



Presented By
City of Shafter



ANNUAL
WATER
QUALITY
REPORT

WATER TESTING PERFORMED IN 2015

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

PWS ID#: 1510019

Meeting the Challenge

Once again we are proud to present our annual drinking water report, covering all drinking water testing performed between January 1 and December 31, 2015. 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 to your homes and businesses. As new challenges to drinking water safety 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 of our water users.

Please remember that we are always available to assist you, should you ever have any questions or concerns about your water.

Important Health Information

Nitrate [as nitrate] and nitrate [as nitrogen] in drinking water at levels above 45 and 10 ppm, respectively, 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. Drinking water above these levels 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.

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>.



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.

Community Participation

The City Council of the City of Shafter meet on the first and third Tuesdays of each month at 7:00 p.m. in the council chambers located at City Hall, 336 Pacific Avenue, to discuss and take action on various matters that affect the community. Water quality, conservation, and system improvements are usually on their agenda. Public input is appreciated and is taken into consideration before any formal actions are taken.

For more information about this report, or for any questions relating to your drinking water, please call Michael James, Public Works Director, at (661) 746-5002 or write to the Department at 336 Pacific Avenue, Shafter, CA 93263.

Source Water Assessment

An assessment of the drinking water sources for the City of Shafter was initially completed by the State of California Department of Health Services in September 1999 and updated by the City in 2009. A copy of the complete assessment is available at the City of Public Works Department, located at 336 Pacific Avenue. You may request a summary of the assessment by contacting the department at (661) 746-5002.

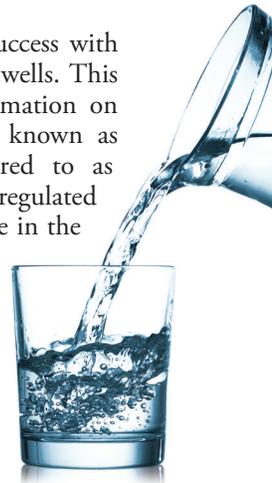
Lead in Home Plumbing

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 or at www.epa.gov/lead.

Water Treatment Process

The only water treatment currently required of the City's water supply is disinfection by chlorination for microbiological contaminants. We test our water regularly for coliform bacteria and it is detected occasionally, but its detection is normally remedied by adjusting the chlorine dosage.

Since 2009, we have continued to have success with our carbon treatment plant at one of our wells. This plant continues to provide valuable information on how to remove an organic contaminant known as 1,2,3-trichloropropane. Commonly referred to as "TCP," this contaminant is not currently regulated by the State but we are aware that it will be in the near future. More information on TCP detections and health risks can be found at the following State Web site link: http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/123TCP.shtml



Where Does My Water Come From?

The source of Shafter's drinking water is an underground aquifer that is pumped to the surface by a system of ground water wells. The aquifer is replenished through the natural runoff from the Sierra Nevada Mountains, as well as through seepage from the many irrigation canals that import water into the area from other regions of the state.

The City of Shafter owns and operates your domestic water supply and distribution systems. These systems operate as one of the enterprises under the City's umbrella. The water system within the core City has seven active groundwater wells, five above-ground water storage tanks with booster pumps, and approximately 70 miles of water distribution lines. Distribution is defined as the combination of tanks, water mains, and booster pumps necessary to deliver water to our customers.

QUESTIONS?

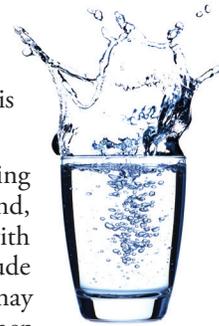
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About Our Violations *

In December of 2015, routine and repeat laboratory testing of our water system revealed that it had exceeded the allowed monthly detections for total coliforms which can indicate that there is a health concern to investigate and fix. As a precaution, the State issued a boil water notice for the entire water system to protect public health until we could verify that the system was operating properly and that all remaining water tests came back with negative total coliform results. Corrective action we took to prevent a health risk before the water was suitable for drinking included raising the chlorine levels throughout the system to ensure it was properly disinfected. Once the boil water notice was lifted by the State, an investigation was conducted but we were unable to determine a cause or source of the bacteriological detections. The City has since revised the bacteriological testing plan which increased the testing frequency and testing locations to minimize public health risks.

In October 2015, one of our wells exceeded the MCL for nitrates, which was analyzed using two different test methods. The well has not been used since these detections were reported. Once an investigation is conducted and any source of the elevated levels is corrected, the well will be brought back into service.

Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women.



When was drinking water first regulated?

The Safe Drinking Water Act (SDWA) of 1974 represents the first time that public drinking water supplies were protected on a federal (national) level in the U.S. Amendments were made to the SDWA in 1986 and 1996.

Seventy-one percent of Earth is covered in water: how much is drinkable?

Oceans hold about 96.5 percent of all Earth's water. Only three percent of the earth's water can be used as drinking water. Seventy-five percent of the world's fresh water is frozen in the polar ice caps.

Sampling Results

During the past year, we have taken hundreds of water samples to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor 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, along with the year in which the sample was taken.

REGULATED CONTAMINANTS							
CONTAMINANT (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AVERAGE	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2015	10	0.004	2.19	0–6.5	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2015	1	2	0.064	0.043–0.09	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (ppm)	2015	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	1.6	0.2–2	No	Drinking water disinfectant added for treatment
Chromium (ppb)	2015	50	(100)	0.39	0–2.7	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Dibromochloropropane [DBCP] (ppt)	2015	200	1.7	26	0–26	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)	2015	2.0	1	0.09	0–0.19	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha (pCi/L)	2015	15	0	2.77	<3–5	No	Erosion of natural deposits
Haloacetic Acids (ppb)	2015	60	NA	0.46	0–3.4	No	By-product of drinking water disinfection
Heterotrophic Plate Count Bacteria (ppm)	2015	Surface water treatment = TT	HPC = NA; Others = (0)	16	0–47	No	Naturally present in the environment
Hexavalent Chromium (ppb)	2015	10	0.02	0.97	0–0.97	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)	2015	45	45	38	34–48	Yes *	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
* Nitrate [as nitrogen] (ppm)	2015	10	10	7.76	6.30–11	Yes *	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	2015	50	30	1.96	0–4.3	No	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
TTHMs [Total Trihalomethanes] (ppb)	2015	80	NA	7.09	0–46	No	By-product of drinking water disinfection
* Total Coliform Bacteria [Total Coliform Rule] (# positive samples)	December 2015	No more than 1 positive monthly sample	(0)	37	NA	Yes *	Naturally present in the environment. Coliforms were found in more samples than allowed.
Uranium (pCi/L)	2015	20	0.43	1.8	1.8–0	No	Erosion of natural deposits

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

CONTAMINANT (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	0.027	0/40	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2015	15	0.2	1.3	1/40	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY CONTAMINANTS

CONTAMINANT (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AVERAGE	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2015	500	NS	64	48–92	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2015	15	NS	1	1–1	No	Naturally-occurring organic materials
Specific Conductance (µS/cm)	2015	1600	NS	759	462–1160	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2015	500	NS	187	88–370	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (mg/L)	2015	1000	NS	500	300–780	No	Runoff/leaching from natural deposits
Turbidity (Units)	2015	5	NS	0.19	0.14–0.26	No	Soil runoff

OTHER CONTAMINANTS

CONTAMINANT (UNIT OF MEASURE)	YEAR SAMPLED	AVERAGE	RANGE LOW-HIGH	TYPICAL SOURCE
Bicarbonate (HCO ₃) (ppm)	2015	56	34–84	Leaching from natural deposits
Bromodichloromethane (ppb)	2015	0.081	0–1.30	By-product of drinking water disinfection
Bromoform (ppb)	2015	5.48	0–37	By-product of drinking water disinfection
Calcium (ppm)	2015	72	32–140	Leaching from natural deposits
Dibromochloromethane (ppb)	2015	0.744	0–3.5	By-product of drinking water disinfection
Magnesium (ppm)	2015	0.81	0.14–2.20	Leaching from natural deposits
pH (Units)	2015	7.56	7.14–8.19	Inherent characteristic of water
Potassium (ppm)	2015	2.24	1.4–3.3	Leaching from natural deposits
Sodium (ppm)	2015	85	69–120	Leaching from natural deposits
Trichloropropane [1,2,3-TCP] (ppt)	2015	117	11–220	TCP detections in the Central Valley are being attributed to past use of soil fumigants to battle nematodes
Total Alkalinity (as CaCO ₃) (ppm)	2015	46	28–69	Runoff/leaching from natural deposits
Total Hardness (as CaCO ₃) (ppm)	2015	169	30–350	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.

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 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

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).

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