

# Water Quality Annual Report 2016

## Continuing To Supply An Ever-Increasing Demand

For over 80 years, the City of Fresno has operated and maintained a water system that provides safe, reliable drinking water at affordable rates to Fresno customers. In 2016, the City of Fresno Department of Public Utilities, supplied more than 500,000 customers with 36 billion gallons of water that met or exceeded drinking water standards set by the State Water Resources Control Board (SWRCB) and United States Environmental Protection Agency (EPA). To ensure a high-quality water supply, the Department of Public Utilities continuously monitors our surface water and groundwater sources, utilizes advanced water treatment processes, and rigorously samples and tests the water before delivering it to our customers.

### Our H2O: The Origin Story

For Fresno customers, there are two sources of drinking water. One is derived from the Fresno Sole Source Aquifer, a large underground water system that supplies many communities in the San Joaquin Valley. The Water Division operates approximately 260 wells that draw from this aquifer. Unfortunately, pumping water from the aquifer can lower the water table. For this reason, Fresno has an aggressive recharge program that is continually finding new places

and methods to conduct groundwater recharge. Water recharge operations can slow this decline, but with conservation, you can help make a greater impact.

The second source of water is surface water from the Sierra Nevada delivered via Fresno Irrigation District and Friant-Kern canals. This water is stored in both Millerton and Pine Flat lakes, located in the foothills east of Fresno. Surface water is treated to drinking water standards at either of Fresno's state-of-the-art treatment facilities: the 30 million gallons per day (MGD) Northeast Surface Water Treatment Facility in northeast Fresno or the 4 MGD T-3 Water Storage and Treatment Facility in southeast Fresno.

### Moving Fresno Into The Future

During these times of increasing water quality standards, new groundwater regulations, and conservation mandates, the Department of Public Utilities is continuously working on projects to improve the water systems that capture, treat, and deliver water to Fresno customers. One such project is the 80 MGD Southeast Surface Water Treatment Facility (SES WTF), which commenced construction in January of 2016. The SES WTF is part of the Department of Public Utilities' capital investment plan that includes raw water pipelines to deliver surface water; the SES WTF that will prepare the water for use in the community; and finished water distribution facilities to deliver this water to Fresno's homes, businesses, churches, schools, parks,

and restaurants. The capital investment totals \$429 million over the five-year period spanning 2015-2019.

### Conserving Is Our Best Defense

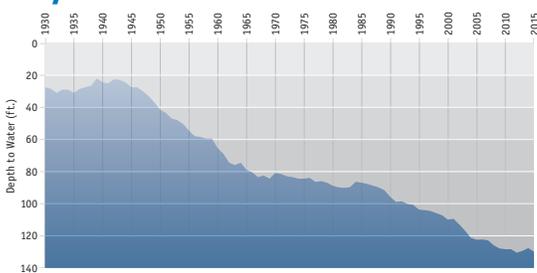
Of course, one of the most valuable water sources is water that is not actually used. In 2016, we got a slight reprieve from the record-setting drought conditions that had ravaged the state for several years, but when called upon to reduce water usage the past few years, Fresno's water users responded by drastically reducing water demand. Because conservation is the most economical and environmentally protective resource management tool, it's fortunate that we can depend on the people of Fresno to come through when called upon. With the current

investment in our water system, new state-of-the-art treatment facilities, and continued conservation efforts by water users, we are working together to ensure a high-quality, reliable, and sustainable water supply for Fresno's present and future generations.

