2019 Consumer Confidence Report

Water System Name: **Sierra Army Depot – PWS# 1810700** Report Date: July 2020

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 to December 31, 2019 and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse [*Sierra Army Depot – PWS #1810700*] a [*74 Currant St Bldg. 63 Herlong CA 96113*] para asistirlo en español.

Type of water source(s) in use: Groundwater

Name & general location of source(s): Well 05, Well 08, Well 12

Drinking Water Source Assessment information: The Public Health Command, Fort Lewis Washington, conducted a water assessment survey on our sources in April 2013. Our sources are considered most vulnerable to the following activities: Military installations, historic and active automobile gas stations, and chemical/petroleum processing/storage. Our sources are considered most vulnerable to the following activities associated with the detection of nitrate: animal operations, monitoring well/test holes.

Time and place of regularly scheduled board meetings for public participation: N/A

For more information, contact: Thomas D Humphreys Phone: (530) 827-5242

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: Permissions from the State Water Resources Control Board (State Board) 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 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.

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)	(In a month) 0	0	1 positive monthly sample[a]	0	Naturally present in the environment
Fecal Coliform or *E. coli* (state Total Coliform Rule)	(In the year) 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)	(In the year) 0	0	(b)	0	Human and animal fecal waste

(a) Two or more positive monthly samples is a violation of the MCL
(b) 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)	2016	10	1.1	0	15	0.2		Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	2016	10	0.806	0	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 (ppm) Well 5 Well 8 Well 12	 2012 2012 2017	64	57 - 74	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm) Well 5 Well 8 Well 12	 2012 2012 2016	193	100 - 290	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 PRIMARY 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**
Aluminum (mg/L) Well 5 Well 8 Well 12	 2012 2012 2016	0.50	0.50 – 0.50	1	0.6	Erosion of natural deposits; residue from some surface water treatment processes
Antimony (µg/L) Well 5 Well 8 Well 12	 2012 2012 2016	1.0	1.0 – 1.0	6	1	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (µg/L) Well 5 Well 8 Well 12	 2019 2012 2019	3.33	2.0 – 4.0	10	0.004	Erosion of natural deposits, runoff from orchards.
Barium (mg/L) Well 5 Well 8 Well 12	 2012 2012 2016	0.060	0.058 – 0.067	1	2	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
Beryllium (µg/L) Well 5 Well 8 Well 12	 2012 2012 2016	1.0	1.0 – 1.0	4	1	Discharge from metal refineries, coal-burning factories, and electrical, aerospace, and defense industries
Cadmium (µg/L) Well 5 Well 8 Well 12	 2012 2012 2016	1.0	1.0 – 1.0	5	0.04	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and metal refineries; runoff from waste batteries and paints
Chromium (Total) (µg/L) Well 5 Well 8 Well 12	 2012 2012 2016	1.33	1.0 – 2.0	50	100	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (mg/L) Well 5 Well 8 Well 12	 2012 2012 2016	0.60	0.60 – 0.60	2	1	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha (pCi/L) Well 5 Well 8 Well 12	 2015 2015 2017	8.55	3.30 – 20.3	15	0	Erosion of natural deposits
Gross Beta (pCi/L) Well 5 Well 8	 2015	5.195	4.66 – 5.73	50	0	Decay of natural and man-made deposts.
Mercury (µg/L) Well 5 Well 8 Well 12	 2019 2012 2019	ND	ND - ND	2	12	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland

Nickel (µg/L) Well 5 Well 8 Well 12	 2012 2012 2016	1.0	1.0 – 1.0	100	12	Erosion of natural deposits; discharge from metal factories
Nitrate – as N (mg/L) Well 5 Well 8 Well 12	 2019 2018 2019	2.4	ND – 6.0	10	10	Leaching from fertilizer use, septic tanks, erosion of natural deposits.
Perchlorate (µg/L) Well 5 Well 8 Well 12	 2012 2017 2017	3.33	2.0 – 4.0	6	1	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts.
Radium – 228 (pCi/L) Well 5 Well 8 Well 12	 2015 2015 2016	0.455	0.172 – 0.692	5	0.05	Decay of natural and man-made deposits.
Selenium (µg/L) Well 5 Well 8 Well 12	 2012 2012 2016	5.0	5.0 – 5.0	50	30	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
Thallium (µg/L) Well 5 Well 8 Well 12	 2012 2012 2016	0.50	0.50 – 0.50	2	0.1	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Uranium (pCi/L) Well 8 – Blended Well 12 - Raw	 2018 2018	 11.3 ND	ND – 11.3	20	0.43	Erosion of natural deposits

TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**SMCL**	**PHG (MCLG)**	**Typical Source of Contaminant**
Chloride (mg/L) Well 5 Well 8 Well 12	 2012 2012 2016	25.67	14 - 38	15	None	Naturally-occurring organic materials
Color (Units) Well 5 Well 8 Well 12	 2008 2017 2017	1.67	ND - 5	1.0	None	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Copper (Mg/L) Well 5 Well 8 Well 12	 2019 2017 2019	0.0087	0.002 – 0.019	500	None	Municipal and industrial waste discharges
Foaming Agents (µg/L) Well 5 Well 8 Well 12	 2015 2015 2016	ND	ND - ND	300	None	Leaching from natural deposits; industrial wastes
Iron (µg/L) Well 5 - Raw Well 8 - Raw Well 12 – Raw Well 5 – Treated Well 8 - Treated	 2019 2018 2019 2019 2018	572	ND - 2700	50	None	Leaching from natural deposits
Manganese (µg/L) Well 5 - Raw Well 8 - Raw Well 12 – Raw Well 5 – Treated Well 8 - Treated	 2019 2018 2019 2019 2018	579.20	14 - 2300	100	None	Industrial discharges

Silver (µg/L) Well 5 Well 8 Well 12	 2012 2012 2016	ND	ND - ND	5.0	None	Runoff/leaching from natural deposits; industrial wastes
Sulfate (mg/L) Well 5 Well 8 Well 12	 2012 2012 2016	121.67	45 - 190	1000	None	Runoff/leaching from natural deposits
Total Dissolved Solids (TDS) (mg/L) Well 5 Well 8 Well 12	 2011 2011 2017	536.67	300 - 830	500	None	Runoff/leaching from natural deposits
Zinc (mg/L) Well 5 Well 8 Well 12	 2012 2012 2016	0.013	ND – 0.02	500	None	Runoff/leaching from natural deposits; industrial wastes

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**Notification Level**	**Health Effects Language**

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: 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. ***Sierra Army Depot – PWS# 1810700*** 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.

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**
01-02-20C-005	**Based on past monitoring results and in accordance with Section 64672, Title 22 of the California Code of Regulations (CCR), SIAD is allowed to reduce monitoring of lead and copper to one set of at least ten tap water samples at least once every three years during the months of June, July, August or September.** **SIAD failed to conduct the required monitoring for lead and copper in the distribution system during the triennial period of 2017 – 2019 violating Title 22, Section 64675(b) and Section 64675.5 of the CCR.**	**SIAD shall submit the results from all lead and copper monitoring in the distribution system to the Division within 30 days of receiving the results but by no later than October 10, 2020.**	**SIAD has sent in one set of ten tap water samples for monitoring during the month of June 2020, per Sections 64675, 64675(b), and 64675.5 Title 22. The results of the samples were Non Detect (ND) or below the Maximum Contaminant Level (MCL), and meet the Drinking Water Standards.**	**Infants and children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure.** **Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water**

				containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

For Water Systems Providing Groundwater as a Source of Drinking Water

TABLE 7 – 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	(In the year) 0	Jan – Dec 2019	0	(0)	Human and animal fecal waste
Enterococci	(In the year) N/A		TT	N/A	Human and animal fecal waste
Coliphage	(In the year) 0	Jan – Dec 2019	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

SPECIAL NOTICE FOR UNCORRECTED SIGNIFICANT DEFICIENCIES

VIOLATION OF GROUNDWATER TT				
TT Violation	**Explanation**	**Duration**	**Actions Taken to Correct the Violation**	**Health Effects Language**

For Systems Providing Surface Water as a Source of Drinking Water

TABLE 8 - SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES	
Treatment Technique [(a)] (Type of approved filtration technology used)	
Turbidity Performance Standards [(b)] (that must be met through the water treatment process)	Turbidity of the filtered water must: 1 – Be less than or equal to _____ NTU in 95% of measurements in a month. 2 – Not exceed _____ NTU for more than eight consecutive hours. 3 – Not exceed ____ NTU at any time.
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1.	
Highest single turbidity measurement during the year	
Number of violations of any surface water treatment requirements	

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

(b) Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

Summary Information for Violation of a Surface Water TT

VIOLATION OF A SURFACE WATER TT				
TT Violation	**Explanation**	**Duration**	**Actions Taken to Correct the Violation**	**Health Effects Language**

Summary Information for Operating Under a Variance or Exemption

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 coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct [***INSERT NUMBER OF LEVEL 1 ASSESSMENTS***] Level 1 assessment(s). [***INSERT NUMBER OF LEVEL 1 ASSESSMENTS***] Level 1 assessment(s) were completed. In addition, we were required to take [***INSERT NUMBER OF CORRECTIVE ACTIONS***] corrective actions and we completed [***INSERT NUMBER OF CORRECTIVE ACTIONS***] of these actions.

During the past year [***INSERT NUMBER OF LEVEL 2 ASSESSMENTS***] Level 2 assessments were required to be completed for our water system. [***INSERT NUMBER OF LEVEL 2 ASSESSMENTS***] Level 2 assessments were completed. In addition, we were required to take [***INSERT NUMBER OF CORRECTIVE ACTIONS***] corrective actions and we completed [***INSERT NUMBER OF CORRECTIVE ACTIONS***] of these actions.

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 *E. coli* bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) identify problems and to correct any problems that were found during these assessments.

We were required to complete a Level 2 assessment because we found *E. coli* in our water system. In addition, we were required to take [***INSERT NUMBER OF CORRECTIVE ACTIONS***] corrective actions and we completed [***INSERT NUMBER OF CORRECTIVE ACTIONS***] of these actions.