

YOUR DRINKING WATER REPORT



ANNUAL WATER QUALITY REPORT FOR 2013

ADDITIONAL INFORMATION ABOUT THIS REPORT:

- ◆ Keeping you, the Citizens of Lodi, informed about your drinking water. This Report can also be found on the City's web site at www.lodi.gov, go to: City Departments; Public Works; Water; 2013 Water Quality Report.
- ◆ This report follows the "Consumer Confidence Report" (CCR) format required by the U.S. Environmental Protection Agency and the State of California.
- ◆ Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien. Para la ayuda en español, llama por favor (209) 333-6740.

FOR MORE INFORMATION

If you have any questions about this report or Lodi's water quality, please contact:

Andrew Richle
Chief Plant Operator
2001 W. Turner Road,
Lodi, CA 95242
Telephone: (209) 333-6878
E-mail: arichle@lodi.gov

YOUR DRINKING WATER SYSTEM

Twenty-seven computer controlled wells, located throughout the City, provide high quality groundwater in 2013. The wells operate automatically on water pressure demand so that when water use increases, more wells are started. To keep up with peak water supply demands. Lodi has contracted to use some surface water from the Mokelumne River and has constructed a surface water treatment plant which began producing water in November 2012. More information on water supply is on the City's web site.

Seven wells are fitted with emergency diesel-powered generators. (While these generators will help maintain water pressure during power outages, please refrain from using water during power outages to save capacity for essential uses, - hospitals, fire fighting, etc.)

The water delivered to your tap meets or is better than all federal and state water quality standards.

WATER QUALITY

Lodi is fortunate in having a high quality groundwater supply. However, that supply is at risk and must be carefully managed. The following section describes some of these measures.

PCE/TCE

The City, working with regulatory agencies and potentially responsible parties in a cooperative manner, is pursuing a resolution to a groundwater contamination problem in the north and central Lodi area. While no operating wells are out of compliance with any drinking water standards, the

contamination is a serious threat.

PCE (Tetrachloroethylene) and TCE (Trichloroethylene) have been detected in samples taken in soils and groundwater. The City's consultants have developed a computer model of the groundwater, which will enable the City to optimize the number, size and location of wells to accomplish the cleanup in an efficient manner. The City's share of these costs has largely been determined and a series of rate adjustments has been adopted. More information on this can be found on the City's website.

BACTERIOLOGICAL QUALITY, CHLORINATION

Lodi takes over 20 samples per week from throughout Lodi's water distribution system for bacterial water quality. Regulations allow for 5% of all total coliform samples in a month to be positive. In 2013 all bacteriological standards were met.

The water receives low level chlorination as a proactive step to help keep the water system in compliance with strict bacteriological standards.

DBCP

Dibromochloropropane (DBCP)

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WHO ARE WE?

In 1910 your City of Lodi Water Utility officially began operation along with the Electric Utility, and for more than 100 years, the water system has been owned by the Citizens of Lodi.

One hundred years ago there were only two wells and a few miles of water mains. In 2013 there were twenty-seven wells, over 220 miles of mains, a water tower, a 1-million-gallon

storage tank and 10-Million Gallon a Day Water Plant with 3-million gallon storage. Lodi delivers water to approximately 25,000 residential, commercial and industrial customers.

Water rates, system expansion projects, and significant purchases are authorized by the Lodi City Council, which serves as the water utility's official regulatory body.

Lodi City Council meetings are open to the public and are scheduled for the first and third Wednesdays of each month at 305 West Pine Street in Lodi at 7:00 p.m.

You may also communicate with the Council and City staff through the City's web site: www.lodi.gov

Regulated Inorganic Chemicals* 2010-2013 Data	MCL	Average	Range of Individual Detections	PHG or (MCLG)	Major sources in Drinking water
Aluminum, ppm	1	0.01	0.04-ND	0.6	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic, ppb	10.0	4.1	9.9-ND	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes.
Barium, ppm	1.0	0.1	0.18-0.02	2	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits.
Chromium, ppb	50	2.8	5.1-ND	100	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits.
Cyanide, ppb	150	0.6	9.6-ND	150	Discharge from steel/metal, plastic and fertilizer factories.
Fluoride, ppm	2.0	<0.1	0.2-ND	1	Erosion of natural deposits; wa-ter additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Nickel, ppb	100	<1.0	1.4-ND	12	
Nitrate as NO ₃ , ppm	45	11.5	24.3-ND	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

