

ANNUAL WATER QUALITY REPORT

Reporting Year 2021

Presented By



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

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We've Come a Long Way

Once again, we are proud to present our annual water quality report covering the period between January 1 and December 31, 2021. In only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at all hours—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

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. Environmental Protection Agency (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 linked to other health effects such as skin damage and circulatory problems.

Nitrate in drinking water at levels above 10 parts per million (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 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 ppm 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 for 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 online at: <http://water.epa.gov/drink/hotline>.



Where Does My Water Come From?

The source of Shafter's drinking water is an underground aquifer pumped to the surface by a system of groundwater wells. The aquifer is replenished through the natural runoff from the Sierra Nevada Mountains and 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 six active groundwater wells, five aboveground water storage tanks with booster pumps, and approximately 125 miles of water distribution lines. Distribution is a combination of tanks, water mains, and booster pumps necessary to deliver water to our customers.

Community Participation

The City Council of the City of Shafter meets on the first and third Tuesday of each month at 6:00 p.m. in Council Chambers, 336 Pacific Avenue, to discuss and take action on various matters that affect the community. Water quality, conservation, and system improvements are usually on the meeting agenda. Public input is appreciated and considered before any formal actions are taken.

Water Treatment Process

Water Treatment at the city's wells is required to meet current health standards set by state and federal health officials. One treatment process is disinfection by chlorination to remove microbiological contaminants. City crews routinely test treated water to ensure it is free of bacteria that may contain these contaminants. The occasional bacteria detections are usually cleared after retesting or adjusting chlorine dosage.

Another treatment process removes 1,2,3-trichloropropane (1,2,3-TCP), a contaminant left behind from past use in an agriculture pesticide. This pesticide is no longer in use but is still detected throughout the Central Valley. As a result, potable water suppliers must now install treatment systems that remove 1,2,3-TCP to quantities below the detection level. The city has installed 1,2,3-TCP treatment systems at all active wells and has developed a funding plan to include treatment systems at new wells.

QUESTIONS?

Please call Public Works Director Michael James at (661) 746-5002 for more information about this report or if there are any questions relating to your drinking water.

Source Water Assessment

An assessment of the drinking water sources for the City of Shafter was initially completed by the state in 1999 and updated by the city in 2009. A copy of the complete assessment is available at City Hall, located at 336 Pacific Avenue. You may request a summary of the assessment by contacting the department at (661) 746-5004.

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. 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, 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 two 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 at (800) 426-4791 or online at: www.epa.gov/safewater/lead.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not 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 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.

Testing results we received during the third quarter 2021 for Well 14 showed that our system exceeded the MCL for 1,2,3-TCP. The average level of 1,2,3-TCP for the quarter for Well 14 was 0.00026 mg/L. Samples during this quarter detected that the media used to treat 1,2,3-TCP had surpassed their useful life. Due to the importance of this well during the summer months, the city continued to operate Well 14 to have sufficient flows and pressures in the water system. Some people who drink water containing 1,2,3-TCP in excess of the MCL over many years may have an increased risk of getting cancer.

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] (ppt)	2021	5 ¹	0.7	96 ²	12–330 ²	Yes	Discharge from industrial and agricultural chemical factories; leaching from hazardous waste sites; cleaning and maintenance solvents, paint and varnish removers, and degreasing agents; by-product from production of other compounds and pesticides
Arsenic (ppb)	2021	10	0.004	5.38	01–8	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2021	1	2	0.014	ND–0.068	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (ppm)	2021	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	1.6	ND–2	No	Drinking water disinfectant added for treatment
Chromium, Total (ppb)	2021	50	(100)	1	ND–2	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Dibromochloropropane [DBCP] (ppt)	2021	200	1.7	15.62	ND–50	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)	2021	2.0	1	0.13	ND–0.30	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2021	15	(0)	1.70	ND–3.9	No	Erosion of natural deposits
HAA5 [sum of 5 haloacetic acids]– Stage 2 (ppb)	2021	60	NA	0.94	ND–7	No	By-product of drinking water disinfection
Hexavalent Chromium (ppb)	2021	NS ³	0.02	0.323	ND–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 nitrogen] (ppm)	2021	10	10	5.23	ND–10.7 ⁴	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	2021	50	30	2.67	ND–7	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]–Stage 2 (ppb)	2021	80	NA	3.94	ND–22	No	By-product of drinking water disinfection
Turbidity⁵ (NTU)	2021	TT	NA	0.36	ND–0.36	No	Soil runoff
Uranium (pCi/L)	2020	20	0.43	0.9	ND–1.8	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 %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2021	1.3	0.3	0.0076	0/43	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2021	15	0.2	ND	0/43	No	Internal corrosion of household 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)	2021	500	NS	81.50	37–160	No	Runoff/leaching from natural deposits; seawater influence
Sulfate (ppm)	2021	500	NS	157.60	4.80–348	No	Runoff/leaching from natural deposits; industrial wastes

UNREGULATED SUBSTANCES ⁶

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2021	0.313	ND–2	By-product of drinking water disinfection
Bromoform (ppb)	2021	2.38	ND–14	By-product of drinking water disinfection
Chromium VI [hexavalent chromium] (ppb)	2021	0.323	ND–0.97	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Dibromoacetic Acid (ppb)	2021	0.688	ND–7	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2021	1.375	ND–6	By-product of drinking water disinfection

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bicarbonate [HCO ₃] (ppm)	2021	40	20–60	Leaching from natural deposits
Calcium (ppm)	2021	48	3–85	Leaching from natural deposits
Magnesium (ppm)	2021	ND	NA	Leaching from natural deposits
pH (units)	2021	8.13	7.69–8.80	Inherent characteristic of water
Potassium (ppm)	2021	1.17	ND–2	Leaching from natural deposits
Sodium (ppm)	2021	99	47–226	Leaching from natural deposits
Total Alkalinity [as CaCO ₃] (ppm)	2021	35	20–50	Runoff/leaching from natural deposits
Total Hardness [as CaCO ₃] (ppm)	2021	120.78	8–212	Erosion of natural deposits

¹ This substance had a notification level of 5 ppt until December 14, 2017, when the MCL of 5 ppt became effective.

² Result detected is for raw water. Water delivered has been treated to below detection limits.

³ There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

⁴ The high range value of 10.7 ppm was taken during well flushing. This water did not enter the water system.

⁵ Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

⁶ Unregulated contaminant monitoring helps U.S. EPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

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.