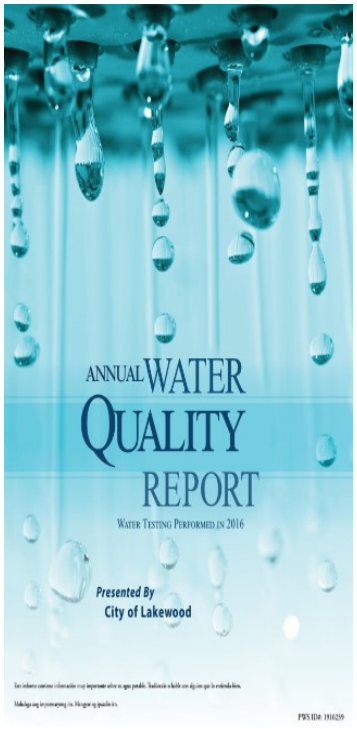
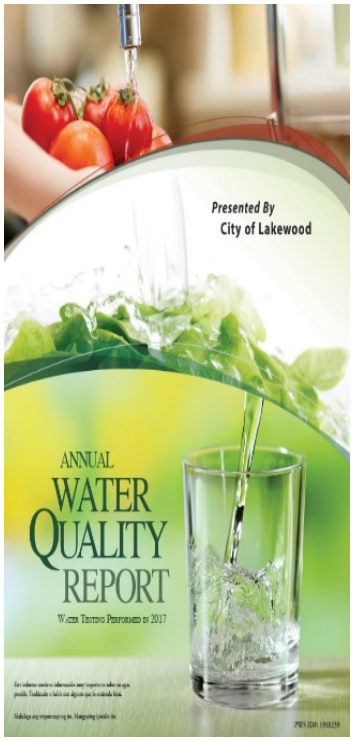
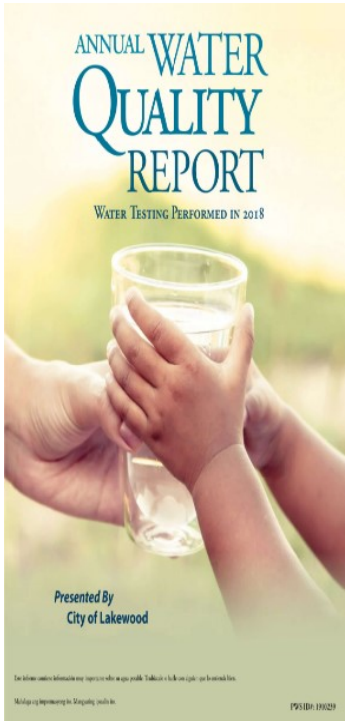
Public Health Goals Report







CITY OF LAKEWOOD WATER SYSTEM

JULY 2019

Report on Public Health Goals

Background

Provisions of the California Health and Safety Code §116470 specify that a public water system serving more than 10,000 service connections must prepare a special report by July 1, 2019 that gives information on the "detection" of any constituents that exceeded any Public Health Goals (PHGs). PHGs are non-enforceable goals established by the California Environmental Protection Agency (Cal-EPA)'s Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted a PHG for a constituent, water suppliers are to use the Maximum Contaminant Level Goals (MCLGs) adopted by the United States Environmental Protection Agency (USEPA). MCLGs are the federal equivalent to PHGs.

The purpose of this report is to provide water system customers information concerning detectable levels of a constituent below enforceable mandatory drinking water standards, Maximum Contaminant Levels (MCLs), and to provide customers with the cost to eliminate any trace of the contaminant from drinking water regardless of how minimal the health risk. The report is unique to California.

Drinking Water Standard, MCLs, PHGs and MCLGs

The USEPA and the California State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) establish drinking water standards at very conservative levels to protect consumers against all but very low to negligible health risks. MCLs are the regulatory definition of what is "safe". Adopted MCLs are the criteria utilized to ensure that a public water system is in compliance with drinking water standards. Per standard health effects language specified in California Drinking Water Regulations, Title 22, Code of Regulations, drinking water which meets DDW standards is associated with little to no risk and should be considered safe.

PHGs set by the OEHHA are based solely on public health risk considerations. None of the practical risk-management factors, which are considered by the USEPA or the DDW in setting drinking water standards (aka. MCLs) are considered in setting the MCLGs or PHGs. These factors include analytical detection capability, treatment technology available, benefits and costs. The Attachment "A" is a list of all regulated constituents with their MCLs and PHGs or MCLGs.

PHGs and MCLGs are set at very low levels where the health risks are very low or, in the case of zero, the health risk is zero. Determinations of health risk at these low levels are frequently theoretically based on risk assessments with many assumptions and mathematical extrapolations. Many constituents are considered to be carcinogenic and the USEPA has set the MCLGs at zero, which cannot be measured by practical available analytical methods. PHGs and MCLGs are not regulatory in nature and represent only non-mandatory theoretical goals.

Water Quality Data Considered

All of the water quality data collected by our water system between 2016 and 2018 for purposes of determining compliance with drinking water standards was considered. This data was detailed in our 2016, 2017, and 2018 Annual Water Quality Reports, which are also referred to as Consumer Confidence Report (CCR). Each report was available and noticed to all water customers.

If a constituent was detected in the water supply at a level above an applicable PHG or MCLG, this report provides the information required by the law. Included is the numerical public health risk associated with the MCL and the PHG or the MCLG, the category or type of risk to health that could be associated with each constituent level, and an estimate of the annualized cost of the treatment system if it is appropriate and feasible.

