

2017 Annual Drinking Water Quality Report

TERRA BELLA IRRIGATION DISTRICT

We test the drinking water quality for many constituents as required by State and Federal Regulations. This report shows the results of our monitoring for the period of January 1 – December 31, 2017

**Este informe contiene información muy importante sobre su agua de beber.
Tradúzcalo ó hable con alguien que lo entienda bien.**

We are pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the water and services we have delivered to you over the past year. Over the past year, our source water came from the Friant Kern Canal and was supplemented with groundwater wells. Treatment of the canal water supply consists of conventional filtration using dual media gravity filters followed by chlorination. The groundwater wells are all chlorinated.

A source water assessment was conducted for the Wells 84, 50, 72, 76, 77, 80 and 85 in March 2003 and for Well 87 in March 2014. The water sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply: fertilizer, pesticide/ herbicide application; septic systems – low density. The source is considered most vulnerable to the following activities not associated with any detected contaminants: grazing; septic systems – low density; septic systems – high density; lumber processing and manufacturing; automobile – gas stations; sewer collection systems; historic gas stations; wastewater treatment plants and disposal facilities. A copy of the complete assessment may be viewed at: Terra Bella Irrigation District, 24790 Avenue 95, Terra Bella, CA 93270. If you would like a summary of the assessment sent to you or if you have any questions about this report or concerning your water utility, please contact Mr. Tom Day, Operations Superintendent, 559/535-4414.

We want our customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held the 2nd Wednesday of each month at 9:00 a.m., at the office of the Terra Bella Irrigation District located at 24790 Avenue 95 in Terra Bella.

The following are definitions of some of the TERMS USED IN THIS REPORT:

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 (USEPA).

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.

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.

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

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

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

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

Variations and Exemptions: State Board permission to exceed an MCL or not comply with a treatment technique under certain conditions.

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

N/A: Not applicable

ND: not detectable at testing limit

ppm: parts per million or milligrams per liter (mg/L)

ppb: parts per billion or micrograms per liter (µg/L)

ppt: parts per trillion or nanograms per liter (ng/L)

ppq: parts per quadrillion or picogram per liter (pg/L)

pCi/L: picocuries per liter (a measure of radiation)

In general, sources of drinking water (both tap water and bottled water) may 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.

Constituents that may be present in source water to contamination levels 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*, 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 byproducts 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 the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U. S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board – Division of Drinking Water (DDW) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DDW regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

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. Terra Bella Irrigation District 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 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/safewater/lead>.

The tables below and on the following pages list all the drinking water constituents that were detected during the most recent samplings for the constituent. The presence of these constituents in the water does not necessarily indicate that the water poses a health risk. The DDW requires us to monitor for certain constituents less than once per year because the concentrations of these constituents are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, are therefore more than one year old.

SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES			
Treatment Technique	Turbidity Performance Standards (TPS)**	Lowest monthly percentage of samples that met TPS	Highest single turbidity measurement during the year
Conventional Filtration Treatment with Chlorination	Turbidity of the filtered water must be less than or equal to 0.3 NTU in 95% of measurements in a month.	100%	0.276

** Turbidity (measured in NTU) is a measurement of the cloudiness of water and is an indicator of filtration performance. Filtration which meets performance standards is demonstrated by meeting turbidity requirements.

SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA					
Microbiological Contaminants	Highest No. of detections	No. of months in violation	MCL	MCLG	Typical Source of Contamination
Total Coliform Bacteria	1	0	1 positive monthly sample	0	Naturally present in the environment

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. 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.

