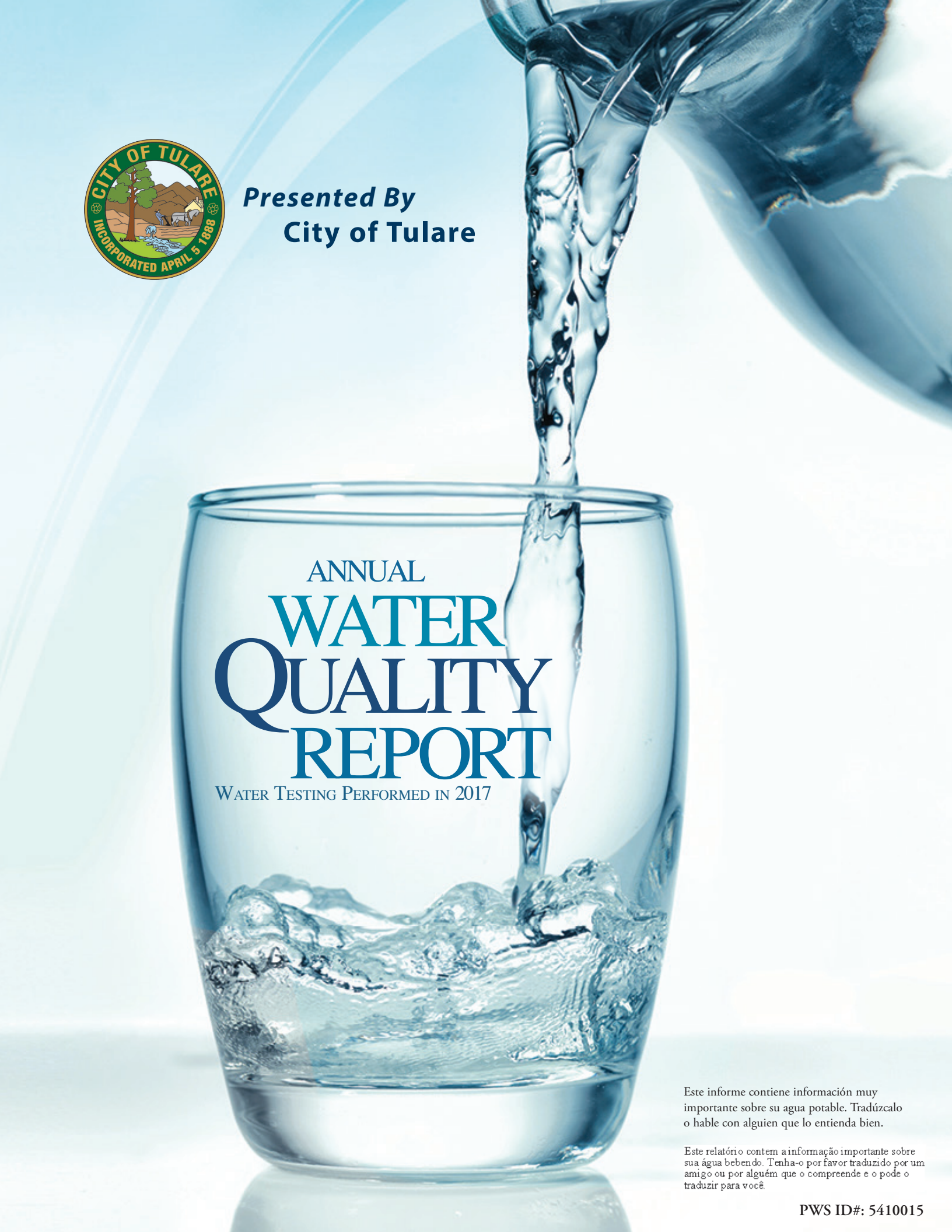


Presented By
City of Tulare

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.

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.

PWS ID#: 5410015

Quality First

Once again we are pleased to present our annual water quality report, covering all drinking water testing performed between January 1, 2015 and December 31,2017. 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, distribution system upgrades, and community outreach and education. We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

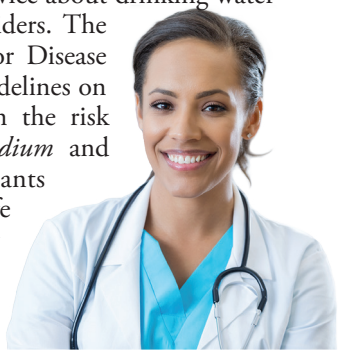
> **Water treatment is a complex, time-consuming process.**

Thank you for the opportunity to serve the needs of all our water users.

Important Health Information

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. EPA 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.

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.



Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, 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.

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.

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, during regular business hours.

Where Does My Water Come From?

The City of Tulare Water customers enjoy a groundwater supply from 25 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, #26, #27, #31, #33, #34, #35, #36, #37, #38, #39, #40, #42, and #44. Water is pumped by these wells from an area deep beneath the city called the Confined Ground Water System, which consists of alluvial sediments below a Corcoran Clay layer of the Tulare Lake Basin. Combined, our facilities provide 6 billion gallons of drinking water every year. To learn more about our watershed on the Internet, visit the U.S. EPA's Surf Your Watershed Web site, at www.epa.gov/surf/.

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.