Bacterial Water Quality Coliform Bacteria 2013 Data	MCL	Total Positive	Monthly High-Low Range	PHG or (MCLG)	Major sources in Drinking water
Total Coliform, Positive	5%/month	0%	0%	(0)	Naturally present in the environment
Fecal Coliform & E. coli	>1 /month	0	0	(0)	Human and animal fecal waste

Radioactivity, pico Curies per Liter, 2005-13 Data	MCL	Average	Range of Individual Detections	PHG or (MCLG)	Major Sources in Drinking water
Gross Alpha, pCi/L	15	3.25	11.8 - 0.02	(0)	Erosion of natural deposits
Radium 228	2	0.14	0.46-ND	0.019	Erosion of natural deposits
Uranium, pCi/L	20	2.55	10.2-ND	0.43	Erosion of natural deposits

ORGANIC CHEMICALS WITH AT LEAST ONE CONFIRMED DETECTION

Regulated Organic Chemicals 2013 Data	MCL	Average	Range of Individual Detections	PHG Or (MCLG)	Major sources in Drinking water
Diquat, ppb	20	<4.0	5.7-ND	15	Runoff from herbicide use for terrestrial and aquatic weeds
Tetrachloroethylene (PCE), ppb	5	<0.5	2.1** - ND	0.06	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
1,1-Dichloroethylene (1,1-DCE), ppb	6	<0.5	0.2**-ND	10	Discharge from industrial chemical factories. Local contamination from businesses using the chemical.
Trichloroethylene (TCE), ppb	5	<0.5	2.0**-ND	1.7	Discharge from metal degreasing sites and other factories. Local ground contamination from businesses using the chemical. Breakdown product of Tetrachloroethylene (PCE).
Dibromochloro-propane (DBCP), ppt	200	20	150**-ND	1.7	Banned nematocide that may still be present in soils due to runoff/leaching from former use on vineyards.

Disinfection Byproducts, Disinfection Residuals, and disinfection Byproduct Precursors

Regulated Contaminant	MCL	Average	Range of Individual	PHG Or (MCLG)	Major sources in Drinking water
Chlorine, ppm	4	0.5	1.1-ND	4	Drinking water disinfectant added for treatment.
Control of DBP precursors (TOC), ppm	TT	1.4	2.0-1.1	N/A	Various natural and manmade sources.
TTHM (Total Trihalomethanes),	80	5.8	27-ND	N/A	Byproduct of drinking water disinfection.
HAA5 (Haloacetic Acids), ppb	60	7.1	25-ND	N/A	Byproduct of drinking water disinfection.

Secondary Standards Aesthetic Purposes (see note) *2009-2013 Data	Secondary MCL	Average	Range of Individual Detections	Other non-regulated water constituents found in your water (for your information only)		
Chloride, mg/L	500	12.5	42-2.3	Non-regulated water constituents, *2008-13 Data		
Color-Units	15	<1.0	5-ND	Total Hardness, ppm as CaCO3	116	250-16
Specific Conductance, umhos/cm	1600	312	630-48	Total Hardness, grains/gal.	6.8	14.6-0.9
Odor---Threshold, Units	3	<1.0	1-ND	Calcium, mg/L	25.9	59-4.2
Secondary Standards Aesthetic Purposes (see note) *2010-2013 Data	Secondary MCL	Average	Range of Individual Detections	Sodium, mg/L	21.3	61-2.1
Sulfate, mg/L	500	14	34-1.2	Potassium, mg/L	5.7	10-0.8
Total Dissolved Solids, mg/L	1000	236	420-24	Alkalinity (bicarbonate), mg/L	157	280-22
Turbidity, NTU Units	5	0.12	0.56-0.07	pH, in pH units	7.6	8.1-6.6
				Magnesium, mg/L	12.7	25-1.3

* Regulations call for monitoring of some constituents less than once per year because the concentrations of these constituents do not change frequently. Therefore, some of our data, though representative, are more than one year old.
 ** Averages are used for compliance determination due to the variable nature of individual analyses, and due the fact that any associated theoretical risks are not acute, but theoretically only after years of exposure to levels above MCLs

