



This report was prepared by:
City of Shafter
336 Pacific Avenue
Shafter, CA 93263

Quality First

The City regularly tests its drinking water for possible contaminants, as required by State and Federal regulations. This report contains important information about the water quality in Shafter through the year 2010. The sources of water that are used on a daily basis meet all State and Federal health standards. In 2010, arsenic levels at one well exceeded the health standard so it will not be used unless necessary to meet demand.

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.

Public Meetings

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. At times, issues regarding water system improvements or quality are on the agenda. Public input is appreciated and is taken into consideration during the discussions and formal actions.

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 comprises seven (7) active ground water wells, four (4) 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.

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 Department of Public Health (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. 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; and radioactive contaminants, which 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.

Important Health Information

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 the infant's blood to carry oxygen, resulting in illness; symptoms include shortness of breath and blueness of the 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 certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from your health provider.

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.

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 www.epa.gov/drink/hotline/.

Water Treatment Process

We are aware that some ground water contamination does exist in the Shafter area. The ground water quality issues of primary concern to us here in Shafter include salt intrusion primarily from agricultural activities, nitrate contamination from natural and agricultural activities, organic chemical contamination from agricultural pesticides and fumigants and, most recently, arsenic.

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.

In 2009, we started using our first carbon treatment plant at one well to reduce the levels of an organic contaminant known as 1,2,3-trichloropropane, commonly referred to as "TCP," which is not currently regulated by the State but we are aware that it soon will be. The City Council has chosen to be proactive with TCP removal by investing in treatment systems now to ensure that we know how they can be operated safely and efficiently once TCP becomes regulated. Our next carbon plant at a second well site is scheduled for installation by 2012.

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.

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. The sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply: gas stations, underground storage tanks, sewer collection systems, dry cleaners, fertilizers, and pesticides. 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.

About Our Violation

An arsenic MCL violation of 12 ppb occurred at City Well No. 17 and is based on an annual average of quarterly samples for 2010. We are currently working with the State on a corrective action plan and we have committed to having a solution for this detection issue by 2012.

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

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Por favor visiten el Departamento de Public Works al domicilio de arriba si necesita esta información en español.



Why do I get this report each year?

Community water system operators are required by Federal law to provide their customers an annual water quality report. The report helps people make informed choices about the water they drink. It lets people know what contaminants, if any, are in their drinking water and how these contaminants may affect their health. It also gives the system operators a chance to tell customers what it takes to deliver safe drinking water.

How many contaminants are regulated in drinking water?

The U.S. EPA regulates over 80 contaminants in drinking water. Some states may choose to regulate additional contaminants or to set stricter standards, but all states must have standards at least as stringent as the U.S. EPA's.

Sampling Results

During the past several years, 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 allows 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.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2010	10	0.004	3	ND–12	Yes	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chlorine (ppm)	2010	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	0.70	0.2–1.5	No	Drinking water disinfectant added for treatment
Dibromochloropropane [DBCP] (ppt)	2010	200	1.7	12	ND–38	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)	2009	2.0	1	<1	ND–<1	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2007	15	(0)	3	<3–7	No	Erosion of natural deposits
Haloacetic Acids (ppb)	2010	60	NA	6	2–12	No	By-product of drinking water disinfection
Nitrate [as nitrate] (ppm)	2010	45	45	26	1–37	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radium 228 (pCi/L)	2007	5	0.019	<1	<1–2	No	Erosion of natural deposits
Selenium (ppb)	2009	50	50	4	ND–9	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)	2010	80	NA	49	5–81	No	By-product of drinking water disinfection

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	EXCEEDANCE	TYPICAL SOURCE
Copper (ppb)	2009	1300	300	31	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2009	15	0.2	0.36	0/30	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	EXCEEDANCE	TYPICAL SOURCE
Chloride (ppm)	2009	500	NS	53	40–84	No	Runoff/leaching from natural deposits; seawater influence
Iron ¹ (ppb)	2010	300	NS	159	ND–1200	Yes	Leaching from natural deposits; industrial wastes
Manganese ¹ (ppb)	2010	50	NS	10	ND–75	Yes	Leaching from natural deposits
Specific Conductance (µS/ cm)	2010	1,600	NS	620	510–760	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2009	500	NS	150	100–210	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2010	1,000	NS	394	310–490	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2010	5	NS	<1	<1–2	No	Soil runoff

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Hardness (ppm)	2009	142	99–200	Erosion of natural deposits
pH (Units)	2010	8	7.8–8.2	Inherent characteristic of water
Sodium (ppm)	2009	72	51–97	Naturally occurring
Trichloropropane [1,2,3-TCP] ² (ppt)	2010	132	ND–360	NA

¹ In March 2010, a testing result of 1200 ppb for iron and 75 ppb for manganese occurred at Well No. 11 immediately after a well cleaning and maintenance project. These high levels are being attributed to the well not being completely flushed.

² The State established a regulatory Action Level (AL) for TCP, which they believe will provide a margin of safety to prevent potential risks to human health while they continue to study TCP and its presence in water. The current AL calculates to 500 ppt. Although the amount of TCP in our water varies at each of our wells, the 2010 test data indicate that all of our wells have TCP levels that are still below 500 ppt.

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

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.