

City of Lodi

ANNUAL WATER QUALITY REPORT FOR 2016



Special points of interest:

- This Report can also be found on the City's website at www.lodi.gov, go to: City Departments; Public Works; Water; 2016 Water Quality Report.
- 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) 333-6706
- This report follows the "Consumer Confidence Report" (CCR) format required by the U.S. Environmental Protection Agency and the State of California.

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

You may also communicate with the Council and City staff through the City's website:

www.lodi.gov

Your Drinking Water System

In 2016, the Lodi surface water treatment plant provided approximately 45 percent of Lodi's drinking water. Twenty-eight computer controlled wells, located throughout the City, provided high quality groundwater. The wells operate automatically on water pressure demand so that when water use increases, more wells are started. Additionally, seven wells are equipped with Granular Activated Carbon (GAC) filtration

units to ensure high quality water. More information on water supply is on the City's website.

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, - such as hospitals, fire fighting, etc.)

How Safe is My Water?

Lodi takes over 20 samples per week from throughout Lodi's water distribution system for bacterial water quality testing. In 2016, 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.

DRINKING WATER ASSESSMENT

An assessment of the drinking water sources for the City of Lodi's distribution system was completed in February 2003 and water

treatment 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

THE WATER DELIVERED TO YOUR TAP MEETS OR EXCEEDS ALL FEDERAL AND STATE REGULATIONS

Public Works Department, City of Lodi, 2001 W Turner Road, Lodi, CA 95242. You may request that a copy be sent to you by contacting the Water Plant Superintendent at (209) 333-6878. A copy of the complete assessment is also available at the State Water Resource Control Board, Division of Water Resources, Stockton District Office at (209) 948-7696

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 2016 there were twenty-eight wells, over 220 miles of mains, a water tower, a 1-million-gallon storage tank and 10-Million Gallon a Day Water Treatment Plant with 3-million gallon storage.

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.

Revised Total Coliform Rule

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems are required to comply with the state Total Coliform Rule. As of April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The U.S. EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.

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.

DBCP

Dibromochloropropane (DBCP) 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 27 (of 28) wells to provide drinking water in 2016. The wells are rotated so over the course of time, water being delivered is a blend from these wells. Thirteen of Lodi's wells have no detectable DBCP. Seven wells have filters to remove DBCP. All wells used in 2016 met 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, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life threatening illness. We encourage immuno-compromised 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.

PCE/TCE

The City, working with regulatory agencies and potentially responsible parties in a cooperative manner, is pursuing a resolution to a groundwater contamination

IF YOU ARE EXPERIENCING TROUBLE WITH YOUR WATER AND YOU DO NOT THINK IT IS A PROBLEM WITH YOUR ON-SITE PLUMBING, PLEASE CALL THE MUNICIPAL UTILITIES SERVICES AT (209) 368-5735 OR (209) 333-6740 DURING NORMAL BUSINESS HOURS.

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 funding secured through insurance company settlements has been set aside to pay for this work. More information on this can be found on the City's website.

Other Contaminants

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 10 ppm (as N), but over half (5 ppm) of the standard. The average of Lodi's water is 2 ppm and the highest analysis is 8 ppm.

Nitrate in drinking water at levels above 7.8 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 10 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.