Best Available Treatment Technology and Cost Estimates

Both the USEPA and DDW adopt what are known as BATs or Best Available Technologies, which are the best known methods of reducing contaminant levels to meet a MCL. However, since many PHGs and MCLGs are set much lower than the MCLs, it is neither always possible nor feasible to determine what treatment is needed to further reduce a constituent downward to or near the PHG or MCLG, which many are set at zero.

Estimating the costs to reduce a constituent to a low PHG level (sometimes to non-detect levels, or zero) is difficult, if not impossible and highly speculative because it is not possible to verify by analytical means. In some cases, installing a treatment facility to further reduce levels of one constituent that already is at a very low level may have adverse effects on other aspects of water quality.

Using the best available technology to reduce a constituent level – including annualized cost to design, install and operate – has been estimated. The cost estimates for each service connection are calculated by assumption that the cost will be equally shared by each of the 20,020 service connections in the water system.

Constituents Detected That Exceed a PHG or MCLG

The following are discussions of constituents that were detected in one or more of the City's drinking water sources at levels above the PHG or MCLG. The table below is a brief summary of those constituents.

Constituent	MCL	DLR	PHG or (MCLG)	Detection Level 2016	Detection Level 2017	Detection Level 2018
Arsenic (ppm)	0.010	0.002	0.000004	0.005	0.005	0.006

Note on measure: parts-per-million (ppm) or milligram per Liter (mg/L)
More information can be found at OEHHA's website at: https://oehha.ca.gov/water/public-health-goals-phgs

Arsenic

Arsenic has been detected from all of our 10 ground water wells. The MCL is 0.010 mg/L (ppm) and the PHG is 0.000004 mg/L (4 parts-per-trillion, ppt). The levels detected in the City's system were below the MCL but above the PHG level.

The PHG is established based on a theoretical 70-year lifetime excess cancer risk of 1×10^{-6} at a statistical confidence limit, which is upper bound estimate of excess cancer risk from lifetime exposure. Actual cancer risk may be lower or zero. Cancer risk is stated in terms of excess cancer per million (or fewer) population, e.g., 1×10^{-6} means 1 excess cancer cases per 1,000,000 people exposed.

Arsenic is a naturally occurring element in the earth's crust and is widely detected in the environment. All humans are exposed to microgram quantities of arsenic largely from food and to a lesser degree from drinking water and air. The PHG of 0.000004 mg/L for arsenic in drinking water is derived based on the mortality of arsenic-induced lung and urinary bladder cancers observed in epidemiological studies of populations in Taiwan, Chile, and Argentina. Similar unit risks were derived from a mouse bioassay using prenatal exposure to arsenic. The risk estimates were based on a low-dose linear extrapolation approach although the mode of carcinogenic action is not fully understood.

In 2010, the City of Lakewood completed the installation of a treatment plant for the removal of arsenic from the water supply at one of the City's production wells. This plant uses coagulation/filtration to treat arsenic to below the MCL. Additional treatment would need to be installed to further reduce the levels. However, it is not possible to remove arsenic levels at or below the PHG of 4 parts per trillion (ppt), because the detection limit for laboratory analysis stands at 2,000 ppt.

The applicable BAT for removing arsenic to the PHG level is the Reverse Osmosis (RO) treatment technology. Using the most recent water supply data and industrial available data for the RO facilities, the Department of Water Resources estimates the annualized capital and O&M costs

at approximately $14 million. The costs include engineering design, construction management and inspection services, and annual operation and maintenance activities. The anticipated cost to each water customer in the City's service area is estimated at $699 per year.

Recommendations for Further Action

The drinking water quality of the City of Lakewood's water system meets all State and Federal drinking water standards set to protect public health. Additional costly treatment processes would be required to further reduce the levels of the constituents identified in this report, which are already below the MCLs established to provide safe drinking water. The effectiveness of the treatment processes to provide further reductions in constituent levels at these already low values is uncertain. The health protection benefits of these further hypothetical reductions are not at all clear and may not be quantifiable. Therefore, no action is proposed.

Attachment A Table of Regulated Constituents with MCLs, PHGs or MCLGs
Attachment B City of Lakewood Annual Water Quality Reports (2016, 2017 and 2018)

MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants

(Units are in milligrams per liter (mg/L), unless otherwise noted.)

Last Update: March 13, 2019

This table includes:

California's maximum contaminant levels (MCLs)

Detection limits for purposes of reporting (DLRs)

Public health goals (PHGs) from the Office of Environmental Health Hazard Assessment (OEHHA)

Also, the PHG for NDMA (which is not yet regulated) is included at the bottom of this table.

For comparison:

Federal MCLs and Maximum Contaminant Level Goals (MCLGs) (US EPA)

