



Camp Stanley Storage Activity Environmental Program FACT SHEET

No. 29 – November 2009

The purpose of this Fact Sheet is to provide an overview of the history and mission of the Camp Stanley Storage Activity. Extensive information about Camp Stanley is available in the Camp Stanley Storage Activity Environmental Encyclopedia located at the downtown San Antonio Public Library, 600 Soledad Street, on the 2nd floor behind the Reference Desk in the Government Documentation Section, or on the internet at www.stanley.army.mil.

Background and History

Camp Stanley Storage Activity (CSSA) is a U.S. Army installation located in Bexar County, approximately 19 miles northwest of San Antonio, Texas.

The land on which CSSA is located was used for ranching and agriculture until the early 1900s. During 1906 and 1907, six tracts of land were purchased by the U.S. Government and designated the Leon Springs Military Reservation. The installation was renamed CSSA in 1917 and designated an ammunition depot in 1925. Between 1917 and 1970, federal and private land transfers and acquisitions increased the installation area to its current size of 4,004 acres.

Mission

The mission of CSSA is the receipt, storage, and issuance of ordnance materiel as well as quality assurance testing and maintenance of military weapons and ammunition. Because of its ordnance mission, CSSA is a controlled-access facility.

Contamination History

CSSA has two areas of groundwater contamination – Plume 1 and Plume 2. Groundwater contamination at CSSA is caused by a group of chemical compounds commonly referred to as chlorinated solvents or volatile organic compounds (VOCs). Tetrachloroethene (PCE) and trichloroethene (TCE) are the two most common VOCs found in the CSSA groundwater contamination plumes. These solvents were commonly used until 1995 for cleaning oil and grease from equipment and machinery. The U. S. Environmental Protection Agency (USEPA) has established drinking water Maximum Contaminant Levels (MCLs) for PCE and TCE at 5.0 parts per billion (ppb). Concentrations below 5.0 ppb are considered safe for drinking water. **Figure 1** (back page) depicts areas that met or exceeded the MCLs for VOCs in 2008.

Plume 1: CSSA first became aware of groundwater contamination beneath the post in 1991, when VOCs were detected in water from CSSA Well 16 (CS-MW16-LGR). This well is located in the central portion of the post, approximately 500 feet from a known VOC source area. CSSA immediately removed Well CS-MW16-LGR from its drinking water supply system and began to test additional on- and off-post wells for VOCs. Based on many sampling events, it was determined that contamination associated with the Well CS-MW16-LGR area is confined to the central portion of CSSA.

Plume 2: In December 1999, CSSA tested Well LS-7, a private off-post well near the southwestern corner of the post as a proactive step to determine if contamination had migrated off-post. Analytical results from this well indicated low levels of PCE and TCE contamination. As a result, CSSA continues to monitor Well LS-7 and other off-post wells on a quarterly basis. Low levels of VOCs have been detected in samples collected from wells located up to 2,400 feet southwest of the post. Historical sampling results show a total of eight wells (see Figure 1) have either approached, or exceeded the MCL for either PCE or TCE at off-post well locations: LS-2/LS-3 (unused), LS-6, LS-7, RFR-10, RFR-11, OFR-3, and I10-4 (unused). As a result, five off-post water wells have been fitted with granular activated carbon (GAC) filtration systems to remove VOCs: LS-7 (August 2001), LS-6 (August 2001), RFR-10 (two units, October 2001), RFR-11 (October 2001), and OFR-3 (April 2002). While the extent and location of VOC detections in off-post groundwater remains relatively unchanged, the number of off-post wells that exceeded MCLs in 2008 was limited to only I10-4, RFR-10, and OFR-3. However, VOC concentrations less than MCLs are still present in both off- and on-post wells that define the extent of Plume 2.

CSSA describes its off-post groundwater monitoring plan in its *Off-Post Monitoring Program and Response Plan*, July 2001 (Plan). The goals of this Plan are to confirm that off-post drinking water meets USEPA and TCEQ safe drinking water standards, determine where VOC contamination has migrated, and respond according to the Plan if contaminant levels in those wells exceed standards. As part of the Plan, 44 off-post wells have been sampled in 2009.

In August 2007, San Antonio Water Systems (SAWS) began supplying water to residents of the Leon Springs Villas Subdivision and use of several former private drinking water supply wells (LS-1, LS-2, LS-3, LS-4) was discontinued. Based on these changes, GAC filtration service for LS-2/LS-3 has been discontinued.