Inorganic Contaminant *2014-2016 Data	MCL	PHG Or (MCLG)	Average	Range	Violation	Major sources in Drinking water		
Aluminum, ppm	1	0.6	0.07	0.4-ND	No	Erosion of natural deposits; residue from some surface water treatment processes		
Arsenic, ppb	10	0.004	3.9	8.9-ND	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes.		
Barium, ppm	1	2	0.1	0.2-ND	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits.		
Chromium, ppb	50	100	2.5	11.0-ND	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits.		
Hexavalent Chromium, ppb	10	0.02	1.9	5.1-ND	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits		
Fluoride, ppm	2	1	0.02	0.2-ND	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.		
Mercury, ppb	2	1.2	0.01	0.2-ND	No	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland		
Nickel, ppb	100	12	0.4	6.1-ND	No	Erosion of natural deposits; discharge from metal factories.		
Nitrate as N, ppm	10	10	2	7.8-ND	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits		
Bacteriological Contaminant 2016 Data	MCL	PHG Or (MCLG)	Total Positive	Range	Violation	Major sources in Drinking water		
Total Coliform, Positive	5%/month	0	1.2%/June	N/A	No	Naturally present in the environment		
Fecal Coliform & E. coli	>1 /month	0	0%	N/A	No	Human and animal fecal waste		
Radiological Contaminant 2016 Data	MCL	PHG Or (MCLG)	Average	Range	Violation	Major sources in Drinking water		
Gross Alpha, pCi/L	15	0	2.2	9.3-ND	No	Erosion of natural deposits		
Uranium, pCi/L	20	0.43	2.1	10.0-ND	No	Erosion of natural deposits		
Organic Contaminant 2016 Data	MCL	PHG Or (MCLG)	Average	Range	Violation	Major sources in Drinking water		
Tetrachloroethylene (PCE), ppb	5	0.06	0.12	2.2-ND	No	Discharge from factories, dry cleaners, and auto shops (metal degreaser)		
Dibromochloro-propane (DBCP), ppt	200	1.7	19	190-ND	No	Banned nematocide that may still be present in soils due to runoff/leaching from former use on vineyards.		
Secondary Standards Aesthetic Purposes (see note) *2014-2016 Data		Secondary MCL	Average	Range	Secondary Standards Aesthetic Purposes (see note) *2014-2016 Data			
Chloride, ppm		500	11.6	38.0-ND	Sulfate, ppm	500	13.1	31.0-ND
Color-Units		15	0.4	5.0-ND	Total Dissolved Solids, ppm	1000	251	500-71
Specific Conductance, umhos/cm		1600	341	710-83	Turbidity, NTU Units	5	0.4	3.5-ND
Iron, ppb		300	55	290-ND	Foaming Agents (MBAS), ppm	0.5	<0.1	<0.1-ND
Copper, ppm		1	<0.1	<0.1-ND	Manganese, ppb	50	2.7	23.0-ND
Odor---Threshold, Units		3	1.3	3.0-1.0				
<i>Note: Secondary Standards are aesthetic and only associated with taste, color, and other problems which are not a health risk.</i>								
Lead & Copper Rule Customer Tap Monitoring 2015 Data	MCL	PHG Or (MCLG)	Average	Range	Violation	Major sources in Drinking water		
Lead, 90th %, ppb	AL = 15.0	0.2	1	38 sites sampled: 0 sites over action level.	No	Internal erosion of household plumbing systems; erosion of natural deposits		
Copper, 90th %, ppm	AL = 1.3	0.3	0.3	38 sites sampled: 0 sites over action level.	No			

Other non-regulated water constituents found in your water (for your information only)

Constituents, *2014-16 Data	Average	Range	Constituents, *2014-16 Data	Average	Range
Total Hardness, ppm as CaCO3	120	330-17	Alkalinity (bicarbonate), ppm	159	310-39
Total Hardness, grains/gal.	7.0	19.3-1.0	pH, in pH units	7.8	8.5-7.3
Calcium, ppm	26.3	64.0-4.9	Magnesium, ppm	12.4	27.0-1.5
Sodium, ppm	19	46-4			

* 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.

Disinfection Byproducts, Disinfection Residuals, and Disinfection Byproduct Precursors

Regulated Contaminant 2016 Data	MCL	PHG Or (MCLG)	Average	Range	Violation	Major sources in Drinking water
Chlorine, ppm	4	4	0.7	1.3-0.1	No	Drinking water disinfectant added for treatment.
Control of DBP precursors (TOC), ppm	TT	N/A	1.8	2.8-1.4	No	Various natural and manmade sources.
TTHM (Total Trihalomethanes), ppb	80	N/A	20.9	37.0-ND	No	Byproduct of drinking water disinfection.
HAA5 (Haloacetic Acids), ppb	60	N/A	12.8	20.0-ND	No	Byproduct of drinking water disinfection.

