2018 Consumer Confidence Report

Water System Name: **Defense Distribution Depot, Sharpe Site** Report Date: 6/28/2019

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, 2018 and may include earlier monitoring data.

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

Type of water source(s) in use: Groundwater Wells

Name & general location of source(s): Well 03 and Well 05

Drinking Water Source Assessment information: An Assessment of the drinking water sources of the Sharpe Site was completed on April 5, 2001.

Time and place of regularly scheduled board meetings for public participation: Not applicable

For more information, contact: Douglas Guenther, Env. Protection Specialist Phone: (831) 236-6346

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 (U.S. EPA).

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.

Variances 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.

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)

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.

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 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 be the result of oil and gas production and mining activities.

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. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, 5, and 6 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA					
Microbiological Contaminants (complete if bacteria detected)	**Highest No. of Detections**	**No. of Months in Violation**	**MCL**	**MCLG**	**Typical Source of Bacteria**
Total Coliform Bacteria (state Total Coliform Rule)	0	0	1 positive monthly sample	0	Naturally present in the environment
Fecal Coliform or *E. coli* (state Total Coliform Rule)	0	0	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or *E. coli* positive	0	Human and animal fecal waste
E. coli (federal Revised Total Coliform Rule)	0	0	(a)	0	Human and animal fecal waste
(a) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.					

TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER								
Lead and Copper (complete if lead or copper detected in the last sample set)	**Sample Date**	**No. of Samples Collected**	**90th Percentile Level Detected**	**No. Sites Exceeding AL**	**AL**	**PHG**	**No. of Schools Requesting Lead Sampling**	**Typical Source of Contaminant**
Lead (ppb)	07/2016	10	<5.0	None	15	0.2		Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	07/2016	10	0.275	None	1.3	0.3	Not applicable	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS						
Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**MCL**	**PHG (MCLG)**	**Typical Source of Contaminant**
Sodium (mg/L) Well 03 Well 05	07/2017	52.2 44.2	44.2-52.2	none	none	Salt present in the water and is generally naturally occurring
Hardness (mg/L) Well 03 Well 05	07/2017	150 120	120-150	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

TABLE 4 – DETECTION OF CONTAMINANTS WITH A <u>PRIMARY</u> DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Arsenic (µg/L)* (Pre Treatment- Sampled Quarterly) Well 03			(Pre Treatment) 15.5 - 22.3	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes.
	01/2018	18.8				
	04/2018	19.0				
	07/2018	15.5				
	10/2018	16.3				
Well 05	01/2018	22.3				
	04/2018	21.2				
	07/2018	21.6				
	10/2018	18.4				
(Post Treatment- Monthly Average) Station 1			(Post Treatment) 2.29 – 7.5			
	01/2018	5.23				
	02/2018	5.35				
	03/2018	5.69				
	04/2018	5.99				
	05/2018	5.58				
	06/2018	5.42				
	07/2018	5.75				
	08/2018	7.50				
	09/2018	5.95				
	10/2018	2.29				
	11/2018	2.84				
	12/2018	2.92				
Barium (µg/L) Well 03	07/2017	118	118	2,000	1,000	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits.
Haloacetic Acids (µg/L) Building 550	07/2018	4.8	4.8	60	none	Byproduct of drinking water disinfection Byproduct of drinking water disinfection.
Hexavalent Chromium (µg/L) Well 03 Well 05	07/2017	0.94 0.98	0.94-0.98	none	0.02	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits.
Fluoride (µg/L) Well 03 Well 05	07/2017	110 120	110-120	2,000	1,000	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Gross Alpha Particle Activity (pCi/L)** Well 03 Well 05	07/2017	20.5 21.5	20.5-21.5	15	(0)	Erosion of natural deposits.
Uranium (pCi/L) Well 03 Well 05	07/2017	5.9 2.2	2.2-5.9	20	0.43	Erosion of natural deposits.
Nitrate as Nitrogen (µg/L) Well 03 Well 05	07/2018	2,110 2,400	2,110-2,400	10,000	10,000	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
TTHMs (Total Trihalomethanes) (µg/L) Building 550	07/2018	42.8	42.8	80	none	Byproduct of drinking water disinfection Byproduct of drinking water disinfection.

TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**MCL**	**PHG (MCLG)**	**Typical Source of Contaminant**
Chloride (mg/L) Well 03 Well 05	07/2017	16.1 18.6	16.1-18.6	500	N/A	Runoff/leaching from natural deposits; seawater influence.
Specific Cond. (µmhos/cm) Well 03 Well 05	07/2017	582 487	487-582	1,600	N/A	Substances that form ions when in water; seawater influence.
Sulfate (mg/L) Well 03 Well 05	07/2017	23.2 21.1	21.1-23.2	500	N/A	Runoff/leaching from natural deposits; industrial wastes.
Total Dissolved Solids (mg/L) Well 03 Well 05	07/2017	374 312	312-374	1,000	N/A	Runoff/leaching from natural deposits.