Source Area Cleanup

Groundwater contamination at CSSA is associated with three VOC source areas: Solid Waste Management Unit (SWMU) B-3, SWMU O-1 and Area of Concern (AOC)-65. SWMU B-3 was a landfill and SWMU O-1 was an oxidation pond used for disposal of waste liquids and sludges; both are located in the central portion of CSSA. Cleanup activities at SWMU B-3 and SWMU O-1 included excavation and disposal of VOC-contaminated soil and removal of gases in the soil (soil vapor extraction [SVE]). Approximately 1,515 cubic yards of soil were removed from SWMU O-1, and the site was closed in 2002. Approximately 16,000 cubic yards of waste and contaminated soil have been removed from SWMU B-3. A bioreactor, designed to eliminate VOCs through accelerating biological activity of microorganisms capable of degrading PCE and TCE, was installed at SWMU B-3 in 2007. Wells installed around SWMU B-3 and the bioreactor are closely monitored to determine if the system is running efficiently and effectively.

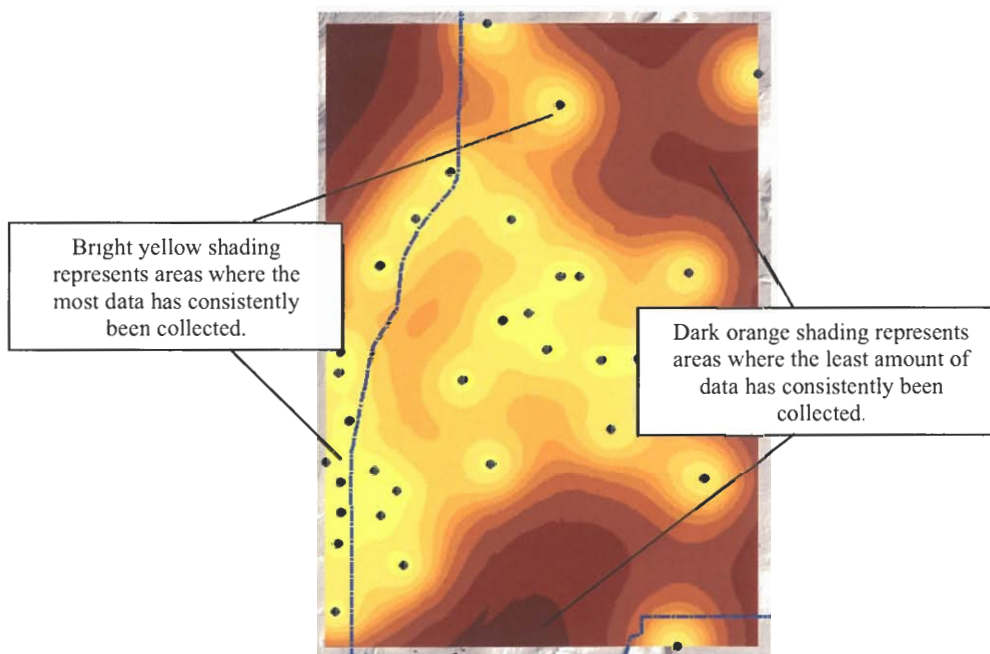
AOC-65, located in the southwest corner of CSSA, was also identified as a potential source of VOCs found in groundwater around CSSA. The removal of 1,255 cubic yards of asphalt and contaminated soil was completed in 2002. An SVE system has been installed and is being tested to evaluate its effectiveness and ability to remove VOCs from soil and rock in the area. Since initial operation of the SVE system began in 2002, a significant reduction in soil gas concentrations has been observed beneath AOC-65. This SVE system was recently upgraded by adding extraction wells to increase its effectiveness, and it will be in operation for the foreseeable future.

Long-Term Monitoring Optimization (LTMO)

A three-tiered LTMO evaluation was performed in 2005. The objective of the evaluation was to statistically evaluate 10 years of groundwater data to identify areas where the data confidence was highest (i.e., areas with stable concentrations over many years). Wells are evaluated based on the following three criteria:

1. **Results over time.** If the trend for a well showed that concentrations were stable, the sampling frequency for that well could be reduced to every two years. If the trend showed that concentrations fluctuated significantly over time, the well would continue to be sampled annually.
2. **Spatial Evaluation.** Wells were evaluated based on their proximity to other wells in the sampling network. For example, a well with several others surrounding it may not provide concentration data that is as valuable as a well located in an area with no other surrounding sampling locations (**Figures 2 through 4**).
3. **Qualitative Evaluation.** These criteria evaluated scientific or technical reasons for continuing or discontinuing sample collection at certain on-post wells.

