Camp Stanley Storage Activity
Environmental Program Update

FACT SHEET

No. 39 – Annual Fact Sheet
July 2019

The purpose of this Fact Sheet is to provide an update on the status of Camp Stanley Storage Activity's (CSSA) environmental program, as well as an overview of quarterly groundwater sampling conducted in 2017. CSSA's Administrative Record and results for all groundwater sampling events are available in the CSSA Environmental Encyclopedia located on the internet at www.stanley.army.mil.

Overview of CSSA's Environmental Program

In 1991, routine water well testing by the Texas Department of Health detected the presence of dissolved cleaning solvent tetrachloroethene (PCE) and related degradation products above maximum contaminant levels (MCLs) in a CSSA water supply well (Well 16 [CS-16]). Subsequent sampling showed volatile organic compound (VOC) contaminant concentrations greater than MCLs in other wells. VOCs make up substances such as paint thinners, dry cleaning solvents, and some constituents of petroleum fuels (e.g. gasoline and natural gas). CSSA ceased using VOC solvents in the mid-1990s and monitors for VOCs and metals associated with its past industrial processes.

Sources of CSSA's groundwater contamination were initially determined to be Solid Waste Management Unit (SWMU) O-1 and SWMU B-3; this area is referred to as Plume 1. Later, Area of Concern 65 (AOC-65) was identified as the source of groundwater contamination at Plume 2. Both plumes are shown on Figure 1.

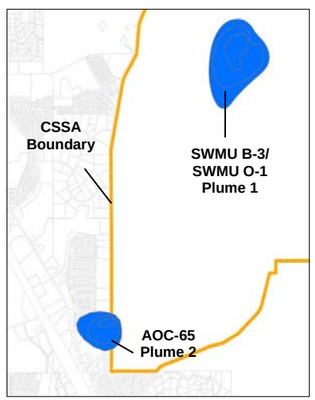

Figure 1: Plume Locations

In May 1999, the U.S. Environmental Protection Agency (USEPA) issued a Resource Conservation and Recovery Act (RCRA) 3008(h) Administrative Order on Consent (Order) requiring CSSA to identify, investigate, and prevent further spread of releases of hazardous wastes and/or hazardous constituents to the environment, and to ensure that corrective action activities are implemented to protect human health and the environment. These requirements were met by following the RCRA process as shown in Figure 2, and CSSA is currently in the final process of Corrective Measures Implementation and Completion.

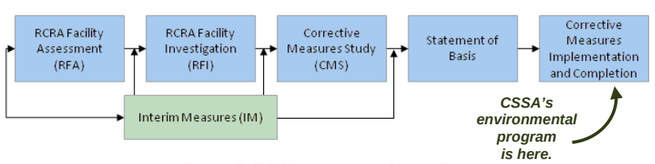

Figure 2: RCRA Corrective Action Process

As described in Fact Sheet No. 35 distributed in May 2015, USEPA issued the Statement of Basis (SB) to the public which detailed its preferred remedies for treating groundwater contamination at CSSA. USEPA subsequently issued a Final Decision Document in July 2015 that officially approved the remedies and initiated the Corrective Measures Implementation phase of RCRA. With these documents and corrective measures in place, CSSA is continuing with contaminant source remediation, and continues to maximize and enhancing the effectiveness of its long-term groundwater monitoring program.

Off-post Groundwater Monitoring

The goals of CSSA's off-post monitoring program are to confirm that off-post drinking water meets USEPA and TCEQ safe drinking water standards, determine where VOC contamination has migrated, and define the appropriate response. As part of the program, a total of 41 samples were collected from 9 off-post wells and 6 granular activated carbon (GAC) wellhead treatment locations in 2018 (see Table 1).

Factors considered in deciding if a well is sampled include where the well is located, how close it is to areas where VOCs have been detected, whether the well owner grants access for sampling, and results of previous sampling at the well. A well is initially sampled for four consecutive quarters (i.e., every three months for one year). Depending on the analytical results for the well, future sampling occurs as illustrated on Figure 4. CSSA takes action if VOCs are detected in off-post wells at concentrations that begin approaching 90% of the MCL (greater than 4.5 ppb).

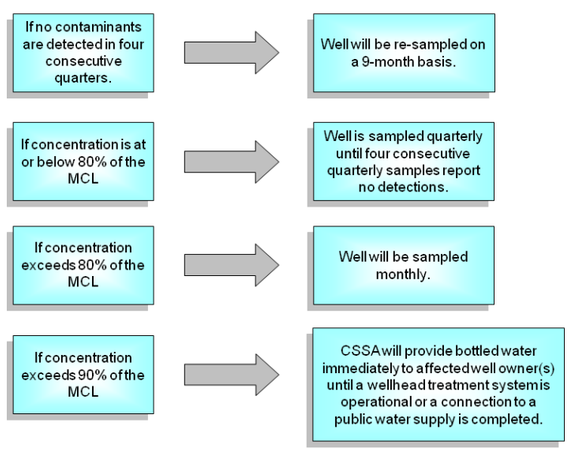

Figure 4: Off-Post Well Sampling Decision Chart

2018 Groundwater On- and Off-Post Sampling Results

The locations of all on- and off-post wells sampled in 2018 are shown on Figure 5 (back side). Table 1 presents off-post groundwater data for PCE and trichloroethene (TCE) from all 2018 sampling events. Two wells (RFR-10 and RFR-11) exceeded the MCL for PCE and TCE in samples collected prior to the well's GAC filter. In all other wells tested, any VOCs that were detected had concentrations below the drinking water MCLs for PCE and TCE.