Regulated Contaminant	MCL	DLR	PHG	Date of PHG	MCL	MCLG
Chemicals with MCLs in 22 CCR §64431—Inorganic Chemicals						
Aluminum	1	0.05	0.6	2001	--	--
Antimony	0.006	0.006	0.001	2016	0.006	0,006
Arsenic	0.010	0.002	0.000004	2004	0.010	zero
Asbestos (MFL = million fibers per liter; for fibers >10 microns long)	7 MFL	0.2 MFL	7 MFL	2003	7 MFL	7 MFL
Barium	1	0.1	2	2003	2	2
Beryllium	0.004	0.001	0.001	2003	0.004	0.004
Cadmium	0.005	0.001	0.00004	2006	0.005	0.005
Chromium, Total - OEHHA withdrew the 0.0025-mg/L PHG	0.05	0.01	withdrawn Nov. 2001	1999	0.1	0.1
Chromium, Hexavalent - 0.01-mg/L MCL & 0.001-mg/L DLR repealed September 2017	--	--	0.00002	2011	--	--
Cyanide	0.15	0.1	0.15	1997	0.2	0.2
Fluoride	2	0.1	1	1997	4.0	4.0
Mercury (inorganic)	0.002	0.001	0.0012	1999 (rev2005)*	0.002	0.002
Nickel	0.1	0.01	0.012	2001	--	--
Nitrate (as nitrogen, N)	10 as N	0.4	45 as NO3 (=10 as N)	2018	10	10
Nitrite (as N)	1 as N	0.4	1 as N	2018	1	1
Nitrate + Nitrite (as N)	10 as N	--	10 as N	2018	--	--
Perchlorate	0.006	0.004	0.001	2015	--	--
Selenium	0.05	0.005	0.03	2010	0.05	0.05
Thallium	0.002	0.001	0.0001	1999 (rev2004)	0.002	0.0005
Copper and Lead, 22 CCR §64672.3						
Values referred to as MCLs for lead and copper are not actually MCLs; instead, they are called "Action Levels" under the lead and copper rule						
Copper	1.3	0.05	0.3	2008	1.3	1.3
Lead	0.015	0.005	0.0002	2009	0.015	zero
Radionuclides with MCLs in 22 CCR §64441 and §64443—Radioactivity						
[units are picocuries per liter (pCi/L), unless otherwise stated; n/a = not applicable]						
Gross alpha particle activity - OEHHA concluded in 2003 that a PHG was not practical	15	3	none	n/a	15	zero
Gross beta particle activity - OEHHA concluded in 2003 that a PHG was not practical	4 mrem/yr	4	none	n/a	4 mrem/yr	zero
Radium-226	--	1	0.05	2006		
Radium-228	--	1	0.019	2006		
Radium-226 + Radium-228	5	--	--	--	5	zero
Strontium-90	8	2	0.35	2006	--	--
Tritium	20,000	1,000	400	2006	--	--
Uranium	20	1	0.43	2001	30 µg/L	zero

Regulated Contaminant	MCL	DLR	PHG	Date of PHG	MCL	MCLG
Chemicals with MCLs in 22 CCR §64444—Organic Chemicals						
(a) Volatile Organic Chemicals (VOCs)						
Benzene	0.001	0.0005	0.00015	2001	0.005	zero
Carbon tetrachloride	0.0005	0.0005	0.0001	2000	0.005	zero
1,2-Dichlorobenzene	0.6	0.0005	0.6	1997 (rev2009)	0.6	0.6
1,4-Dichlorobenzene (p-DCB)	0.005	0.0005	0.006	1997	0.075	0.075
1,1-Dichloroethane (1,1-DCA)	0.005	0.0005	0.003	2003	--	--
1,2-Dichloroethane (1,2-DCA)	0.0005	0.0005	0.0004	1999 (rev2005)	0.005	zero
1,1-Dichloroethylene (1,1-DCE)	0.006	0.0005	0.01	1999	0.007	0.007
cis-1,2-Dichloroethylene	0.006	0.0005	0.013	2018	0.07	0.07
trans-1,2-Dichloroethylene	0.01	0.0005	0.05	2018	0.1	0.1
Dichloromethane (Methylene chloride)	0.005	0.0005	0.004	2000	0.005	zero
1,2-Dichloropropane	0.005	0.0005	0.0005	1999	0.005	zero
1,3-Dichloropropene	0.0005	0.0005	0.0002	1999 (rev2006)	--	--
Ethylbenzene	0.3	0.0005	0.3	1997	0.7	0.7
Methyl tertiary butyl ether (MTBE)	0.013	0.003	0.013	1999	--	--
Monochlorobenzene	0.07	0.0005	0.07	2014	0.1	0.1
Styrene	0.1	0.0005	0.0005	2010	0.1	0.1
1,1,2,2-Tetrachloroethane	0.001	0.0005	0.0001	2003	0.1	0.1
Tetrachloroethylene (PCE)	0.005	0.0005	0.00006	2001	0.005	zero
Toluene	0.15	0.0005	0.15	1999	1	1
1,2,4-Trichlorobenzene	0.005	0.0005	0.005	1999	0.07	0.07
1,1,1-Trichloroethane (1,1,1-TCA)	0.200	0.0005	1	2006	0.2	0.2
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	0.0005	0.0003	2006	0.005	0.003
Trichloroethylene (TCE)	0.005	0.0005	0.0017	2009	0.005	zero
Trichlorofluoromethane (Freon 11)	0.15	0.005	1.3	2014	--	--
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	1.2	0.01	4	1997 (rev2011)	--	--
Vinyl chloride	0.0005	0.0005	0.00005	2000	0.002	zero
Xylenes	1.750	0.0005	1.8	1997	10	10
(b) Non-Volatile Synthetic Organic Chemicals (SOCs)						
Alachlor	0.002	0.001	0.004	1997	0.002	zero
Atrazine	0.001	0.0005	0.00015	1999	0.003	0.003
Bentazon	0.018	0.002	0.2	1999 (rev2009)	--	--
Benzo(a)pyrene	0.0002	0.0001	0.000007	2010	0.0002	zero
Carbofuran	0.018	0.005	0.0007	2016	0.04	0.04
Chlordane	0.0001	0.0001	0.00003	1997 (rev2006)	0.002	zero
Dalapon	0.2	0.01	0.79	1997 (rev2009)	0.2	0.2
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0.00001	0.0000017	1999	0.0002	zero
2,4-Dichlorophenoxyacetic acid (2,4-D)	0.07	0.01	0.02	2009	0.07	0.07
Di(2-ethylhexyl)adipate	0.4	0.005	0.2	2003	0.4	0.4
Di(2-ethylhexyl)phthalate (DEHP)	0.004	0.003	0.012	1997	0.006	zero
Dinoseb	0.007	0.002	0.014	1997 (rev2010)	0.007	0.007
Diquat	0.02	0.004	0.006	2016	0.02	0.02
Endothal	0.1	0.045	0.094	2014	0.1	0.1
Endrin	0.002	0.0001	0.0003	2016	0.002	0.002
Ethylene dibromide (EDB)	0.00005	0.00002	0.00001	2003	0.00005	zero
Glyphosate	0.7	0.025	0.9	2007	0.7	0.7
Heptachlor	0.00001	0.00001	0.000008	1999	0.0004	zero
Heptachlor epoxide	0.00001	0.00001	0.000006	1999	0.0002	zero
Hexachlorobenzene	0.001	0.0005	0.00003	2003	0.001	zero
Hexachlorocyclopentadiene	0.05	0.001	0.002	2014	0.05	0.05
Lindane	0.0002	0.0002	0.000032	1999 (rev2005)	0.0002	0.0002
Methoxychlor	0.03	0.01	0.00009	2010	0.04	0.04