#### The capital investment plan includes the following categories of projects:

- **Intentional Groundwater Recharge Facilities = \$6.4 million**
- **Raw Water Supply Facilities = \$98.4 million**
- **Surface Water Treatment Facilities = \$186.4 million**
- **Finished Water Distribution Facilities = \$55.4 million**
- **Pipeline and Well Rehabilitation and Replacement = \$82.5 million**

### City of Fresno Historical Water Levels



Fresno's water table has dropped more than 100 feet in the past 70 years

## What's in This Report?

This Annual Water Quality Report, prepared in cooperation with the California State Water Resources Control Board (State Board) - Division of Drinking Water, provides important information about Fresno's water supply, water quality, and water delivery system. Test results for Fresno's 2016 Water Quality Monitoring Program are summarized on the following pages. It is important to read the messages regarding various water quality issues from the U.S. Environmental Protection Agency (USEPA) and from your City of Fresno Water Division.

Unregulated contaminant monitoring helps USEPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

### Facts About Drinking Water Standards

Under the 1974 Safe Drinking Water Act, the United States Environmental Protection Agency and the California Department of Public Health were charged with the responsibility of setting and implementing safe drinking water standards. Congress reauthorized this act in 1996. There are 74 regulated contaminants and another 34 are subject to monitoring. Fortunately, only a small number have ever been detected in Fresno's water supply.

### What happens in Fresno if a well exceeds USEPA or SWRBC standards?

If a well violates standards, it would be removed from service and an alternate water supply is provided. In the event a well exceeds standards but must stay in service, customers who receive water from that well would be directly notified by mail or by hand-delivered flyers.

### 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 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 application, and septic systems.

- Radioactive contaminants that can be naturally-occurring or be the result of oil and gas production and mining activities.

### Notice of Violation

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2016, we failed to collect a nitrate sample at Well 97 near Herndon and Brawley and therefore cannot be sure of the quality of the drinking water during that time.

Regulations require at least one nitrate sample from each operational source annually. If a well exceeds ½ the MCL, quarterly samples are then required. Well 97 only operated for a few months before it was removed from service for pump repairs and was offline the remainder of the year and we missed the opportunity to sample in 2016. Repairs were completed in March 2017 and the well resumed operations on March 13th.

Well 97 was sampled on March 17, 2017 with a result of 0.65 mg/L. Historically, the well has never exceeded ½ the MCL and the average for this well is about 2 to 3 mg/L, while the MCL is 10 mg/L.

**Nitrate:** Nitrate in drinking water at levels above 10 mg/L 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 mg/L 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.

**Arsenic:** 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.

**Lead:** 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. The City of Fresno is 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 <http://www.epa.gov/lead>.

[www.fresno.gov/water](http://www.fresno.gov/water)

## We're here to help!

You can contact the City of Fresno Water Division by phone, mail or e-mail.

### PHONE

Water Division 621-5300  
Water Quality 621-5365  
Water Conservation 621-5480

### MAIL

City of Fresno Water Division  
1910 E. University Ave.  
Fresno, CA 93703-2988

### E-MAIL

[information@water.fresno.gov](mailto:information@water.fresno.gov)

### OPPORTUNITIES FOR PUBLIC DISCUSSION

The public is invited to discuss water quality and other water issues during monthly meetings held at the Water Division. For more information, contact us at 621-5305.

### SPEAKER'S BUREAU & TOURS

Need a speaker for your community group, or service club about water issues? Call 621-1610. Tours are also available. Call us at 621-8635.

**Report Water Waste 621-5480**

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. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791). Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

The following tables list all the drinking water contaminants that were tested for during the 2016 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2016. The State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data contained in this report, though representative of the water quality, is more than one year old.

## California Drinking Water Source Assessment and Protection Program

The City of Fresno Water Division and the State Water Resources Control Board, formally the California Department of Public Health, CalDPH, has completed the California Drinking Water Source Assessment and Protection (DWSAP) Program for water wells operated by the Fresno Water Division. The complete report prepared in 2003 is available for viewing at the Water Division or the State Water Resources Control Board office. Please contact the Water Division at 621-5300 or State Water Resources Control Board at 447-3300 if you are interested in more information regarding this report. The City operates approximately 260 wells throughout