TEST RESULTS (A)

Lead and Copper Rule	No. of samples collected	MCLG	Action Level	90 th percentile level detected	No. Sites Exceeding Action Level	Typical Source of Contamination
Lead (ppb) 2017	10	2	15	ND	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) 2017	10	0.3	1.3	0.16	0	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

SAMPLING RESULTS FOR SODIUM AND HARDNESS						
Constituent	MCL	PHG [MCLG]	Sample Date	Average Level Detected	Range	Likely Source of Contamination
Hardness (ppm)	None	None	2016/2017	18	5 to 110	Generally found in ground and surface water
Sodium (ppm)	None	None	2016/2017	4.3	1.2 to 26	Generally found in ground and surface water

DETECTION OF CONTAMINANTS WITH A <u>PRIMARY</u> DRINKING WATER STANDARD						
Constituent	MCL	PHG [MCLG]	Sample Date	Average Level Detected	Range	Likely Source of Contamination
Aluminum (ppm)	1	0.6	2016/2017	0.06	ND to 0.14	Erosion of natural deposits; residue from some surface water treatment processes
Nitrate as N (ppm)	10	10	2017	0.5	ND to 1.4	Runoff and leaching from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

DETECTION OF CONTAMINANTS WITH A <u>SECONDARY</u> DRINKING WATER STANDARD						
Constituent	MCL	Sample Date	Average Level Detected	Range	Likely Source of Contamination	
Chloride (ppm)	500	2016/2017	2.4	ND to 13	Runoff/leaching from natural deposits; seawater influence	
Color (Units)	15	2016/2017	10	N/A	Naturally-occurring organic materials	
Iron (ppb)	300	2016/2017	324	ND to 1800 (B)	Leaching from natural deposits; industrial wastes	
Manganese (ppb)	50	2016/2017	20.5	ND to 81 (B)	Leaching from natural deposits	
Specific Conductance (µS/cm)	1600	2016/2017	56.6	18 to 340	Substances that form ions when in water; seawater influence	
Sulfate (ppm)	500	2016/2017	2.6	ND to 18	Runoff/leaching from natural deposits; industrial wastes	
Total Dissolved Solids (TDS) (ppm)	1000	2016/2017	43.3	20 to 220	Runoff/leaching from natural deposits	
Zinc (ppm)	5	2016/2017	52	ND to 280	Runoff/leaching from natural deposits; industrial waste	

Chemical or Constituent (and reporting units)	MCL [MRDL]	PHG	MCLG [MRDLG]	Sample Date	Running Annual Average	Range	Major Sources in Drinking Water
<i>TTHM</i> [Total Trihalomethanes] (ppb)	80	N/A	N/A	2017	49.3 to 93.9	24.1 to 103.8(C)	Byproduct of drinking water chlorination
<i>HAA5</i> [Haloacetic Acids] (ppb)	60	N/A	N/A	2017	43.7 to 87.8	11.8 to 116.2(D)	Byproduct of drinking water disinfection
Chlorine as CL2 (ppm)	[4.0]	N/A	[4]	2017	0.77	0	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose or stomach discomfort.

TTHM/HAA5: Actions were taken in 2017 to return the District to compliance with the regulatory Running Annual Average requirements by the third quarter of 2017.

Disinfection Byproduct Precursors

Control of DBP precursors (TOC)	MCL	MCLG	Range	Major Sources in Drinking Water
Source Water	TT	N/A	0.54 to 3.9	Various natural and manmade sources
Treated Water	TT	N/A	0.54 to 2.2	Various natural and manmade sources

(A) Results reported due to regulatory requirement or detection of a constituent.

(B) **ABOUT SECONDARY DRINKING WATER STANDARDS:** Iron and Manganese were found at levels exceeding the Secondary MCLs. These MCLs are set to protect you against unpleasant aesthetic affects such as color, taste, odor or appearance of drinking water. The elevated levels are typically naturally occurring.

(C) ABOUT TOTAL TRIHALOMETHANES (TTHMs): *Some people who drink water containing Trihalomethanes in excess of the MCL over many years may experience liver, kidney or central nervous system problems, and may have an increased risk of getting cancer.*

(D) ABOUT HALOACETIC ACIDS (HAA5s): *Some people who drink water containing Haloacetic Acids in excess of the MCL over many years may have an increased risk of getting cancer.*

Additional General Information On Drinking Water

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some constituents. The presence of constituents does not necessarily indicate that the water poses a health risk. More information about constituents, contaminant levels and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1/800/426-4791 or their website <http://www.epa.gov/safewater/hfacts.html>.

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 and 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 microbiological contaminants are available from the Safe Drinking Water Hotline 1/800/426-4791.

Treated