Regulated Contaminant	MCL	DLR	PHG	Date of PHG	MCL	MCLG
Molinate	0.02	0.002	0.001	2008	--	--
Oxamyl	0.05	0.02	0.026	2009	0.2	0.2
Pentachlorophenol	0.001	0.0002	0.0003	2009	0.001	zero
Picloram	0.5	0.001	0.166	2016	0.5	0.5
Polychlorinated biphenyls (PCBs)	0.0005	0.0005	0.00009	2007	0.0005	zero
Simazine	0.004	0.001	0.004	2001	0.004	0.004
Thiobencarb	0.07	0.001	0.042	2016	--	--
Toxaphene	0.003	0.001	0.00003	2003	0.003	zero
1,2,3-Trichloropropane	0.000005	0.000005	0.0000007	2009	--	--
2,3,7,8-TCDD (dioxin)	$3x10^{-8}$	$5x10^{-9}$	$5x10^{-11}$	2010	$3x10^{-8}$	zero
2,4,5-TP (Silvex)	0.05	0.001	0.003	2014	0.05	0.05
Chemicals with MCLs in 22 CCR §64533—Disinfection Byproducts						
Total Trihalomethanes	0.080	--	--	--	0.080	--
Bromodichloromethane	--	0.0010	0.00006	2018 draft	--	zero
Bromoform	--	0.0010	0.0005	2018 draft	--	zero
Chloroform	--	0.0010	0.0004	2018 draft	--	0.07
Dibromochloromethane	--	0.0010	0.0001	2018 draft	--	0.06
Haloacetic Acids (five) (HAA5)	0.060	--	--	--	0.060	--
Monochloroacetic Acid	--	0.0020	--	--	--	0.07
Dichloroacetic Adic	--	0.0010	--	--	--	zero
Trichloroacetic Acid	--	0.0010	--	--	--	0.02
Monobromoacetic Acid	--	0.0010	--	--	--	--
Dibromoacetic Acid	--	0.0010	--	--	--	--
Bromate	0.010	0.0050**	0.0001	2009	0.01	zero
Chlorite	1.0	0.020	0.05	2009	1	0.8
Chemicals with PHGs established in response to DDW requests. These are not currently regulated drinking water contaminants.						
N-Nitrosodimethylamine (NDMA)	--	--	0.000003	2006	--	--

*OEHHA's review of this chemical during the year indicated (rev20XX) resulted in no change in the PHG.

**The DLR for Bromate is 0.0010 mg/L for analysis performed using EPA Method 317.0 Revision 2.0, 321.8, or 326.0.

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2016

Presented By

City of Lakewood

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

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

PWS ID#: 1910239

We've Come a Long Way

The City of Lakewood is pleased to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Lakewood's staff works hard every day—at any hour—to deliver the highest-quality drinking water. By investing in customer outreach and education, new treatment technologies, system upgrades, and staff training, the City of Lakewood ensures that reliable, high-quality tap water will be delivered to you and your family.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov/healthywater/drinking/) websites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the State Water Board, Division of Drinking Water has a website (http://www.waterboards.ca.gov/drinking_water/programs/) that provides current information on drinking water issues in California.

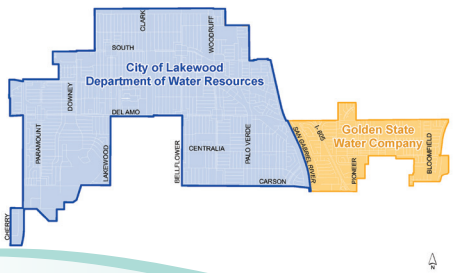
Where Does My Water Come From?

Your tap water comes from local, deep groundwater wells that supply our service area. The City of Lakewood is responsible for providing water services for residents and businesses west of the San Gabriel River. Golden State Water Company (GSWC)—a privately held water utility—serves the area east of the river. For information on Golden State's Water Quality Report, call (800) 999-4033.