Fresno's 115 sq. mile service area. Given the size and complexity of our system, the DWSAP report is a very large document and even a brief summary would be difficult to include in this Consumer Confidence report. However, two summary data tables are available on the City's website at [www.fresno.gov](http://www.fresno.gov). In the search box type Water Quality Report and you will automatically be routed to the linking page containing the reports. The multipurpose goal of the DWSAP is to identify ways communities can protect the water supplies, manage their water resources, improve drinking water quality, inform their citizens of known contaminants, and identify known activities and locations that can threaten their supply, and meet regulatory requirements. As an example, the following paragraph lists the contaminating activities and sources which can affect Fresno's drinking water. Airports-Maintenance/fueling areas, Apartments and condominiums, Automobile-Body Shops, Automobile-Gas stations, Automobile-Repair Shops, Boat services/repair/refinishing, Chemical/petroleum processing/storage, Crops, irrigated, Dry Cleaners, Electrical/electronic manufacturing, Fertilizer, Pesticide/

Herbicide Application, Golf courses, Historic gas stations, Historic waste dumps/landfills, Home manufacturing, Hospitals, Housing-high density, Junk/scrap/salvage yards, Known Contaminant Plumes, Landfills/dumps, Machine shops, Metal plating/finishing/fabricating, Medical/dental offices/clinics, Military installations, Motor pools, Office buildings/complexes, Parks, Pesticide/fertilizer/petroleum storage & transfer areas, Photo processing/printing, Plastics/synthetics producers, Railroad yards/maintenance/fueling areas, Rental Yards, Schools, Septic systems-high density, Sewer collection systems, Transportation corridors-Railroads, Underground storage tanks-Confirmed leaking tanks, Utility Stations-maintenance areas, Veterinary offices/clinics, Wastewater treatment plants, Wells-Agriculture/Irrigation, Wells-Water supply.

**More information is included in the summary which identifies the affected well(s) and associated activities.**

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.



## Terms and Abbreviations

- n/a: not applicable
- NTU: Nephelometric Turbidity Unit (a measure of light)
- nd: not detectable at reporting limits.
- ng/L: nanograms per liter or parts per trillion.
- ug/L: micrograms per liter or parts per billion
- mg/L: milligrams per liter or parts per million
- pCi/L: picocuries per liter (a measure of radiation)

**Maximum Contaminant Level (MCL):** 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 are set to protect the odor, taste, and appearance of drinking water.

**Maximum Contaminant Level Goal (MCLG):** 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. Environmental Protection Agency.

**Public Health Goal (PHG):** 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 Environmental Protection Agency.

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

**Maximum Residual Disinfectant Level (MRDL):** 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.

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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.