All GAC-filtered samples collected in March 2018 and September 2018 were non-detect indicating the GAC units were functioning properly. Semi-annual GAC maintenance was performed in March and September 2018. This involved replacing the first carbon canister in each GAC system and other routine maintenance. Carbon canister replacements for 2019 are scheduled for March and September 2019.

CSSA will continue to sample both on- and off-post groundwater wells at frequencies approved by USEPA and TCEQ; and to coordinate the groundwater monitoring program with the regulatory agencies and other potentially affected parties in the community.

Endangered Species at CSSA

CSSA is dedicated to protecting endangered species and their habitats. One federal and state-listed endangered bird species resides at CSSA during certain times of the year. The Golden-cheeked Warblers (*Dendroica chrysoparia*) typically resides in Central Texas Hill Country between March and July.

Figure 6: Golden-cheeked Warbler (2017 Survey)

CSSA conducts presence-absence surveys for these birds every two years (odd-numbered years). These surveys identify nesting and preferred habitat areas that should be avoided during the period that these birds are typically present: March to July. If tree removal is required within this habitat at any time, it must be reported to U.S. Fish and Wildlife Service.

The most recently completed survey, conducted in 2017, showed a 5% increase in the number of Golden-cheeked Warblers (Figure 6) at CSSA since 2015, continuing the increasing trend since 2009. No Black-capped Vireo detections occurred at CSSA during the 2017 survey, and it was removed from the endangered species list on May 16, 2018. The next bird survey will be conducted in 2019.

Four new species that are not endangered and have not been previously identified at CSSA were reported in 2017: the Egyptian Goose, the Upland Sandpiper, the Laughing Gull, and the Blue Jay.

Activities Planned for 2019

- Continued monitoring and operation & maintenance (O&M) of the AOC-65 *in-situ* chemical oxidation (ISCO) remediation area and the SWMU B-3 bioreactor system to assess the remedies' impacts to source area contaminant concentrations.
- Continued groundwater monitoring at on- and off-post wells in accordance with the most recent long-term monitoring optimization (LTMO) results and data quality objectives (DQOs) approved by USEPA and TCEQ.
- CSSA drinking water system monitoring and O&M.

Figure 7: Aerial View of SWMU B-3 Bioreactor

Public Outreach and Future Fact Sheets

CSSA has been issuing Fact Sheets similar to this one since 2000. We will continue to mail Fact Sheets annually to provide information on sampling results, ongoing investigations, and cleanup activities. Each well owner involved in the groundwater monitoring program will continue to receive a separate letter concerning laboratory results for their wells after sampling by CSSA. The public is welcome to comment on this Fact Sheet and the environmental activities at CSSA by writing or calling:

- CSSA Installation Manager, Mr. Jason D. Shirley, at (210) 295-7416;
- USEPA Regional Program Manager, Mr. Greg Lyssy, at (214) 665-8317;
- TCEQ Regional Program Manager, Mr. Timothy Brown, at (512) 239-6526; or
- SGM Dean Welch, ARNORTH Public Affair Office, office (210) 221-0765, mobile (210) 216-5546, email usarmy.jbsa.arnorth.list.pao-owner@mail.mil