Highlights of Lakewood's water system include:

- 100% groundwater, produced from 10 deep groundwater wells.
- Approximately 180 miles of water mains, ranging from 4 to 27 inches in diameter.
- 3 water storage facilities, holding approximately 13 million gallons.
- A 2,500-gallon-per-minute water treatment facility.
- 2 connections to Metropolitan Water District of Southern California, which import supplies through Central Basin Municipal Water District.
- 3 emergency interconnections: with Golden State Water Company, the City of Cerritos, and the City of Long Beach.
- Provision of more than 2 billion gallons of water annually to over 60,400 residential, commercial, and industrial customers via 20,000+ meter connections.
- Recycling of more than 6 percent of the water supply to use for irrigation at 41 sites.

Water Purveyors in Lakewood



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. Additional information on bottled water is available on the California Department of Public Health Web site (http://www.cdph.ca.gov/programs/Pages/fdbBVW.aspx). 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 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.

Community Participation

You are invited to participate in our City Council meetings to voice your concerns about your drinking water. Our council meets the 2nd and 4th Tuesdays of each month beginning at 7:30 p.m. at City Hall, 5050 Clark Avenue, Lakewood. Occasionally because of holidays or other conflicts, the council does not meet on its regular evening. Call city hall staff at 562-866-9771, extension 2140 to find out if the council is meeting on a particular evening.

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 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 or at www.epa.gov/lead.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please contact us at (562) 866-9771, extension 2700.

Protecting Your Water

Bacteria are a natural and important part of our world. There are around 40 trillion bacteria living in each of us; without them helping us with digestion and other key bodily functions, we would not be able to live healthy lives. 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, however, because it indicates that the water may be contaminated with other organisms that can cause disease.

In 2016, the U.S. EPA passed a new regulation called the Revised Total Coliform Rule, which requires additional steps that water systems must take in order to ensure the integrity of the drinking water distribution system by monitoring for the presence of bacteria like total coliform and *E. coli*. The rule requires more stringent standards than the previous regulation, and it requires water systems that may be vulnerable to contamination to have in place procedures that will minimize the incidence of contamination. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment of their system and correct any problems quickly. The U.S. EPA anticipates greater public health protection under the new regulation due to its more preventive approach to identifying and fixing problems that may affect public health.

The City of Lakewood is fortunate to have the highest quality drinking water, but our goal is to eliminate all potential pathways of contamination into our distribution system, and this new rule helps us to accomplish that goal.

Source Water Assessment

Assessments of the City of Lakewood's drinking water sources was completed in 2003 and 2006. These studies examined the potential vulnerability of each well to contaminants that could enter the water supply. Our groundwater supply is considered most vulnerable to the following activities: gas stations and repair shops, historic gas station locations, storage tanks, dry cleaners and National Pollutant Discharge Elimination System/Waste Discharge Requirement permitted discharges. A copy of the complete assessment is available by contacting the State Water Resources Control Board, Division of Drinking Water Office at 500 North Central Avenue, Glendale, CA 91203 or by calling the City of Lakewood Department of Water Resources at (562) 866-9771 ext 2700.

Conservation and Water-Use Efficiency

Lakewood water customers have done an amazing job answering the call to conserve water. As of the end of 2016, water customers were using 19% less water on average than in 2013. Visit us at www.lakewoodcity.org/water for the city's conservation program and water saving tips. For additional questions, please contact the City of Lakewood at (562) 866-9771, extension 2140.

Many resources and tools are available to assist you with conserving water including various water efficient appliances and devices. To view the latest updates on the drought and to learn how to conserve water, you can consult the following websites:

http://www.water.ca.gov/waterconditions

http://socalwatersmart.com/

http://www.h2ouse.org

http://centralbasin.org/en/conservation

Which household activity wastes the most water?

Most people would say the majority of water use comes from showering or washing dishes; however, toilet flushing is by far the largest single use of water in a home (accounting for 40% of total water use). Toilets use about 4 to 6 gallons per flush, so consider an ultra-lowflow (ULF) toilet, which requires only 1.5 gallons or less.

How much emergency water should I keep?

Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can survive only 1 week without water.

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 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.

Test Results

The City of Lakewood's water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents only those substances that were detected. The State of California recommends monitoring 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.

REGULATED SUBSTANCES WITH PRIMARY STANDARDS

SUBSTANCE (UNIT OF MEASURE)	MCL [MRDL]	PHG (MCLG) [MRDLG]	AVERAGE AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	10	0.004	5	3 – 7	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chlorine [as C12] (ppm)	4.0	4	0.6	0.03 – 1.5	No	Drinking water disinfectant added for treatment
Fluoride (ppm)	2.0	1	0.3	0.2 – 0.3	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	15	0	2.4	ND – 6.9	No	Erosion of natural deposits
Haloacetic Acids (ppb)	60	NA	2.5	ND – 9.2	No	By-product of drinking water disinfection
Nitrate [as nitrogen] (ppm)	10	10	0.3	ND – 1.6	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	80	NA	15	5 – 45	No	By-product of drinking water disinfection
Uranium (pCi/L)	20	0.43	1.1	ND – 2.1	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from 31 sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2015	1.3	0.3	0.3	0/31	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2015	15	0.2	2.3	0/31	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

REGULATED SUBSTANCES WITH SECONDARY STANDARDS

SUBSTANCE (UNIT OF MEASURE)	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	500	NS	11	7 – 41	No	Runoff/leaching from natural deposits; seawater influence
Specific Conductance (µS/cm)	1,600	NS	353	300 – 620	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	NS	21	11 – 87	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	1,000	NS	214	180 – 410	No	Runoff/leaching from natural deposits

