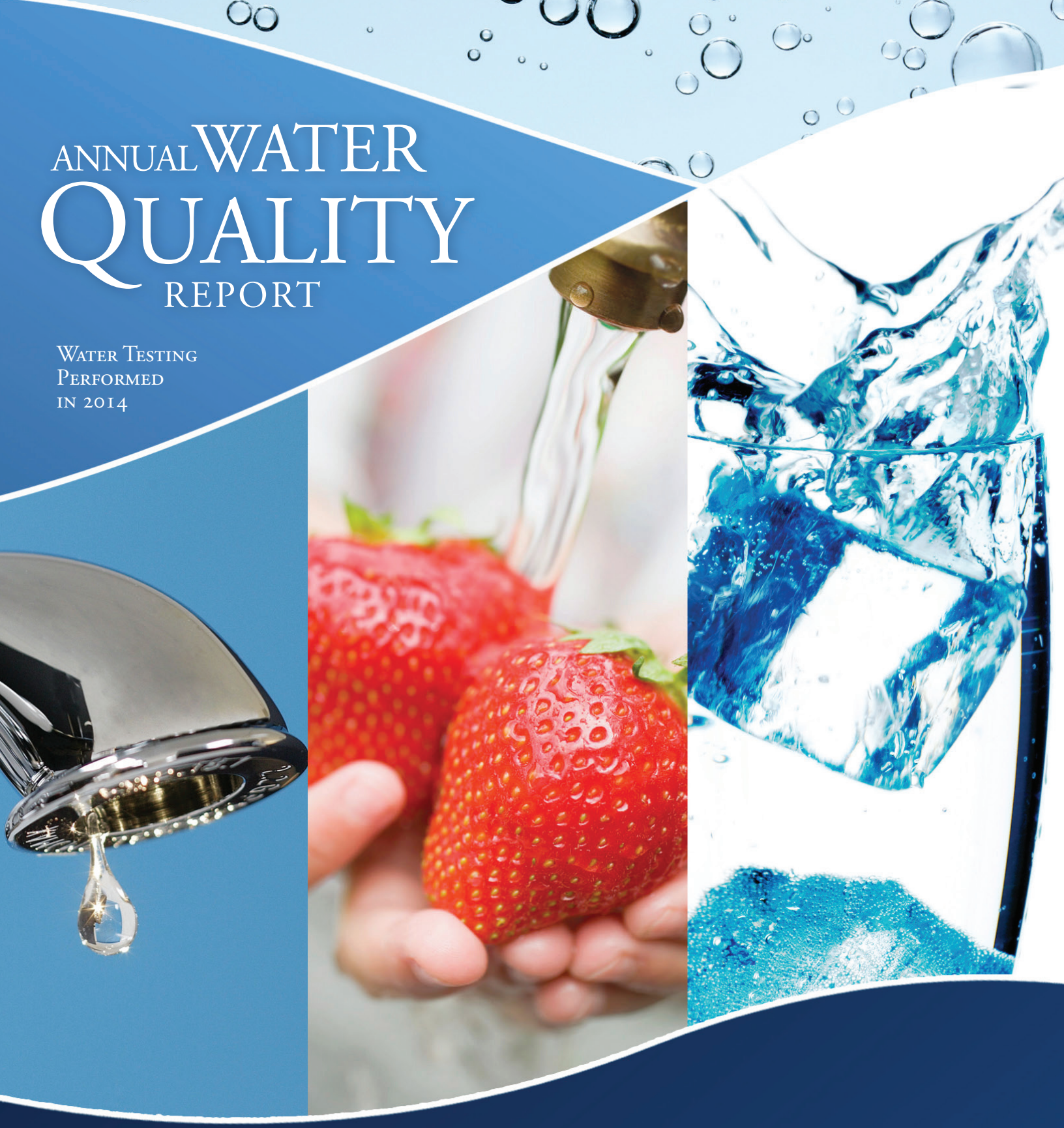
ANNUAL WATER QUALITY REPORT

Water Testing Performed in 2014



Presented By
City of Tulare

Este relatório contem a informação importante sobre sua água bebendo. Tenha-o por favor traduzido por um amigo ou por alguém que o compreende e o pode o traduzir para você.