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS					
Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**Notification Level**	**Health Effects Language**
Perfluorooctanesulfonic acid (PFOS) (ng/L) Station 1	01/2018 05/2018 07/2018 10/2018	19 12 14 11	11-19	13	Studies indicate that exposure to PFOA and PFOS over certain levels may result in adverse health effects, including developmental effects to fetuses during pregnancy or to breastfed infants, cancer, liver, immune and thyroid effects and other effects.
Perfluorooctanoic acid (PFOA) (ng/L) Station 1	01/2018 05/2018 07/2018	4.1 2.1 2.2	Non-detect – 4.1	14	

Additional General Information on Drinking Water

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA'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. U.S. EPA/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).

Lead-Specific Language for Community Water Systems: 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. Defense Distribution Depot, Sharpe Site 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. [Optional: 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 (1-800-426-4701) or at http://www.epa.gov/lead.

Summary Information for Violation of a MCL, MRDL, AL, TT,
or Monitoring and Reporting Requirement

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT				
Violation	**Explanation**	**Duration**	**Actions Taken to Correct the Violation**	**Health Effects Language**
0	**N/A**		**N/A**	

For Water Systems Providing Groundwater as a Source of Drinking Water

SAMPLING RESULTS SHOWING FECAL INDICATOR-POSITIVE GROUNDWATER SOURCE SAMPLES					
Microbiological Contaminants (complete if fecal-indicator detected)	**Total No. of Detections**	**Sample Dates**	**MCL [MRDL]**	**PHG (MCLG) [MRDLG]**	**Typical Source of Contaminant**
E. coli	0	01/2018 through 12/2018	0	(0)	Human and animal fecal waste
Enterococci	0		TT	n/a	Human and animal fecal waste
Coliphage	0		TT	n/a	Human and animal fecal waste

Summary Information for Fecal Indicator-Positive Groundwater Source Samples,
Uncorrected Significant Deficiencies, or Groundwater TT

SPECIAL NOTICE OF FECAL INDICATOR-POSITIVE GROUNDWATER SOURCE SAMPLE
During the past year, there were no ground water source samples that were fecal indicator positive.

SPECIAL NOTICE FOR UNCORRECTED SIGNIFICANT DEFICIENCIES
During the past year, there were no uncorrected significant deficiencies.

VIOLATION OF GROUNDWATER TT				
TT Violation	**Explanation**	**Duration**	**Actions Taken to Correct the Violation**	**Health Effects Language**
None	N/A	N/A	N/A	N/A

Summary Information for Operating Under a Variance or Exemption

* The source wells on site have historically produced water with arsenic concentrations present. In order to meet federal and state standards for arsenic, the water is treated through an arsenic filtering system at the Sharpe Depot Drinking Water Treatment Facility and is sampled weekly at the post treatment monitoring location (Station 1) to confirm compliance. 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.

On August 29, 2018, the arsenic concentration at Station 1 was 11.5 micrograms per liter (µg/L). On September 4, 6 and 11, water samples collected from Station 1 had arsenic concentrations of 10.1 µg/L, 10.4 µg/L and 9.21 µg/L, respectively. The monthly average arsenic concentration for August was 7.5 µg/L and for September was 5.95 µg/L, which is in compliance with the permit. On September 10, the backup arsenic removal/filtration vessels, containing new arsenic removal media, was flushed, chlorinated and sampled for Bac-T. On September 12, the Bac-T results indicated the system was acceptable for use, therefore, this system was brought online and sampled for arsenic and the previous system was taken offline. The previously used system will have the media removed and replaced prior to use in the future.

**Gross alpha activity was detected at concentrations of 20.5 pCi/L in Well 03 and 21.5 pCi/L in Well 05. Due to the fact that gross alpha activity and uranium exceedances of the California MCL (15 pCi/L and 20 pCi/L, respectively) occur more frequently in the central valley, the groundwater samples were analyzed for uranium once the gross alpha exceedances were observed. Uranium was detected at concentrations of 5.9 pCi/L in Well 03 and 2.2 pCi/L in Well 05, which is less than the 20 pCi/L California MCL.

Summary Information for Federal Revised Total Coliform Rule
Level 1 and Level 2 Assessment Requirements

Level 1 or Level 2 Assessment Requirement not Due to an *E. coli* MCL Violation

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found no coliforms indicating the need to look for potential problems in water treatment or distribution. During the past year we were not required to conduct a Level 1 assessment.

Level 2 Assessment Requirement Due to an *E. coli* MCL Violation

E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems. We found no *E. coli* bacteria, indicating the need to look for potential problems in water treatment or distribution. During the past year we were not required to conduct a Level 2 assessment.