UNREGULATED AND OTHER SUBSTANCES [1]

SUBSTANCE (UNIT OF MEASURE)	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
1,4 Dioxane (ppb)	2.6	0 – 4.7	Used in many products including paint strippers, dyes, greases, varnishes, and waxes; also found as an impurity in antifreeze and aircraft deicing fluids and in some consumer products (deodorants, shampoos, and cosmetics)
Calcium (ppm)	41	30 – 89	Abundant naturally occurring element
Hardness in grains (grains/gal)	7.1	4.9 – 15.8	Naturally occurring calcium
Hardness (ppm)	122	84 – 270	Naturally occurring calcium
Magnesium (ppm)	7	ND – 40	Abundant naturally occurring element
pH, Laboratory (Units)	8.0	7.8 – 9.0	Hydrogen ion concentration
Potassium (ppm)	2.4	2.0 – 3.6	Runoff or leaching from natural deposits
Sodium (ppm)	31	25 – 38	Erosion of natural deposits

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

Definitions

AL (Regulatory Action Level): The concentration of a contaminant that, 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.

grains/gal (grains per gallon): Grains of compound per gallon of water.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the Public Health Goal's (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 highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the Public Health Goal's (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

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

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).

Presented By
City of Lakewood

ANNUAL WATER QUALITY REPORT

Water Testing Performed in 2017

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

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

PWS ID#: 1910239

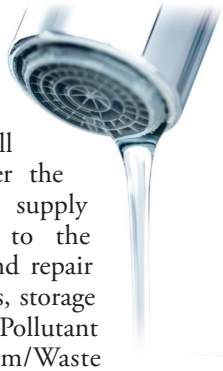
Quality First

Once again, we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all our water users.

> Water treatment is a complex, time-consuming process.

We encourage you to share your thoughts with us on the information contained in this report. For more information about this report, or for any questions relating to your drinking water, please contact us at (562) 866-9771, extension 2700.

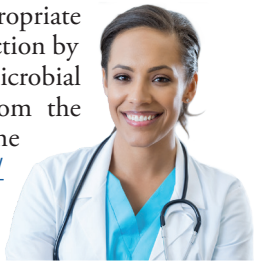
Source Water Assessment



An assessment of the City's drinking water sources was completed in 2003 and 2006. These studies examined the potential vulnerability of each well to contaminants that could enter the water supply. Our ground water supply is considered most vulnerable to the following activities: gas stations and repair shops, historic gas station locations, storage tanks, dry cleaners, and National Pollutant Discharge Elimination System/Waste Discharge Requirement permitted discharges. A copy of the complete assessment is available at the Lakewood City Clerk's Office at 5050 Clark Avenue. You may request a summary of the assessment by contacting the Lakewood Department of Water Resources at (562) 866-9771, extension 2700, during regular office hours.

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.



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 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 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 1-800-426-4791 or at www.epa.gov/lead.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have an understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Community Participation

You are invited to participate in our City Council Meetings to voice your concerns about your drinking water. We meet the 2nd and 4th Tuesdays of each month beginning at 7:30 p.m. at City Hall, 5050 Clark Avenue, Lakewood.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include wells, rivers, lakes, streams, ponds, reservoirs, and springs. 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.

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; and

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.

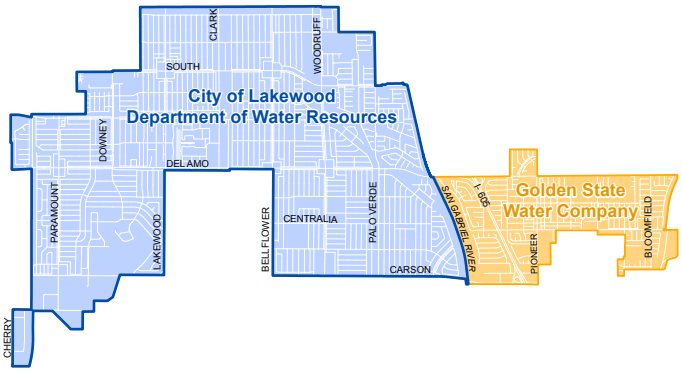
Where Does My Water Come From?

Your tap water comes from local, deep ground water wells that supply our service area. The City of Lakewood is responsible for providing water services for residents and businesses west of the San Gabriel River. Golden State Water Company (GSWC) – an investor-owned water utility – serves the area east of the river. For information on Golden State's Water Quality Report, call (800) 999-4033, or visit https://www.gswater.com.

Highlights of Lakewood's water system include:

- One hundred percent ground water produced from 10 deep ground water wells.
- Approximately 180 miles of water mains ranging from 4 to 27 inches in diameter.
- Three water storage facilities holding approximately 13 million gallons.
- A 2,500 gallon-per-minute water treatment facility.
- A standby connection to Metropolitan Water District of Southern California imported supplies.
- Four emergency interconnections with the City of Long Beach, Golden State Water Company, the City of Cerritos, and the City of Signal Hill.
- Providing more than 2.5 billion gallons of water annually to more than 60,000 residents, commercial, and industrial customers via 20,000+ meter connections.
- More than 6% of water supply is recycled water used for irrigation at 41 sites.

Water Purveyors in Lakewood



Information on the Internet

The U.S. EPA (https://www.epa.gov) and the Centers for Disease Control and Prevention (www.cdc.gov) web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the State Water Resources Control Board has a web site (https://www.waterboards.ca.gov) that provides complete and current information on water issues in California, including valuable information about our watershed.