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

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

**Table 1: PRIMARY STANDARDS AND UNREGULATED CONTAMINANTS**

Chemical Table	MCL	PHG (MCLG)	Fresno Average	Range of Detection's	MCL Violation	Last Sampled	Typical Source of Contaminant
<b>Volatile Organic Contaminants</b>							
<b>cis-1,2-Dichloroethylene (ug/L) (1)</b>	<b>6</b>	<b>100</b>	<b>0.42</b>	<b>0 - 6.0</b>	<b>NO</b>	<b>2016</b>	<b>Discharge from industrial chemical factories; major biodegradation byproduct of TCE and PCE groundwater contamination</b>
Tetrachloroethylene (PCE) (ug/L)	5	0.06	0.48	0 - 4.5	NO	2016	Discharge from factories, drycleaners, and auto shops (metal degreaser)
Trichloroethylene (TCE) (ug/L)	5	1.7	0.27	0 - 3.8	NO	2016	Discharge from metal degreasing sites and other factories
<b>Synthetic Organic Contaminants</b>							
<b>Dibromochloropropane (DBCP) (ng/L) (2)</b>	<b>200</b>	<b>1.7</b>	<b>80.0</b>	<b>0 - 210</b>	<b>NO</b>	<b>2016</b>	<b>Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit</b>
<b>Inorganic Contaminants</b>							
Aluminum (AL) (mg/L)	1	0.6	0.02	nd - 0.15	NO	2016	Erosion of natural deposits; residue from some surface water treatment plants
Arsenic (As) (ug/L)	10	0.004	1.2	nd - 4.1	NO	2016	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (Ba) (mg/L)	1	2	0.060	nd - 0.15	NO	2016	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium (Total) (ug/L)	50	(100)	0.769	nd - 10	NO	2016	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
<b>Hexavalent Chromium (ug/L) (3)</b>	<b>10</b>	<b>0.02</b>	<b>3.517</b>	<b>nd - 5.1</b>	<b>NO</b>	<b>2016</b>	<b>Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits</b>
Fluoride (ug/L)	2	1	0.073	nd - 0.15	NO	2016	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (N) (mg/L)	10	10	5	0 - 9.8	NO	2016	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Perchlorate (ug/L)	6	6	0.013	nd - 3.1	NO	2014	Historic aerospace or industrial operations associated with rocket propellant, fireworks, explosives, flares, matches and a variety of industries.
<b>Radionuclides (4)</b>							
<b>Gross Alpha (pCi/L) (5)</b>	<b>15</b>	<b>n/a</b>	<b>7.80</b>	<b>nd - 21.1</b>	<b>NO</b>	<b>2016</b>	<b>Erosion of natural deposits</b>
Radium 226 (pCi/L)	3	n/a	0.72	-0.12 - 3.84	NO	2007	Erosion of natural deposits
Radium 228 (pCi/L)	5	0.019	1.30	nd - 2.1	NO	2016	Erosion of natural deposits
Uranium (pCi/L)	20	0.5	5.89	nd - 16	NO	2016	Erosion of natural deposits
<b>Unregulated Contaminants (ICR, UCMR &amp; Misc)</b>							
1,4-Dioxane	n/a		13	nd - 210	n/a	2015	We are required by regulations to monitor for certain unregulated contaminants. This is helpful to the USEPA and DDW for tracking the location of contaminants and whether there is a need for stricter regulations. Several contaminants indicate detected values with a "<" symbol meaning less than. There are two possible reasons for this. First, the Detection Limit for Reporting, the DLR, has not been established by EPA or DDW. Second, for various reasons, the analytical equipment is unable to quantify the value below the stated "less than" value but analysis indicates the contaminant is present. For either reason, the concentration cannot be quantified and the City must assume that a "Fresno Average" is not applicable for this report.
Dichlorodifluoromethane (Freon 12)	n/a		0.721	nd - 16	n/a	2016	
<b>Hexavalent Chromium (ug/L) (6)</b>	<b>n/a</b>	<b>2.248</b>	<b>nd - 13</b>	<b>n/a</b>	<b>2016</b>		
<b>Trichloropropane (1,2,3-TCP) (7)</b>	<b>0.0007 ug/L (PHG)</b>	<b>0.005</b>	<b>nd - 0.080</b>	<b>n/a</b>	<b>2016</b>		
Tert-Butyl Alcohol (TBA)	n/a		0.609	nd - 37	n/a	2016	
Vanadium (total)	n/a		11	nd - 71	n/a	2014	
Bromochloromethane	n/a		0.001	nd - 0.79	n/a	2014	
Chlorate	n/a		204	nd - 970	n/a	2014	
Chlorodifluoromethane	n/a		0.085	nd - 3.8	n/a	2014	
Molybdenum (total)	n/a		0.9	nd - 7.1	n/a	2014	
Strontium (total)	n/a		97	nd - 510	n/a	2014	
<b>Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors</b>							
Total Trihalomethanes (TTHM) (ug/L)	80	n/a	1.7	nd - 7.8	NO	2016	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ug/L)	60	n/a	6.1	nd - 29	NO	2016	Byproduct of drinking water chlorination
Chlorine (NAOCL) (mg/L)	4	4	0.78	nd - 2.1	NO	2016	Drinking water disinfectant added for treatment