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

PWS ID#: 5410015

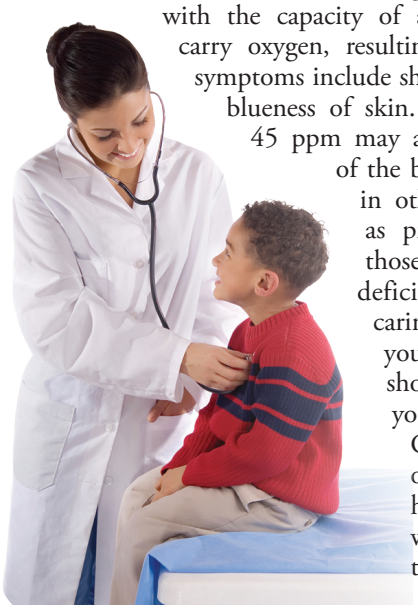
Our Mission Continues

We are proud to present our annual water quality report covering all testing performed between January 1, 2012, and December 31, 2014. As can be seen, we continue to manage and operate our water system with a mission to deliver the best-quality drinking water in the San Joaquin Valley. Last year marked the 40th anniversary of the Safe Drinking Water Act (SDWA). This rule was created to protect public health by regulating the nation's drinking water supply. By striving to meet the requirements of SDWA, the City of Tulare Water Division is ensuring a future of safe, clean drinking water for years to come.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people 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.

Nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of an infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of skin. Nitrate levels above 45 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask advice from your care provider. The City is not in violation of the nitrate MCL; however, some of our wells are above half the MCL (23 ppm).



Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the first and third Thursdays of each month beginning at 3:00 p.m. at the Tulare Library Building, in the city council chambers, 475 North M Street, Tulare, California.

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. State Board regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include: **Microbial Contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; **Inorganic Contaminants**, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; **Pesticides and Herbicides**, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems; **Radioactive Contaminants**, that can be naturally occurring or can be the result of oil and gas production and mining activities.

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

Lead in Home Plumbing

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

Benefits of Chlorination

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

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

How chlorination works:

- Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.
- Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.
- Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.
- Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

About Our Violation

During the month of September 2014, coliform bacteria were found in more samples than allowed by the Total Coliform Rule. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed: We exceeded the MCL with 5.4 percent of routine samples collected testing positive for coliform bacteria and this was a warning of potential problems. Once notified, we resampled the distribution system within 24 hrs. and all repeat samples were absent of coliform bacteria. At no time were fecal or *E. coli* bacteria present in subsequent testing. The corrective action taken by the city was to increase the chlorine residual, flush water mains, and purchase new sample bottles. These corrective measures seem to have eliminated the positive samples. The City of Tulare collected over 894 samples for bacteriological sampling with an average for the year of 1.11% positive.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Mr. Doyle, Water Utility Manager, at (559) 684-4284.

Where Does My Water Come From?

The City of Tulare Water customers enjoy a water supply from City-owned and -operated wells. The source water wells are identified by numbers: #1,#2,#8,#11,#12, #13, #14, #15, #17, #20, #22, #23, #24, #26, #27, #31, #33, #34, #35, #36, #37, #38, #39, #40, #42, #43, #44. Water is pumped by these wells from an area deep beneath the city called the Confined Ground Water System that consists of alluvial sediments below a Corcoran Clay layer of the Tulare Lake Basin. Combined, our facilities provide 6 billion gallons of clean, safe drinking water every year. To learn more about our watershed on the Internet, go to the U.S. EPA Surf Your Watershed Web site at www.epa.gov/surf/.

Source Water Assessment

A Source Water Assessment was conducted for the City of Tulare in November 2002. No contaminants were detected in the water supply. However, the water source is considered most vulnerable to the following activities: chemical/petroleum processing, storage, and use; historic gas stations; and high-density septic systems. A copy of the assessment may be viewed at the Water Utility Division Office, 3981 South K Street, Tulare.