Tip Top Tap

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 screen as they could be pieces of plastic from the hot water heater dip tube. Faucet gaskets can break down and cause black, oily slime. If you find this slime, replace the faucet 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 filter!)

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 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 showed water use, you have a leak.

Failure in Flint

The national news coverage of water conditions in Flint, Michigan, has created a great deal of confusion and consternation. The water there has been described as being corrosive; images of corroded batteries and warning labels on bottles of acids come to mind. But is corrosive water bad?

Corrosive water can be defined as a condition of water quality that will dissolve metals (iron, lead, copper, etc.) from metallic plumbing at an excessive rate. There are a few contributing factors but, generally speaking, corrosive water has a pH of less than 7; the lower the pH, the more acidic, or corrosive, the water becomes. While all plumbing will be somewhat affected over time by the water it carries, corrosive water will damage plumbing much more rapidly than water with low corrosivity.

By itself, corrosive water is not a health concern; your morning glass of orange juice is considerably more corrosive than the typical lake or river. What is of concern is that exposure in drinking water to elevated levels of the dissolved metals increases adverse health risks.

Public water systems are required to maintain their water at optimal conditions to prevent it from reaching corrosive levels. Rest assured that we routinely monitor our water to make sure that what happened in Flint never happens here.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected in 2017. Remember that detecting a substance does not necessarily 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.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	MCL [MRDL]	PHG (MCLG) [MRDLG]	AVERAGE	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	10	0.004	5	3–8	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chlorine (ppm)	[4.0 (as Cl2)]	[4.0 (as Cl2)]	0.6	0.4–0.8	No	Drinking water disinfectant added for treatment
Fluoride (ppm)	2.0	1	0.3	0.2–0.4	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	60	NA	5.2	ND–8.3	No	By-product of drinking water disinfection
Nitrate [as nitrogen] (ppm)	10	10	0.4	ND–1.9	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Total Trihalomethanes [TTHMs] (ppb)	80	NA	27	20–46	No	By-product of drinking water disinfection

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

SUBSTANCE (UNIT OF MEASURE)	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	1.3	0.3	0.3	0/31	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	15	0.2	2.3	0/31	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	SMCL	PHG (MCLG)	AVERAGE	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	500	NS	21	7–46	No	Runoff/leaching from natural deposits; seawater influence
Specific Conductance (µS/cm)	1,600	NS	445	300–670	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	NS	41	12–90	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	1,000	NS	269	180–440	No	Runoff/leaching from natural deposits

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	AVERAGE	RANGE LOW-HIGH	TYPICAL SOURCE
Calcium (ppm)	51	18–82	Abundant naturally occurring element
Hardness in Grains (grains/gal)	9.3	2.9–15	Naturally occurring calcium
Hardness (ppm)	159	50–256	Naturally occurring calcium
Magnesium (ppm)	8	1–14	Abundant naturally occurring element
pH, Laboratory (Units)	8.1	7.9–8.4	Hydrogen ion concentration
Potassium (ppm)	2.7	1.3–3.7	Runoff or leaching from natural deposits
Sodium (ppm)	31	24–49	Erosion of natural deposits

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.

grains/gal (grains per gallon): Grains of compound per gallon of water.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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

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).

ANNUAL WATER QUALITY REPORT

Water Testing Performed in 2018

Presented By

City of Lakewood

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

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

PWS ID#: 1910239

Our Mission Continues

At the City of Lakewood, we are once again pleased to present our annual water quality report covering all testing performed in 2018. 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 and services to you. As new challenges to drinking water 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.

Information on the Internet

The U.S. EPA (https://www.epa.gov) and the Centers for Disease Control and Prevention (www.cdc.gov) websites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the Division of Drinking Water has a website (https://www.waterboards.ca.gov) that provides complete and current information on water issues in California, including valuable information about our watershed.

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 Information Helpline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

New Smart Meters

In 2018 the City of Lakewood completed the upgrade of all our customer water meters to smart meters. The smart meters were purchased with funds from the water system's ongoing capital improvement budget, which makes upgrades to the Lakewood water system every year. Upgrades include new wells, pumps, and water mains. The city strives to operate and maintain its water system in an efficient and cost-effective way.

The smart meters provide benefits to all customers and help everyone to use water more wisely. Features include:

Leak Detection. You are now able to receive a text or email alert if we detect usage that may indicate you have a leak.

Control Your Water Usage. Using the customer portal, you can set a custom water consumption threshold and receive an alert via text or email when the system projects your current usage will exceed your configured threshold setting.

Efficiency Benchmarking. Find out how your water usage compares to similar accounts using highly customizable benchmarks for both residential and commercial accounts.

For questions, call customer service at (855) 785-4021 or visit www.lakewoodcity.org/UtilityBill to view your account online.

Table Talk

Get the most out of the Testing Results data table with this simple suggestion. In less than a minute, you will know all there is to know about your water:

> For each substance listed, compare the value in the Average Amount Detected column against the value in the MCL (or AL, SMCL) column. If the Average Amount Detected value is smaller, your water meets the health and safety standards set for the substance.

Other Table Information Worth Noting

Verify that there were no violations of the state and/or federal standards in the Violation column. If there was a violation, you will see a detailed description of the event in this report.

If there is an ND or a less-than symbol (<), that means that the substance was not detected (i.e., below the detectable limits).

If there is sufficient evidence to indicate from where the substance originates, it will be listed under Typical Source.

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.

> We remain vigilant in delivering the best-quality drinking water

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 Information Helpline at (800) 426-4791.