1) cis-1,2-Dichloroethylene: PS 251 located near Blackstone and Ashlan is being monitored monthly for VOC's. For 2016, the annual average concentration is 4.44 ug/L and is below the MCL of 6 ug/L. However, there was one result at the MCL of 6 ug/L from a sample collected in September 2016. Determination as to whether a well exceeds an MCL for non-acute contaminants such as cis-1,2-Dichloroethylene is based on a running average for a prescribed period of time, typically six months. Therefore a well may have several results above the MCL yet still meet drinking water standards. Some people who use water containing cis-1,2-Dichloroethylene in excess of the MCL over many years may experience liver problems.

(2) Dibromochloropropane (DBCP): PS 184 and 205 are both located in SE Fresno and are active DBCP treatment sites using GAC contact vessels. Influent samples are collected monthly but Effluent samples are collected more frequently as detections increase over time. In both cases, there were single effluent results reported at 0.21 ug/L. and were technically at the MCL when rounding is factored in. They did not exceed the MCL. The wells were removed from service at this point and scheduled for GAC change out. Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive problems and may have an increased risk of getting cancer.

(3 & 6) Hexavalent Chromium is a regulated contaminant in the State of California but is not regulated at the federal level. The test results for State compliance did not exceed the MCL of 10 ug/L, however, there were two results from the UCMR events in previous years that were greater than the State MCL. The sample locations and testing methods differ between the two requirements and are not an equal comparison. Both sets of test results are included in this report. Some people who drink water containing hexavalent chromium in excess of the MCL over many years may have an increased risk of getting cancer.

(4 & 5) RADIONUCLIDES, including Gross Alpha, Uranium, Radium 226 and Radium 228 are sampled on various schedules depending upon the results for previous samples. The well may be sampled as often as every three years but no longer than nine years. Two wells, PS 79 and 146 are being closely monitored for gross alpha and uranium and some individual results exceeded the limit in 2016, however, compliance is based on the average of four quarters and no MCL's have been exceeded. Some people who drink water containing these constituents over many years may have an increased risk of getting cancer.

(7) Trichloropropane (1,2,3-TCP): In 2016, 1,2,3-TCP was detected in 61 wells in Fresno. The State Water Resources Control Board is currently creating an MCL to regulate the amount of 1,2,3-TCP that would be allowable in potable water. This regulation is not yet final but a number of wells may be impacted in the near future. Some people who use water containing 1,2,3-Trichloropropane in excess of the notification level over many years may have an increased risk of getting cancer, based on studies in laboratory animals.

**Table 2: MICRO BIOLOGICAL CONTAMINANTS**

Over 220 bacteriological samples are collected every month in Fresno's distribution system. In addition, over 300 bacteriological samples are collected from wells and treatment sites.

Contaminant	Highest No. of Detection's	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	2 of 240 or .83%	0	5%	(0)	Naturally present in the environment
E.coli	0	0	A routine sample is positive for E.coli and a repeat sample is positive for total, fecal or E.coli bacteria	(0)	Human or animal fecal waste

**Table 3: LEAD AND COPPER**

Lead and Copper samples are collected from wells, the distribution system and from inside residences.

Contaminant	No. of Samples Collected	90th Percentile Level Detected	No. of Sites Exceeding Action Level	Action Level	MCLG	Typical Source of Contaminant
Lead (ug/L) (Sampled in 2015)	54	0	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper mg/L) (Sampled in 2015)	54	0.26	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

**Table 4: SECONDARY STANDARDS CONTAMINANTS LIST**

Secondary standards are based on aesthetic factors (taste, appearance and odor, etc.) and are not health related.