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 moved, you have a leak.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

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

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppm)	2012–2014	1	0.6	0.187	0–0.47	No	Erosion of natural deposits; Residue from some surface water treatment processes
Arsenic (ppb)	2012–2014	10	0.004	3.33	0–6.2	No	Erosion of natural deposits; Runoff from orchards; Glass and electronics production wastes
Barium (ppb)	2012–2014	1,000	2,000	84	0–100	No	Discharges of oil drilling wastes and from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2012–2014	[4.0 (as Cl2)]	[4 (as Cl2)]	0.69	0–1.84	No	Drinking water disinfectant added for treatment
Chromium (ppb)	2012–2014	50	(100)	1.77	0.8–2.5	No	Discharge from steel and pulp mills and chrome plating; Erosion of natural deposits
Dibromochloropropane [DBCP] (ppt)	2012–2014	200	1.7	35	0–74	No	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
Fluoride (ppm)	2012–2014	2.0	1	0.26	0–1.3	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2012–2014	15	(0)	6.4	0–9.38	No	Erosion of natural deposits
Haloacetic Acids (HAAs)–Stage 2 (ppb)	2012–2014	60	NA	1.1	0–1.1	No	By-product of drinking water disinfection
Hexavalent Chromium[1] (ppb)	2012–2014	10	0.02	1.76	0–2.8	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; Erosion of natural deposits
Nitrate [as nitrate] (ppm)	2012–2014	45	45	18.22	0–40	No	Runoff and leaching from fertilizer use; Leaching from septic tanks and sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2012–2014	80	NA	0.84	0–2.0	No	By-product of drinking water disinfection
Total Coliform Bacteria [Total Coliform Rule] (% positive samples)	2012–2014	More than 5.0% of monthly samples are positive	(0)	5.4	NA	Yes	Naturally present in the environment
Turbidity (NTU)	2012–2014	TT	NA	0.68	0–2.4	No	Soil runoff
Uranium (pCi/L)	2012–2014	20	0.43	3.8	0–6.9	No	Erosion of natural deposits

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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2012–2014	1.3	0.3	0	0/33	No	Internal corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2012–2014	15	0.2	0	0/33	No	Internal corrosion of household water plumbing systems; Discharges from industrial manufacturers; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2012–2014	500	NS	11.38	3.8–50	No	Runoff/leaching from natural deposits; Seawater influence
Color (Units)	2012–2014	15	NS	5	5–5	No	Naturally occurring organic materials
Iron (ppb)	2012–2014	300	NS	114	0–410	No	Leaching from natural deposits; Industrial wastes
Odor–Threshold (TON)	2012–2014	3	NS	1.44	0–4	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2012–2014	1,600	NS	232.5	140–460	No	Substances that form ions when in water; Seawater influence
Total Dissolved Solids (ppm)	2012–2014	1,000	NS	145.9	82–250	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2012–2014	5	NS	0.68	0–2.4	No	Soil runoff

[1] Some people who drink water containing hexavalent chromium in excess of the MCL over many years may have an increased risk of getting cancer.

[2] 1,2,3- TCP. Notification Level – 0.005 ppb. Public Health Goal – 0.0007 ppb. Some people who use water containing 1,2,3-trichloropropane in excess of the Notification Level and/or Public Health Goal over many years may have an increased risk of getting cancer, based on studies in laboratory animals.

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
1,1–Dichloroethane (ppb)	2012–2014	0.034	0–0.034
1,4–Dioxane (ppb)	2012–2014	0.19	0–0.19
Agressiveness Index (Units)	2012–2014	11.9	11–12
Alkalinity (ppm)	2012–2014	80.39	52–140
Bicarbonate (ppm)	2012–2014	78.65	42–180
Calcium (ppm)	2012–2014	12.9	1.7–48
Carbonate (ppm)	2012–2014	12.06	0–29
Chlorate (ppb)	2012–2014	92.5	21–510
Chlorodifluoromethane (ppb)	2012–2014	0.43	0–0.43
Hardness (ppm)	2012–2014	35.01	4.2–140
Langelier Index (ppm)	2012–2014	0.026	0–0.4
Magnesium (ppm)	2012–2014	0.99	0–4.3
Molybdenum (ppb)	2012–2014	5.09	1.1–5.5
pH (Units)	2012–2014	8.6	8.1–9.4
Potassium (ppm)	2012–2014	2.2	0–2.4
Silica (ppm)	2012–2014	16.4	15–19
Sodium (ppm)	2012–2014	37.66	23–97
Strontium (ppb)	2012–2014	231	15–630
Sulfate (ppm)	2012–2014	10.39	4.0–33
Trichloropropane [1,2,3-TCP][2] (ppb)	2012–2014	0.012	0–0.032
Vanadium (ppb)	2012–2014	30.6	5.3–64

Definitions

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

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

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

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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

NA: Not applicable

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

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

PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

TON (Threshold Odor Number): A measure of odor in water.

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