ANNUAL WATER QUALITY REPORT

Reporting Year 2022

Presented By

City of Loma Linda

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

PWS ID#: 3610013

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. 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 should you ever have any questions or concerns about your 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 seven wells: Richardson Wells 3, 4, 5, and 6 and Mountain View Wells 3, 5, and 6. All wells are located in the north area of the City of Loma Linda in an aquifer in the Bunker Hill basin, a vast natural underground water storage area. The Bunker Hill basin stretches from the San Bernardino mountain range to the south hills of Loma Linda. The water that replenishes Bunker Hill basin comes from annual rainfall and snowmelt from the San Bernardino Mountains.

Loma Linda also uses a supplemental supply of water as needed from the City of San Bernardino Municipal Water Department. 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. EPA and the California Department of Public Health (CDPH).

In June 2006, an arsenic removal facility was installed to treat water at Mountain View Wells 3 and 5. This was done to maintain compliance in response to the U.S. EPA's decision to lower the maximum contaminant level (MCL) from 50 to 10 parts per billion (ppb) .

In 2011, as part of a joint project with Lockheed Martin, two treatment facilities were installed to remove perchlorate and volatile organic chemicals (VOCs) from two 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 Bunker Hill basin.

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.

About Our Violations

1. In September 2022, our water system failed to monitor our treatment plant effluent as required for trichloroethylene, 1,2,3-trichloropropane, and 1,2-dibromo-3-chloropropane and therefore was in violation of the regulations. Even though the failure was not an emergency, as our customer, you have the right to know what happened and what was done to correct the situation.

All lag vessels that supply the effluent were sampled for those contaminants, and all met the drinking water standards. Proper monitoring for the treatment plant effluent resumed in October 2022.

2. As a result of an administrative oversight in spring 2022, we neglected to submit a report as required by the National Primary Drinking Water Regulations. At no time did this incident pose a threat to public health and safety, nor did it have any impact on the high-quality drinking water provided to our customers. To ensure that all reporting requirements are met in the future, we have implemented a computerized scheduling system that will automatically notify us when reports are due.

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 two minutes before using water for drinking or cooking. (If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

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.

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 Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that 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.

Water Treatment Processes

The city removes contaminants in a variety of ways. All water is chlorinated to kill or remove bacteria, viruses, and pathogens that may be present. To accomplish this, water is passed through a cylinder containing calcium hypochlorite, which produces a chlorine solution. It flows into a storage tank from which the solution is pumped into a pipeline connected to the wellhead where it mixes with the water to provide contact time. A minimum of 0.2 milligram per liter is maintained throughout the water system to ensure all possible bacteriological contaminants are deactivated. There are 14 stations throughout the city from which we collect bacteria samples and test chlorine residuals.

Blending is another form of treatment used to reduce or remove chemical and mineral contaminants. This is achieved by introducing water from a high-quality source into a common pipeline, where it is combined with a source of lower quality. Water is then pushed through an in-line mixer which reduces the contaminant or mineral to levels that meet or exceed standards set forth by U.S. EPA and State Board water quality regulations. The sources and combined water are tested at frequencies determined by CDPH to ensure high-quality drinking water. The city uses this method to reduce levels of nitrate and arsenic.

We also treat water to remove arsenic using a process known as adsorption. First, the pH of the well water is adjusted using carbon dioxide gas and chlorine. This changes the arsenic into an oxidized state, making it more readily adsorbed. From there it enters treatment vessels that contain iron oxide media. As water passes through the bed of media, arsenic is removed to levels that meet or exceed the standards set by the U.S. EPA and CDPH. Water then passes through post-treatment filters which remove loose media and prevent them from entering the distribution system. The performance of the media is closely monitored by frequent testing of the treated water. When the treated water reaches arsenic levels close to 80 percent of the maximum allowable levels, filter maintenance is performed by backwashing and forward flushing the media vessels or replacing the media. Perchlorate and VOCs are also removed in filtration processes similar to those used for arsenic removal.

If you have questions regarding any of our treatment processes, please call (909) 799-4410 and ask to speak with one of our treatment operators or the utilities superintendent. All water is closely monitored by trained and certified personnel to assure that it meets all water quality regulations set forth by the U.S. EPA and CDPH.