Community Participation

You are invited to participate in our Board of Public Utilities meeting and voice your concerns about your drinking water. We meet the first and third Thursdays of each month beginning at 4:00 p.m. at the Tulare Library Building, in the City Council Chambers, 475 North M Street, Tulare, California.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Mr. Tim Doyle, Water Utility Manager, at (559) 684-4324.

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 between January 1, 2015 and December 31, 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 often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data is included, along with the year in which it was sampled.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
1,2,3-Trichloropropane [1,2,3-TCP][1] (ppt)	2017	5	0.7	11	ND–**38**	No	Discharge from industrial and agricultural chemical factories; leaching from hazardous waste sites; cleaning and maintenance solvent, paint and varnish remover, and degreasing agent; by-product from production of other compounds and pesticides
Aluminum (ppm)	2017	1	0.6	0.2227	ND–0.72	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic[2] (ppb)	2017	10	0.004	7.7	ND–**13**	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chlorine (ppm)	2017	[4.0 (as Cl2)]	[4 (as Cl2)]	0.78	ND–2.0	No	Drinking water disinfectant added for treatment
Dibromochloropropane [DBCP] (ppt)	2017	200	1.7	36	ND–110	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)	2017	2.0	1	0.38	ND–1.4	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2017	15	(0)	1.6	ND–6.55	No	Erosion of natural deposits
Hexavalent Chromium[3] (ppb)	2017	NS	0.02	1.8	ND–2.9	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as nitrogen] (ppm)	2017	10	10	4.3	ND–10	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	3.1	1.2–5.6	No	By-product of drinking water disinfection
Uranium (pCi/L)	2017	20	0.43	4.3	ND–6.2	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)	2017	1.3	0.3	0	0/33	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2017	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)	2017	500	NS	14	3.9–55	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2017	15	NS	6	5–10	No	Naturally occurring organic materials
Iron (ppb)	2017	300	NS	223.5	ND–440	No	Leaching from natural deposits; industrial wastes
Odor–Threshold (Units)	2017	3	NS	1	ND–1	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2017	1,600	NS	254	140–460	No	Substances that form ions when in water; seawater influence
Total Dissolved Solids (ppm)	2017	1,000	NS	164	96–260	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2017	5	NS	1.3	0.14–4.3	No	Soil runoff

UNREGULATED AND OTHER SUBSTANCES [4]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Agressiveness Index (Units)	2015–2017	11.9	11–12
Alkalinity (ppm)	2015–2017	79.9	51–130
Bicarbonate (ppm)	2015–2017	79.1	39–140
Calcium (ppm)	2015–2017	12.9	1.3–48
Carbonate (ppm)	2015–2017	14.1	4.9–22
Chloroform (ppb)	2016	1.9	ND–1.9
Chloromethane (Methyl Chloride) (ppb)	2015	0.81	ND–0.93
Hardness (ppm)	2015–2017	35.1	3.5–130
Langelier Index (ppm)	2015–2017	0.065	0–0.4
Magnesium (ppm)	2015–2017	0.87	0.11–2.4
pH (Units)	2015–2017	8.4	7.9–9.5
Potassium (ppm)	2015–2017	2.2	2–2.6
Sulfate (ppm)	2015–2017	10.5	3.9–25
Sodium (ppm)	2015–2017	43.2	22–100
tert-Amyl Methyl Ether [TAME] (ppb)	2015	6.5	ND–6.5

DETECTION OF COLIFORM BACTERIA

MICROBIOLOGICAL CONTAMINANTS	HIGHEST NO. OF DETECTIONS	NO. OF MONTHS IN VIOLATION	MCL	MCLG	TYPICAL SOURCE OF BACTERIA
Total Coliform Bacteria (state Total Coliform Rule)	(In a mo.) 2	None	5.0% of monthly samples are positive	0	Naturally present in the environment
Fecal Coliform or *E. coli* (state Total Coliform Rule)	(In the year) 2	None	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or *E. coli* positive	0	Human and animal fecal waste
E. coli (federal Revised Total Coliform Rule)	(In the year) 2	None	(a)	0	Human and animal fecal waste

(a) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following E. *coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

In June of 2017 one of 72 samples collected was coliform / *E. coli* positive and again in August 2017 two of 72 samples were coliform positive and one of those two was also *E. coli* positive. All repeat samples were negative. *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems. Although *E. coli* was detected, the water system is not in violation of the *E. coli* MCL because the system did not have more than one *E.coli* positive sample in any one month.

SODIUM AND HARDNESS

CHEMICAL OR CONSTITUENT (AND REPORTING UNITS)	SAMPLE DATE	LEVEL DETECTED	RANGE OF DETECTIONS	MCL	PHG (MCLG)	TYPICAL SOURCE OF BACTERIA
Sodium (ppm)	2015 - 2017	43.2	22–100	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2015 - 2017	35.1	3.5–130	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

[1] In December 2017 1,2,3,-TCP was adopted and moved to the primary standards of regulated substances. Some people who drink water containing 1,2,3,-TCP in excess of the MCL and PHG over many years have an increased risk of getting cancer, based on studies in laboratory animals.

[2] Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer.

[3] Some people who drink water containing hexavalent chromium in excess of the MCL over many years may have an increased risk of getting cancer. There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

[4] 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.

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

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

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

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

NA: Not applicable

ND (Not detected): Indicates that
the substance was not found by laboratory analysis.

NS: No standard

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

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

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

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

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

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

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

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