Lead & Copper Rule Customer Tap Monitoring 2013 Data	AL (Action Level)	Average 90th Percentile	Range of Individual Detections	# Samples Exceeding AL (of 91 samples from 91 sites)	PHG or (MCLG)	Major sources in Drinking Water
Lead, 90th %, ug/L	15	2.5	9.5-.03	0	0.2	Internal erosion of household plumbing
Copper, 90th %, mg/L	1.3	0.4	0.83-0.01	0	0.3	systems; erosion of natural deposits

Sampling results showing treatment of surface water sources

Treatment Technique (TT)	Turbidity of the filtered water must:
Membrane Filtration (Micro-filtration)	1. Be less than or equal to <u>0.10</u> NTU in 95% of measurements in a month.
*Turbidity Performance Standards (That must be meet through the treatment process)	2. Not exceed <u>0.5</u> NTU at any time.
The lowest percent of samples that met Turbidity Performance No. 1 was <u>100%</u> . Highest single turbidity measurement 2013 was 0.08 NTU.	
* Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of the water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.	

WATER REPORT

was used by area farmers to kill nematodes in vineyards. DBCP was banned in California in 1977, but is still present in trace levels in some groundwater. The City of Lodi used 25 (of 27) wells to provide drinking water in 2013. The wells are rotated so over the course of time, water being delivered is a blend from these wells. Thirteen of Lodi's wells had no detectable DBCP. Six wells have filters to remove DBCP. A seventh well had GAC treatment added in 2013. All wells used in 2013 meet State and Federal standards. The result is that the people of Lodi are being served water below the DBCP level deemed safe by the U.S. EPA and the State of California.

In 1996 the City settled a lawsuit against DBCP manufacturers, who have already paid the City for a large portion of Lodi's costs related to DBCP treatment. These manufacturers will continue to pay a large portion of the City's DBCP related costs for the settlement's 40-year term.

CRYPTOSPORIDIUM

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection.

Symptoms of infection include nausea, diar-

rhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people, infants and small children, and the elderly are at greater risk of developing life threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. The City uses low level chlorination as a disinfectant to help meet compliance with strict bacteriological standards.

DRINKING WATER SOURCE ASSESSMENT

An assessment of the drinking water sources for the City of Lodi's water system was completed in February 2003 and water plant in August 2011. The sources are considered most vulnerable to the following activities: gas stations (current and historic), chemical/petroleum processing/storage, metal plating/ finishing/fabricating, plastic/synthetics producers, dry cleaners, known contaminant plumes, sewer collection systems, fleet/truck/bus terminals, machine shops, utility stations-maintenance areas, agricultural drainage, and photo processing/printing.

A copy of the completed assessment is available at the Public Works Department, City of Lodi, 1331 South Ham Lane, Lodi, CA 95242. You may request that a copy be sent to you by contacting Andrew Richle at (209) 333-6878. A copy of the complete assessment is also available at the Department of Health Services, Drinking Water Field Operations Branch, Stockton District Office at (209) 948-7696

WATER QUALITY PROBLEMS?

Many times, water quality problems in the home can be traced to the hot water heater, the plastic water lines under the sink to faucets, or because sewer gases from the drain are being smelled.

- Set the hot water heater at the proper temperature, too hot can create heavier scaling problems, and not warm enough can allow bacteria to grow.
- Other times there can be occasional water quality problems associated with the aesthetic quality of your water such as sand, which may be originating from water supply mains.
- "Hard" water can be considered a quality issue depending on the actual hardness level and the use. Some industrial processes require very soft water. Lodi's groundwater is at the low end of the "hard" water range and you may see white scale or spots on plumbing fixtures.
- If you have a filter or in-home treatment system; be sure it's working properly and change filters regularly.
(Note, if you use a water softener, we suggest you utilize one which is regenerated by the softener company. Self-regenerating units add salt to the wastewater, which can add significantly to the City's wastewater treatment costs.)
- Low pressure can lead to water quality problems and can be caused by plugged screens in faucets or washing machine hoses, broken valves or for other reasons. If you have intermittent problems, first check pressure in other parts of your house or at an outside faucet. If that pressure is okay, check the fixture/screens at the problem area. If the problem is throughout the whole house, call the City for assistance.

