skin, in our bodies, and in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria.

Federal regulations require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

## Where Does My Water Come From?

The City of Loma Linda's customers are fortunate because we enjoy an abundant groundwater supply. We operate eight wells: Richardson Wells 1, 3, 4, 5, and 6 and Mt. View Wells 3, 5, and 6. 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 as needed 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 California Department of Public Health (CDPH).

In June 2006, an arsenic removal facility was installed to treat water at our Mt. View #3 and #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.

In 2011, as part of a joint project with Lockheed Martin, Inc., two treatment facilities were installed to remove perchlorate and VOCs (volatile organic chemicals) from two new wells that were installed in 2010. This was done in an effort to isolate and remove those contaminants in the aquifer and keep them from migrating further into the Bunker Hill Basin.

## Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

**Potent Germicide Reduction** in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

**Taste and Odor Reduction** of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

**Biological Growth Elimination** of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

**Chemical Removal** of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

## Important Information About Your Drinking Water

### Monitoring Requirements Not Met for City of Loma Linda

Our water system failed to monitor two sources as required for nitrate during the period of 2011 through 2013 and, therefore, was in violation of the regulations. Even though this failure was not an emergency, as our customers, you have a right to know what you should do, what happened, and what we did to correct this situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the period of 2011 through 2013, we did not monitor or test or did not complete all monitoring or testing for nitrates for two of our sources as these sources were not in use during that time period. Therefore, no water was served at any time that did not meet drinking water standards. This is a procedural violation for nitrate monitoring only, at no time was the quality of your drinking water compromised.

#### What should I do?

- There is nothing you need to do at this time.
- The table below lists the contaminant we did not properly test for during the period in question, how many samples we are required to take and how often, how many samples we took, when samples should have been taken, and the date on which follow-up samples were taken.

Contaminant	Required Sampling Frequency	Number of Samples Taken	When All Samples Should Have Been Taken	When Samples Were or Will Be Taken
Nitrate	1 sample per source per year]	0	Annually	February 2014

#### What happened? What is being done?

Sampling has been completed. Samples taken from these sources prior to 2011 were non-detectable from both sources. Samples taken February 2014 are both less than 1 mg/L. The maximum contaminant level (MCL) for nitrate is 45 mg/L.

For more information, please contact Russ Handy at 909-799-4420 or 25541 Barton Rd. Loma Linda, CA. 92354.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.

#### Secondary Notification Requirements

Upon receipt of notification from a person operating a public water system, the following notification must be given within 10 days [Health and Safety Code Section 116450(g)]:

- **SCHOOLS:** Must notify school employees, students, and parents (if the students are minors).
- **RESIDENTIAL RENTAL PROPERTY OWNERS OR MANAGERS** (including nursing homes and care facilities): Must notify tenants.
- **BUSINESS PROPERTY OWNERS, MANAGERS, OR OPERATORS:** Must notify employees of businesses located on the property.

## Water Main Flushing

**D**istribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at such times. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

## Substances That Could Be in Water

**T**he 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 California 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, that are by-products of industrial processes and petroleum production and that 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.

# TipTopTap

The most common signs that your faucet or sink is affecting the quality of your drinking water are discolored water, sink or faucet stains, a buildup of particles, unusual odors or tastes, and a reduced flow of water. The solutions to these problems may be in your hands.

## **Kitchen sink and drain**

Hand washing, soap scum buildup, and the handling of raw meats and vegetables can contaminate your sink. Clogged drains can lead to unclean sinks and backed up water in which bacteria (i.e., pink and black colored slime growth) can grow and contaminate the sink area and faucet, causing a rotten egg odor. Disinfect and clean the sink and drain area regularly. Also, flush regularly with hot water.

## **Faucets, screens, and aerators**

Chemicals and bacteria can splash and accumulate on the faucet screen and aerator, which are located on the tip of faucets and can collect particles like sediment and minerals resulting in a decreased flow from the faucet. Clean and disinfect the aerators or screens on a regular basis.

Check with your plumber if you find particles in the faucet's screen as they could be pieces of plastic from the hot water heater's dip tube. Faucet gaskets can break down and cause black, oily slime. If you find this slime, replace the faucet's gasket with a higher-quality product. White scaling or hard deposits on faucets and shower heads may be caused by hard water or water with high levels of calcium carbonate. Clean these fixtures with vinegar or use water softening to reduce the calcium carbonate levels for the hot water system.