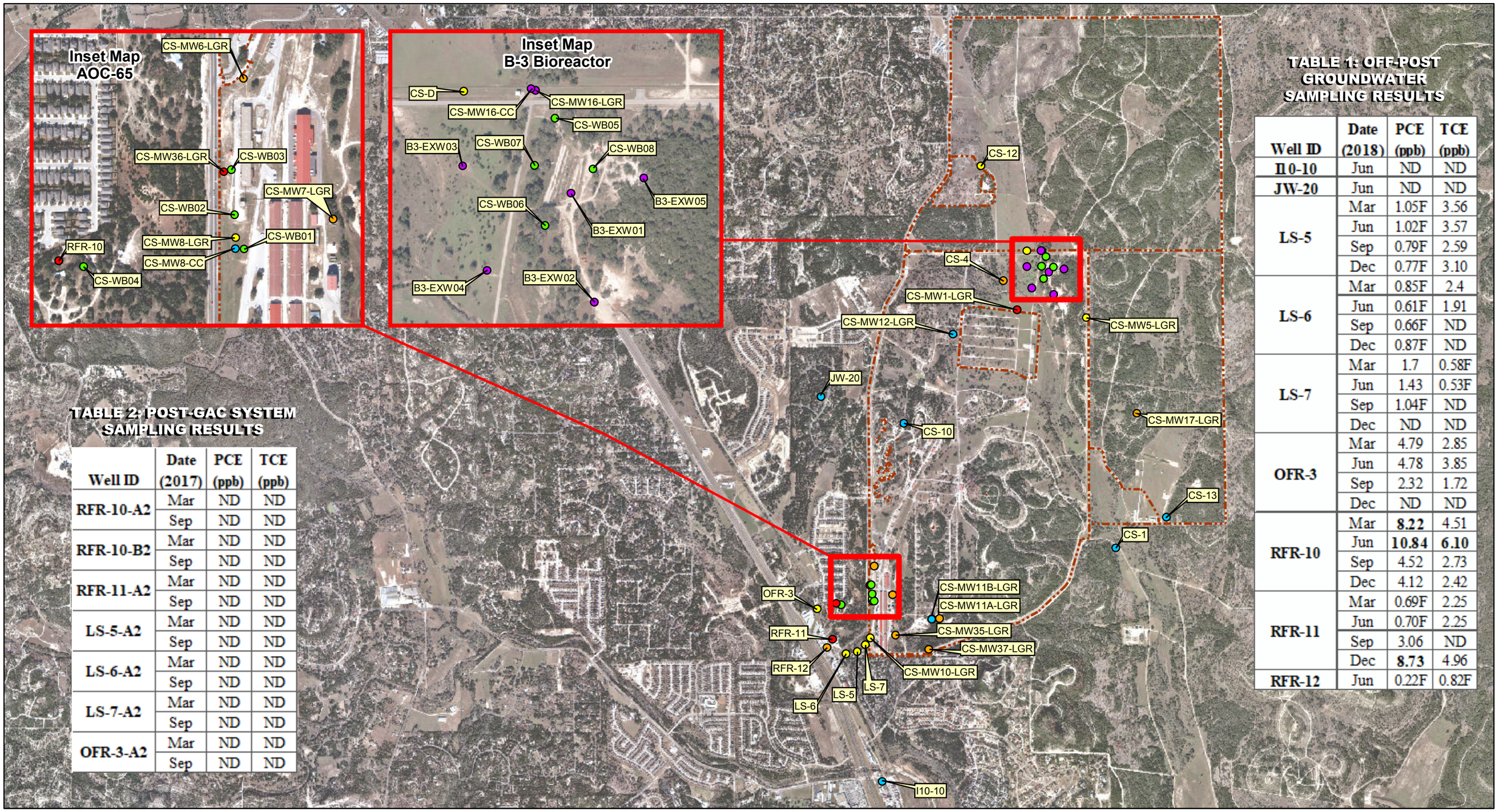

TABLE 1: OFF-POST GROUNDWATER SAMPLING RESULTS

Well ID	Date (2018)	PCE (ppb)	TCE (ppb)
I10-10	Jun	ND	ND
JW-20	Jun	ND	ND
LS-5	Mar	1.05F	3.56
	Jun	1.02F	3.57
	Sep	0.79F	2.59
	Dec	0.77F	3.10
LS-6	Mar	0.85F	2.4
	Jun	0.61F	1.91
	Sep	0.66F	ND
	Dec	0.87F	ND
LS-7	Mar	1.7	0.58F
	Jun	1.43	0.53F
	Sep	1.04F	ND
	Dec	ND	ND
OFR-3	Mar	4.79	2.85
	Jun	4.78	3.85
	Sep	2.32	1.72
	Dec	ND	ND
RFR-10	Mar	**8.22**	4.51
	Jun	**10.84**	**6.10**
	Sep	4.52	2.73
	Dec	4.12	2.42
RFR-11	Mar	0.69F	2.25
	Jun	0.70F	2.25
	Sep	3.06	ND
	Dec	**8.73**	4.96
RFR-12	Jun	0.22F	0.82F

TABLE 2: POST-GAC SYSTEM SAMPLING RESULTS

Well ID	Date (2017)	PCE (ppb)	TCE (ppb)
RFR-10-A2	Mar	ND	ND
	Sep	ND	ND
RFR-10-B2	Mar	ND	ND
	Sep	ND	ND
RFR-11-A2	Mar	ND	ND
	Sep	ND	ND
LS-5-A2	Mar	ND	ND
	Sep	ND	ND
LS-6-A2	Mar	ND	ND
	Sep	ND	ND
LS-7-A2	Mar	ND	ND
	Sep	ND	ND
OFR-3-A2	Mar	ND	ND
	Sep	ND	ND

Aerial Photo Date: 2013

N W E S

0 0.5 1 2 Miles

- Wells with VOC concentrations > MCL
- Wells with VOC concentrations between RL and MCL
- Wells with VOC concentrations < RL
- Non-detect
- Mulit-port Westbay Wells
- Other wells
- Fence Line

Figure 5

2018 Sampled On-Post and Off-Post Groundwater Wells
Camp Stanley Storage Activity

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