Inorganic Contaminants	MCL	Fresno Average	Range of Detection's	SMCL Violation	Last Sampled	Typical Source of Contaminant
Aluminum (ug/L)	200	16.6	nd - 150	NO	2016	Erosion of natural deposits; residual from some surface water treatment processes
Apparent Color (Unfiltered)	15	0.6	nd - 5	NO	2016	Naturally-occurring organic materials
<b>Iron (Fe) (ug/L) (8)</b>	<b>300</b>	<b>130</b>	<b>nd - 880</b>	<b>NO</b>	<b>2016</b>	<b>Leaching from natural deposits; industrial wastes</b>
<b>Manganese (Mn) (ug/L) (9)</b>	<b>50</b>	<b>17</b>	<b>nd - 380</b>	<b>NO</b>	<b>2016</b>	<b>Leaching from natural deposits</b>
Odor Threshold	3 units	0.182	nd - 1	NO	2016	Naturally-occurring organic materials
Sodium (Na) (mg/L)	n/a	20	2.9 - 57	NO	2016	
Specific Conductance (E.C.) (umho/cm+)	1600	262	44 - 570	NO	2016	Substances that form ions when in water; seawater influence
Sulfate (SO4) (mg/L)	500	8.28	1.7 - 15	NO	2016	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS) (mg/L)	1000	173	36 - 380	NO	2016	Runoff/leaching from natural deposits
Total Hardness (as CaCO3) (mg/L)	n/a	97	31 - 180	NO	2016	
Turbidity (Lab) (units)	5	0.660	nd - 3.9	NO	2016	Soil runoff
Zinc (Zn) (mg/L)	5	0.001	nd - 0.17	NO	2014	Runoff/leaching from natural deposits; industrial wastes

(8) Iron: One well, 58A-2, a new well with no operational runtime had a result that exceeded the Secondary MCL for Iron. Most likely, the iron is related to developing corrosion on the column pipe and well casing, something that is normal for new wells. Iron in water may cause discoloration and staining of appliances, fixtures and clothing.

(9) Manganese: Two wells, PS 329 and 347 in southeast Fresno had detections above the Secondary MCL for Manganese while monitoring for SMCL compliance. Both wells have confirmed above the SMCL and have been removed from service pending possible installation of treatment equipment. Manganese in water may cause discoloration and staining of appliances, fixtures and clothing.

**Table 5: TURBIDITY IN NORTH EAST FRESNO RELATED TO SURFACE WATER TREATMENT PLANT OPERATIONS**

	MCL	MCLG	Level Found	Range	Sample Date	Violation	Typical Source
Turbidity (NTU)	TT = 1 NTU	n/a	0.253	n/a	3-Feb-16	n/a	Soil runoff
	TT = 95% of samples <0.3 NTU		100%		Continuous	n/a	

Turbidity is a measurement of the cloudiness of the water determined by the ratio of the intensity of light scattered by the sample to the intensity of incident light. We monitor it because it is a good indicator of the effectiveness of our filtration system.

**Table 5: TURBIDITY IN SOUTH EAST FRESNO RELATED TO SURFACE WATER TREATMENT PLANT OPERATIONS**

	MCL	MCLG	Level Found	Range	Sample Date	Violation	Typical Source
Turbidity (NTU)	TT = 1 NTU	n/a	0.198	n/a	14-JUL-16	n/a	Soil runoff
	TT = 95% of samples <0.3 NTU		100%		Continuous	n/a	

Turbidity is a measurement of the cloudiness of the water determined by the ratio of the intensity of light scattered by the sample to the intensity of incident light. We monitor it because it is a good indicator of the effectiveness of our filtration system.

# WATER CONSERVATION

After several years of drought, the Golden State finally received an above-average year of rain. But getting a normal amount of rain one year is not going to cure all that ails our dry state. We need to work harder than ever to stay on the cutting-edge of water conservation – because we never know what the future holds, but we do know that if we each save a little, we'll all save a lot.