Source Water Assessment

Assessments of the city's drinking water sources were completed in 2003 and 2006. These studies examined the potential vulnerability of each well to contaminants that could enter the water supply. Our groundwater supply is considered most vulnerable to the following activities: gas stations and repair shops, historic gas station locations, storage tanks, dry cleaners, and National Pollutant Discharge Elimination System/Waste Discharge Requirement permitted discharges. A copy of the complete assessment is available at the Lakewood City Clerk's Office at 5050 Clark Avenue. You may request a summary of the assessment by contacting the Lakewood Department of Water Resources at (562) 866-9771, extension 2700, during regular office hours.

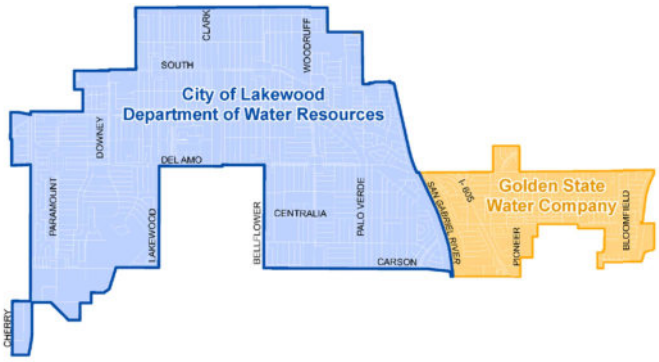
Community Participation

You are invited to participate in our City Council meetings to voice your concerns about your drinking water. We meet the second and fourth Tuesday of each month at 7:30 p.m. in the City Council Chambers at 5000 Clark Avenue, Lakewood.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please contact the Water Administration Manager at (562) 866-9771, extension 2700.

Water Purveyors in Lakewood



Where Does My Water Come From?

Your tap water comes from local, deep groundwater wells that supply our service area. The City of Lakewood is responsible for providing water services for residents and businesses west of the San Gabriel River. Golden State Water Company (GSWC), an investor-owned water utility, serves the area east of the river. For information on GSWC's water quality report, call (800) 999-4033.

Highlights of Lakewood's water system include:

- 100 percent groundwater produced from 10 deep groundwater wells
- Approximately 180 miles of water mains ranging from 4 to 27 inches in diameter
- Three water storage facilities holding approximately 13 million gallons
- A 2,500-gallon-per-minute water treatment facility
- A standby connection to Metropolitan Water District of Southern California imported supplies
- Four emergency interconnections with the City of Long Beach, GSWC, the City of Cerritos, and the City of Signal Hill
- More than 2.4 billion gallons of water provided annually to over 60,000 residents and commercial and institutional customers via more than 20,000 meter connections
- More than 6 percent of water supply is recycled water and used for irrigation at 41 sites.

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. The City of Lakewood is 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 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 Information Helpline at (800) 426-4791 or at www.epa.gov/safewater/lead.

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. 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.

REGULATED SUBSTANCE WITH PRIMARY STANDARDS

SUBSTANCE (UNIT OF MEASURE)	MCL [MRDL]	PHG (MCLG) [MRDLG]	AVERAGE AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic[1] (ppb)	10	0.004	6	3 – 8	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chlorine (ppm)	[4.0 (as Cl2)]	[4 (as Cl2)]	0.6	0.5 – 0.8	No	Drinking water disinfectant added for treatment
Fluoride (ppm)	2.0	1	0.3	0.2 – 0.4	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids (ppb)	60	NA	7.0	4.1 – 11	No	By-product of drinking water disinfection
Nitrate [as nitrogen] (ppm)	10	10	0.4	ND – 1.9	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	80	NA	27	15 – 46	No	By-product of drinking water disinfection

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

SUBSTANCE (UNIT OF MEASURE)	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper[2] (ppm)	1.3	0.3	0.2	0/30	No	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead[2] (ppb)	15	0.2	ND	0/30	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

REGULATED SUBSTANCES WITH SECONDARY STANDARDS

SUBSTANCE (UNIT OF MEASURE)	SMCL	PHG (MCLG)	AVERAGE AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	500	NS	20	7 – 46	No	Runoff/leaching from natural deposits; seawater influence
Specific Conductance (µS/cm)	1,600	NS	445	300 – 670	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	NS	38	12 – 90	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	1,000	NS	270	180 – 440	No	Runoff/leaching from natural deposits

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	AVERAGE AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Calcium (ppm)	51	18 – 82	Abundant naturally occurring element
Hardness in Grains (grains/gal)	9.3	2.9 – 15	Naturally occurring calcium
Hardness (ppm)	158	50 – 256	Naturally occurring calcium
Magnesium (ppm)	7	1 – 14	Abundant naturally occurring element
pH, Laboratory (Units)	8.1	7.9 – 8.4	Hydrogen ion concentration
Potassium (ppm)	2.7	1.3 – 3.7	Runoff or leaching from natural deposits
Sodium (ppm)	31	24 – 49	Naturally occurring

[1] 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 US Environmental Protection Agency 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.

[2] On December 5, 2018, the State Water Resources Control Board issued a Notice of Violation for late reporting of testing results. During July 2018, we collected 30 lead and copper samples and the samples were tested in a timely manner by the contracting lab. However, the lab encountered some difficulty reporting the testing results to the new state electronic database, which caused the test data to be reported after the October 10, 2018 deadline. All testing results are in compliance with the lead and copper standards.

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.

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

grains/gal (grains per gallon): Grains of compound per gallon of water.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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

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).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.