If you ever experience trouble with your water, and you do not think it is a problem with your on-site plumbing, please call the Water/Wastewater Division at (209) 368-5735 or (209) 333-6740.

WATER CONSERVATION

WATER CONSERVATION

The City of Lodi is offering rebates on the purchase and installation of water conserving devices at residential and commercial water customer premises within the City of Lodi.



In addition to our existing rebates, beginning November 2013, rebates of up to \$100 are available for WaterSense® certified 1.28 gpf high efficiency toilets (HET) and replacement of irrigation timers (50% of cost, up to \$100). Rebates must be submitted within 120 days of purchase.

The program is funded by the Water and Wastewater Utilities. Please contact the Water Conservation Program at (209) 333-6829 for information and additional requirements of the rebate program.

In 2013, 5.2 billion gallons of water were pumped to meet Lodi's water demands. This is 27% less water use per person than in 1986. As population in Lodi and California increases, water conservation becomes an important part of meeting demands for fresh water.

The commitment of the citizens of Lodi to conserving water also helps conserve the

electrical energy needed to pump the water to homes and businesses. To further conserve water, electrical energy, and wastewater treatment plant capacity, the City has instituted a rebate program for water saving devices such as low-flow toilets.

Your diligent water conservation practices, as in the past, are needed in 2014. Your water conservation efforts

have also averted millions of dollars in capital costs, helping rates stay low.

See the summary of the Lodi Water Conservation Ordinance at www.lodi.gov – go to: City Departments, Public Works, Water, Water Conservation. For information or to report a water waste, call the Water Conservation office at (209) 333-6829.

TERMS AND ABBREVIATIONS USED

Maximum Contaminant Level (MCL):

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 are set to protect the odor, taste, and appearance of drinking water.

Public Health Goal (PHG): 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 Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): 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. Environmental Protection Agency.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water

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

Notification Level (NL): Health-based advisory levels established by DHS for chemicals in drinking water that lack maximum contaminant levels (MCLs).

Primary Drinking Water Standard or PDWS: MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): 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.

mg/L or ppm: Milligrams per liter, or parts per million (one ppm equals a concentration of about one cup in a 60,000 gallon swimming pool).

ug/L or ppb: Micrograms per liter, or parts per billion (one ppb equals about 4.5 drops in a 60,000 gallon swimming pool).

ppt: Parts per trillion (one ppt equals less than 1/200 of a drop in a 60,000 gallon swimming pool).

pCi/L: Picocuries per liter (a measurement of radiation).

NA: Not Applicable.

ND: Not Detected at measurable amounts for reporting purposes.

Grains/gal: Grains per gallon. A hardness measurement often used for softeners and dishwashers. (17.1 mg/L = 1 grain/gal as calcium carbonate).

umhos/cm: Micromhos per centimeter (a measurement of conductance).

< Means less than the amount shown.

> Means more than the amount shown.

THINGS YOU SHOULD KNOW ABOUT DRINKING WATER

THE FOLLOWING MESSAGES ARE REQUIRED BY THE U.S. EPA AND THE STATE OF CALIFORNIA. NOT ALL PORTIONS OF THESE MESSAGES NECESSARILY APPLY TO LODI'S WATER SUPPLY

• 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. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (1-800-426-4791).

• Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

• 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.

• Contaminants that may be present in source water include:

• Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plant, septic systems, agricultural livestock operations, and wildlife.

• Inorganic contaminants, such as salts and metals, that can be naturally-occurring or 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

• Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

• In order to ensure that tap water is safe to drink, US Environmental Protection Agency (USEPA) and the State California Department of Health Services (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.

• 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 Lodi is 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 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 <http://www.epa.gov/safewater/lead>.

RADON is a naturally occurring radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air-containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program (1-800-745-7236), the EPA Safe Drinking Water Act Hotline (1-800-426-4791), or the National Safe Council Radon Hotline (1-800-SOS-RADON).

ARSENIC: 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. 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.

NITRATE: The following message is required for systems that have some sources containing Nitrate below the standard of 45 ppm (as NO₃), but over half (23 ppm) of the standard. The average of Lodi's water is 8.1 ppm and the highest analysis is 23 ppm.

Nitrate in drinking water at levels above 45 mg/L 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 mg/L 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.

See a water emergency?

Phone (209) 368-5735