Statistical Mapping Under Two Hypothetical Scenarios



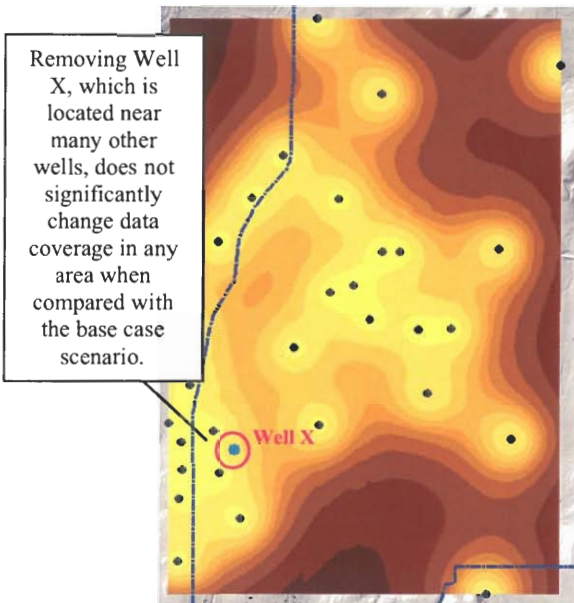


Figure 3 - Data coverage with Well X removed.

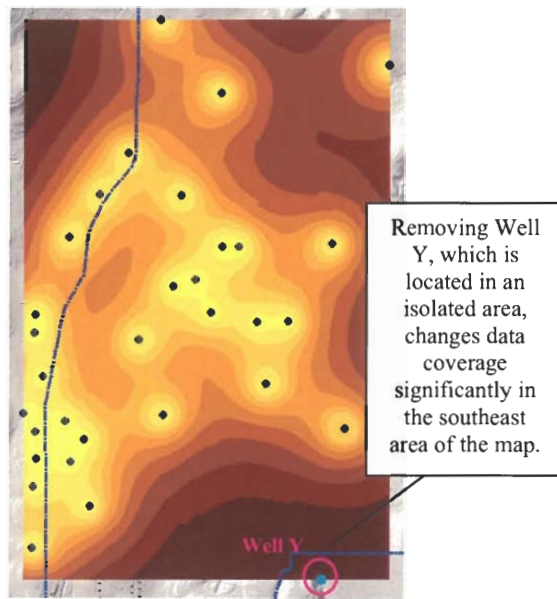


Figure 4 - Data coverage with Well Y removed.

Another evaluation will be conducted in 2010 using another 5 years of monitoring data. The results of this evaluation will be used to recommend changes to the on- and off-post monitoring program. Some wells that have been monitored quarterly may be monitored semiannually or annually. The cost savings from reducing the monitoring frequency of wells which have been consistently clean can be applied toward the collection of more data in areas with less information. It is important to note that monitored wells located within and very near the groundwater plume will not be considered for sampling frequency reduction. Implementation of the LTMO recommendations is tentatively planned for late 2010, after TCEQ and USEPA review and approval.

What's New Since the 2006 Public Meeting?

CSSA last held public meetings in December 2006. Since that time, three additional years of groundwater monitoring data have been collected and annual fact sheets issued to the public with the results. The 2006 public meeting summarized the SWMU B-3 removal action and bioreactor construction which was completed in 2007. Also since 2006, the SVE system at AOC-65 was upgraded and expanded by adding extraction wells to increase its effectiveness. Both the bioreactor and the AOC-65 SVE system are monitored on a regular basis, and annual reports on the status of each system are generated annually.

Public Comment and Future Fact Sheets

CSSA has been issuing fact sheets similar to this Fact Sheet since 2000. Future fact sheets will be mailed to interested parties annually to provide information on sampling results, ongoing investigations, and cleanup activities. Residents who would like to be added to the fact sheet mailing list can do so either by contacting one of the parties listed below or attending one of the public meetings. 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.