## Retain Your Resources With Rebates

Save water and money when you take advantage of one or more rebate opportunities!

State of California Turf Replacement - up to \$2 per square foot  
[www.SaveOurWaterRebates.com](http://www.SaveOurWaterRebates.com)

### City of Fresno Rebates:

#### Residential

- Clothes Washer – \$50
- Evaporative Cooler – \$100
- Lawn to Garden Conversion – \$.50 per square foot
- Micro Irrigation Conversion – \$.25 per square foot
- Rain Sensor – \$50
- Rainwater Harvesting – \$50
- Recirculating Hot Water Pump – \$100
- Smart Irrigation Controller – \$50
- Soil Moisture Sensor – \$50
- Sprinkler Nozzles – up to \$4 per nozzle
- Swimming Pool Cover – \$50
- Toilets – \$50

#### Commercial Only

- Toilets – \$50 (\$150 June through August 2017)
- Urinal – \$100

Find rebate forms online by clicking on the Water Drop at [www.fresno.gov](http://www.fresno.gov) and then Rebates & Coupons.

## Water Conservation Services

### Water-wise landscape consultation

Learn about local water wise plant choices, turf removal and design for your home. A City of Fresno landscape specialist can provide a free water-wise landscape consultation for customers.

### Irrigation efficiency audit

Make sure your irrigation water is being effective. Call for a free irrigation efficiency audit of your property by a City of Fresno landscape specialist.

### Help setting irrigation controllers

A City of Fresno representative will come to your home and show you how to adjust your automatic water timer for free.

### Interior/exterior water leak surveys

Think you have a water leak? City of Fresno specialists can conduct a free water leak survey on your property.

### Meter use information

City of Fresno water customers can view numbers and graphs of their total monthly water consumption, as well as their average daily metered water usage, by

clicking the “pay utilities bill” tab at [www.fresno.gov](http://www.fresno.gov) and logging into their utilities account. For details contact Utility Billing & Collection at 621-6888.

## Water Conservation Hotline 621-5480

Call to report water waste.

You can also email [waterconservation@fresno.gov](mailto:waterconservation@fresno.gov) or click on the FresGO app.

## Know Your Watering Schedule\*

The watering schedule changes as the seasons change. Be aware of the days and times you're allowed to water by checking the schedule:

**CITY OF FRESNO**  
**THREE-DAY WATERING SCHEDULE**  
June 1 - August 31, 2017

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**ODD Numbered Addresses:**  
(Ending in 1, 3, 5, 7, 9)  
**Tuesdays, Thursdays and/or Saturdays**

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**EVEN Numbered Addresses:**  
(Ending in 0, 2, 4, 6, 8)  
**Wednesdays, Fridays and/or Sundays**

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**NO WATERING MONDAYS OR BETWEEN 9AM AND 6PM**

\*Watering schedules are subject to change at any time.

## Other Things You Should Know

- Customers may not use potable (fresh, drinking) water to wash sidewalks, walkways, driveways, parking lots, open ground, or other hard surface areas except where necessary for public health or safety.
- Car washing is allowed only with a bucket and a hose equipped with a shut off nozzle for a quick rinse.
- Irrigating outdoor landscapes with potable water during and following 48 hours of a measurable rainfall is prohibited.
- A permit is required to drain a swimming pool (Fresno Municipal Code-Sect 6-520 C (5)). A free permit may be requested by calling 621-5480 or completing the online form by clicking on \$Rebates\$; Permits at [www.fresno.gov/publicutilities/water-conservation-landscaping/conservation/](http://www.fresno.gov/publicutilities/water-conservation-landscaping/conservation/).
- A permit is required if additional watering days are needed to install new lawn and plants for current customers. The City does not require a permit to re-seed lawns, however no extra water days are provided.
- Power outages can cause timers to reset schedules. Please check to make sure your timer is set correctly and install a fresh battery if needed.