Sampling Results Showing Treatment of Surface Water Sources

Contaminant	MCL	PHG	Level Found	Range	Sample Date	Violation	Typical Source
Turbidity	TT = 0.5 NTU	N/A	0.04	N/A	2016	No	Soil runoff
	TT = 95% of samples ≤ 0.1 NTU		100%	N/A			

Unregulated Contaminants Monitoring Rule¹

UCMR3 Monitoring Data	DLR	Average	Range	Year Sampled	Major sources in Drinking water
1,2,3-Trichloropropane ² , ppb	0.005	<0.005	0.047-ND	2016	Cleaning and degreasing solvent and also is associated with pesticide products
Molybdenum, ppb	N/A	<1.0	2.7-<1.0	2013	Naturally-occurring element found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide used as a chemical reagent
Strontium, ppb	N/A	337	980-40	2013	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Vanadium, ppb	50	24	45-0.6	2013	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
Chlorate, ppb	800	147	300-39	2013	By-product of disinfection process; Agricultural defoliant or desiccant; Used in production of chlorine dioxide

(1) Once every five years, the U.S. Environmental Protection Agency (EPA) issues a list of unregulated contaminants to be monitored by public water systems. The UCMR provides the EPA and other interested parties with scientifically valid data on the occurrence of certain contaminants in drinking water.

An MCL for these contaminants listed above does not exist. The UCMR program examines what is in the drinking water, but additional health information is needed to know whether these contaminants pose a health risk. Further information on UCMR3 can be found at <https://www.epa.gov/dwucmr/fact-sheets-about-third-unregulated-contaminant-monitoring-rule-ucmr-3>, or contact the Safe Drinking Water Hotline (1-800-426-4791).

(2) The notification level (NL) for 1,2,3-TCP is 0.005 ppb. During unregulated contaminant follow-up monitoring this chemical was detected in some of the City's wells at levels which exceed the notification level. Some people who use water containing 1,2,3-TCP in excess of the notification level over many years may have an increased risk of getting cancer, based on studies in laboratory animals. Currently, 1,2,3-TCP does not have a Federal or California MCL.

What Contaminants May Be in My 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.

Are we still in Drought?

Conservation measures resulted in Lodi residents using 25 percent less water in 2015 than in 2013, allowing for a relaxing of mandatory cutbacks in 2016. In response to Governor Brown's April 7 order lifting the drought emergency, Lodi Public Works Director removed the Stage 2 water alert as of Monday, April 24, 2017.

Water restrictions will be limited to only those identified in the City's Water Conservation Ordinance including the watering days and times noted below:

Watering Days:

- Premises having odd numbered street addresses on Wednesday, Friday, and Sunday.
- Premises having even numbered street addresses on Tuesday, Thursday, and Saturday.
- No watering will be allowed by any addresses on Monday.

Watering Hours:

- Watering between the hours of 10 a.m. and 6 p.m. is prohibited.

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 www.epa.gov/safewater/lead.

Water Quality Problems?

As your water provider, we want to ensure you have the best quality water possible. If you think you have a water quality issue, please let us know. Below are some suggestions for checking issues at home.

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.)

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.

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.

City of Lodi

Surface Water Treatment Facility
P.O. Box 3006
Lodi, CA 95241

Water Conservation Rebates

- ◆ Low Flow Toilet
- ◆ WaterSense Certified Toilet
- ◆ Low Flow Shower Heads
- ◆ EPA WaterSense Certified Showerhead - ≤ 2.0 gpm
- ◆ Rain Barrel
- ◆ Energy Star Certified High Efficiency Clothes Washer (HEW) with water factor of ≤ 4.0
- ◆ Replacement Automatic Sprinkler Timers
- ◆ Hose Bib Manual Timers

FOR MORE INFORMATION

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

City of Lodi

Brian Longpre
Laboratory Services Supervisor
Telephone: (209) 333-6749
E-mail: blongpre@lodi.gov

**SEE A WATER EMERGENCY?
Call: (209) 368-5735**

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).

$\mu\text{g/L}$ 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.