Source Water Assessment

To protect our water supply against any potential contamination sources, 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 Well 3, November 2000; Mountain View Well 5, February 2003; Richardson Well 6, August 2009; Mountain 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 CDPH for review. A copy of the assessment report can be obtained by contacting the City of Loma Linda during regular business hours.

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 at 7:00 p.m. at the City of Loma Linda Council Chambers, 25541 Barton Road.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring 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
1,1-Dichloroethylene (ppb)	2022	6	10	0.21	ND–0.69	No	Discharge from industrial chemical factories
Aluminum (ppm)	2022	1	0.6	0.0063	ND–0.021	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	2022	10	0.004	3.67	ND–17.54	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2022	1	2	0.01316	ND–0.042	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Cadmium (ppb)	2022	5	0.04	0.03	ND–0.19	No	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and metal refineries; runoff from waste batteries and paints
Chlorine (ppm)	2022	[4.0 (as Cl2)]	[4 (as Cl2)]	0.43	0.20–0.76	No	Drinking water disinfectant added for treatment
Chromium, Total (ppb)	2022	50	(100)	3.16	2.1–3.4	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2022	2.0	1	0.75	0.55–0.98	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2022	15	(0)	4.42	ND–12	No	Erosion of natural deposits
Hexavalent Chromium (ppb)	2020	NS[1]	0.02	1.99	0.17–2.9	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Mercury [inorganic] (ppb)	2022	2	1.2	0.26	ND–0.59	No	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland
Nickel (ppb)	2022	100	12	0.121	ND–0.73	No	Erosion of natural deposits; discharge from metal factories
Nitrate [as nitrogen] (ppm)	2022	10	10	3.15	0.25–6.5	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate + Nitrite (ppm)	2022	10	10	3.72	0.33–8.6	No	NA
Thallium (ppb)	2022	2	0.1	0.06	ND–0.30	No	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2022	80	NA	1.75	ND–3.5	No	By-product of drinking water disinfection
Uranium (pCi/L)	2022	20	0.43	3.6	ND–9.9	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	0.3	0.14	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2022	500	NS	10.56	3.7–23	No	Runoff/leaching from natural deposits; seawater influence
Copper (ppm)	2022	1.0	NS	0.0088	ND–0.01	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Foaming Agents [MBAS] (ppb)	2022	500	NS	128	ND–410	No	Municipal and industrial waste discharges
Iron (ppb)	2022	300	NS	3.8	ND–19	No	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2022	50	NS	0.73	ND–2.8	No	Leaching from natural deposits
Odor, Threshold (TON)	2022	3	NS	1	1–1	No	Naturally occurring organic materials
Silver (ppb)	2022	100	NS	0.128	ND–0.64	No	Industrial discharges
Specific Conductance (µS/cm)	2022	1,600	NS	426.6	260–520	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2022	500	NS	32.6	16–45	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2022	1,000	NS	230	140–320	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2022	5	NS	0.09	ND–0.32	No	Soil runoff

UNREGULATED SUBSTANCES [2]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Boron (ppb)	2022	55.5	ND–93	NA
Chromium VI [hexavalent chromium] (ppb)	2020	1.99	0.17–2.9	NA
Hardness, Total [as CaCO3] (ppm)	2022	122.26	9.6–230	NA
Sodium (ppm)	2022	45.8	21–74	NA
Vanadium (ppb)	2022	19.6	4.9–45	NA

OTHER UNREGULATED SUBSTANCES [2]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
% difference (units)	2022	9.64	0.96–19	NA
Bicarbonate (ppm)	2022	177.1	93–220	NA
Calcium (ppm)	2022	41.3	3.8–75	NA
Carbonate (ppm)	2022	2.3	ND–14	NA
Chromium, Total (ppb)	2022	3.16	2.1–3.4	NA
Magnesium (ppb)	2022	4.82	ND–11	NA
pH (units)	2022	8	7.7–8.9	NA
Potassium (ppm)	2022	1.82	0.76–2.2	NA
Total Alkalinity (ppm)	2022	151.6	100–180	NA
Total Anions (units)	2022	4.06	2.47–4.95	NA
Total Cations (units)	2022	4.50	2.6–5.66	NA

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

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.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

[1] There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

[2] Unregulated contaminant monitoring helps U.S. EPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.