Two public meetings are planned for November 2009 to inform the public about Camp Stanley and answer any questions local citizens may have. The information for the meetings is as follows:

7:00 – 9:00 p.m. Tuesday, November 17, 2009
Fair Oaks Ranch Elementary School cafeteria
29085 Ralph Fair Road
Fair Oaks Ranch, Texas 78015
(Please enter on the opposite side of the building off Chartwell Drive.)

and **7:00 – 9:00 p.m. Thursday, November 19, 2009**
Leon Springs Elementary School cafeteria
23881 IH 10 West
San Antonio, Texas 78257

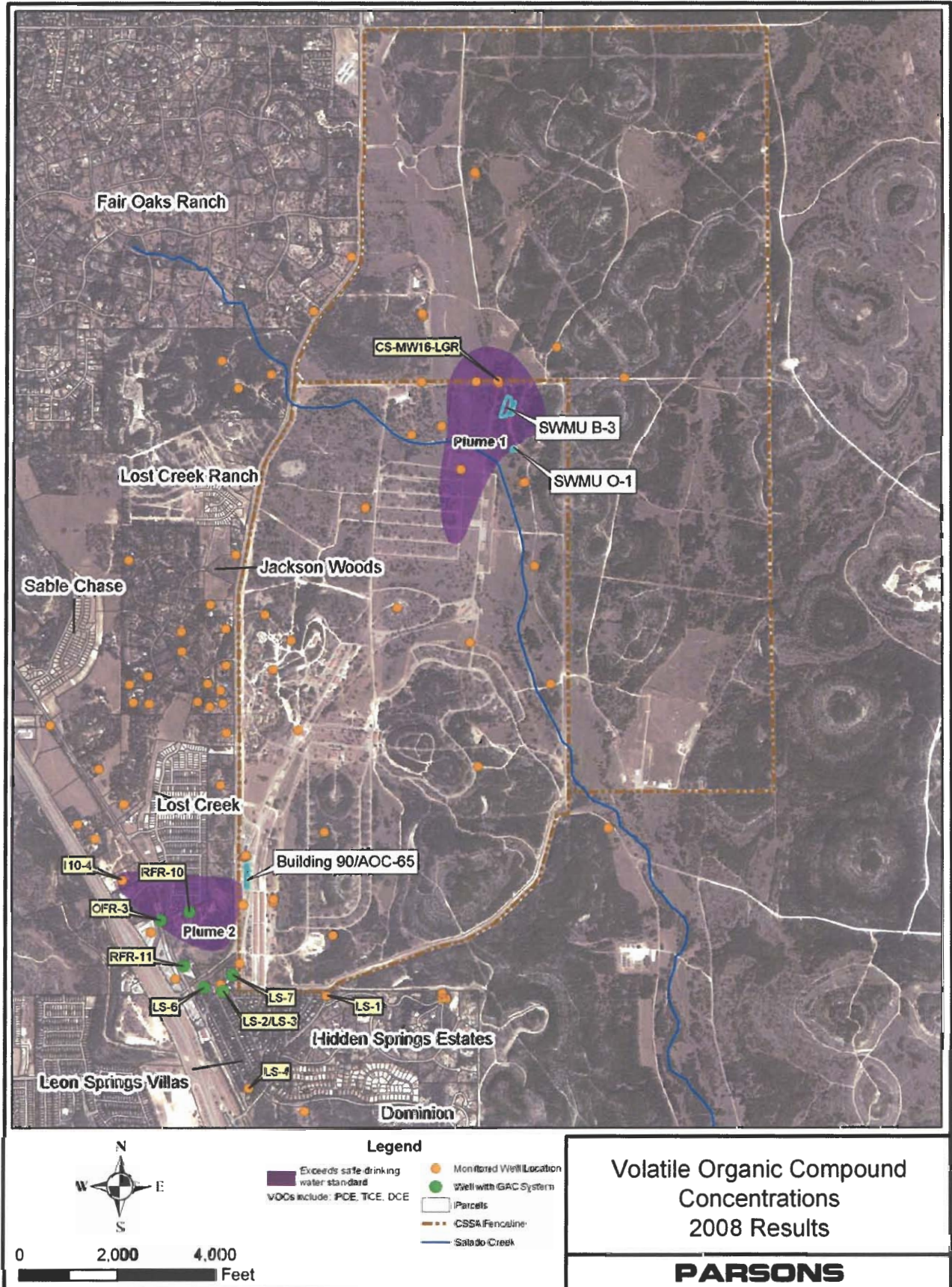
CSSA will continue to inform the public about various aspects of its environmental program. The public is welcome to comment on this Fact Sheet and the environmental activities at CSSA by writing to:

Installation Manager
 Camp Stanley Storage Activity
 25800 Ralph Fair Road
 Boerne, Texas 78015-4800

Interested parties may also comment by calling:

- CSSA Installation Manager, Mr. Jason D. Shirley at (210) 295-7416;
- USEPA Regional Program Manager, Mr. Greg Lyssy, at (214) 665-8317; or
- Fort Sam Houston, Public Affairs Office,

Figure 1 – Monitored Well Locations and Plume Map
 (see Contamination History section of text for discussion)



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