## **Water filtration/treatment devices**

A smell of rotten eggs can be a sign of bacteria on the filters or in the treatment system. The system can also become clogged over time so regular filter replacement is important. (Remember to replace your refrigerator filters!)

## Sampling Results

During the past year, we have taken thousands of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often 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.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Any UCMR3 detections are shown in the data tables in this report. Contact us for more information on this program.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Arsenic</b> <sup>1</sup> (ppb)	2013	10	0.004	6.22	5.2–7.4	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
<b>Barium</b> (ppm)	2013	1	2	0.0079	0–0.02	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
<b>Chlorine</b> (ppm)	2013	[4.0 (as Cl <sub>2</sub> )]	[4 (as Cl <sub>2</sub> )]	0.46	0.31–0.66	No	Drinking water disinfectant added for treatment
<b>Chromium</b> (ppb)	2013	50	(100)	1.2	0–2.9	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
<b>Fluoride</b> (ppm)	2013	2.0	1	0.77	0.59–0.92	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
<b>Gross Alpha Particle Activity</b> (pCi/L)	2011	15	(0)	3.18	0–10	No	Erosion of natural deposits
<b>Nitrate [as nitrate]</b> <sup>2</sup> (ppm)	2013	45	45	23.67	18–29	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
<b>Nitrate + Nitrite</b> <sup>2</sup> (ppb)	2013	10,000	10,000	3,910	140–9,000	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
<b>Radium 228</b> (pCi/L)	2013	5	0.019	0.003	0–0.041	No	Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]–Stage 2</b> (ppb)	2013	80	NA	0.4	0–2.4	No	By-product of drinking water disinfection
<b>Uranium</b> (pCi/L)	2013	20	0.43	2.58	0–7.8	No	Erosion of natural deposits

### SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Aluminum</b> (ppb)	2013	200	NS	3.8	0–19	No	Erosion of natural deposits; residual from some surface water treatment processes
<b>Chloride</b> (ppm)	2013	500	NS	17.58	6.4–30	No	Runoff/leaching from natural deposits; seawater influence
<b>Foaming Agents [MBAS]</b> (ppb)	2013	500	NS	0.095	0.02–0.18	No	Municipal and industrial waste discharges
<b>Odor–Threshold</b> (Units)	2013	3	NS	1	1–1	No	Naturally occurring organic materials
<b>Specific Conductance</b> (µS/cm)	2013	1,600	NS	428	280–500	No	Substances that form ions when in water; seawater influence
<b>Sulfate</b> (ppm)	2013	500	NS	36.2	19–42	No	Runoff/leaching from natural deposits; industrial wastes
<b>Total Dissolved Solids</b> (ppm)	2013	1,000	NS	244	170–330	No	Runoff/leaching from natural deposits
<b>Turbidity</b> (Units)	2013	5	NS	0.152	0–0.5	No	Soil runoff

## UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Bicarbonate (ppm)	2013	154.66	100–203.3
Boron (ppb)	2013	36.8	0–71
Calcium (ppm)	2013	35.08	2.8–67.6
Carbonate (ppm)	2013	2.8	0–14
Chlorate (ppb)	2013	13.56	0–30
Chromium VI [Hexavalent Chromium] (ppb)	2013	2.5	1.6–3.7
Dioxane (ppb)	2013	0.1	0–0.37
Hardness (ppm)	2013	106.22	45–210
Magnesium (ppm)	2013	4.26	0–10
pH (Units)	2013	8.2	7.8–9.1
Potassium (ppm)	2013	1.75	0.69–2.5
Sodium (ppm)	2013	48.46	20.3–80
Total Alkalinity (ppm)	2013	132.66	100–163.3
Total Molybdenum (ppb)	2013	4.5	0–5.6
Total Strontium (ppb)	2013	222.6	12–380
Vanadium (ppb)	2013	14.6	4.5–45

<sup>1</sup>While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

<sup>2</sup>Nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

## Definitions

**AL (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 highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable

**NS:** No standard

**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).