

September 2014

Off-Post

Quarterly Groundwater Monitoring Report



Prepared For

**Department of the Army
Camp Stanley Storage Activity
Boerne, Texas**

November 2014

EXECUTIVE SUMMARY

- A total of 13 off-post samples were scheduled and collected during the September 2014 monitoring event.
- Analyses indicated off-post well RFR-10 exceeded the maximum contaminant level (MCL) for tetrachloroethene (PCE). Trichloroethene (TCE) was also detected above the laboratory reporting limit (RL). This well is equipped with granular activated carbon (GAC) filtration system.
- Well JW-20 was added to the sampling program in January 2014. Four consecutive quarterly samples have been collected. All sample results were below the laboratory method detection limits (MDL).
- Well SLD-01 reported its first detection of PCE, below the RL, in September 2013. In September 2014 PCE was detected again, below the RL. This well will remain on the quarterly sampling schedule until 4 consecutive samples have been reported with no detections, in accordance with the data quality objectives (DQOs).
- GAC-filtered samples were collected in September 2014. All GAC-filtered samples results were non-detect indicating the GAC units are functioning properly. The next GAC-filtered samples will be collected in March 2015.
- Semi-annual GAC maintenance was performed August 5, 2014. This involved replacing the first carbon canister in each GAC unit and other routine maintenance. This carbon exchange is performed semi-annually; the next carbon change-out will be due in February 2015.
- The DQOs and the long term monitoring optimization (LTMO) are currently under review and will be submitted to the Texas Commission on Environmental Quality (TCEQ) and US Environmental Protection Agency (USEPA) for approval.

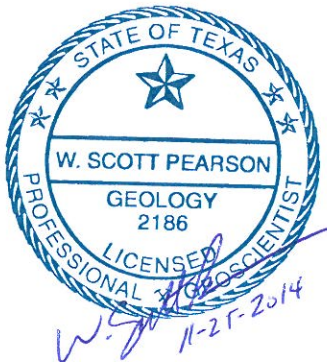
GEOSCIENTIST CERTIFICATION

September 2014 Off-Post Quarterly Groundwater Monitoring Report

For

**Department of the Army
Camp Stanley Storage Activity
Boerne, Texas**

I, W. Scott Pearson, P.G., hereby certify that the 2014 September Off-Post Quarterly Groundwater Monitoring Report for the Camp Stanley Storage Activity installation in Boerne, Texas accurately represents the site conditions of the subject area. This certification is limited only to geoscientific products contained in the subject report and is made on the basis of written and oral information provided by the Camp Stanley Storage Activity Environmental Office, laboratory data provided by APPL, and field data obtained during groundwater monitoring conducted at the site in September 2014, and is true and accurate to the best of my knowledge and belief.



W. Scott Pearson
W. Scott Pearson, P.G.
State of Texas
Geology License No. 2186

11-25-2014
Date

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ABBREVIATIONS AND ACRONYMS

APPL	Agriculture & Priority Pollutant Laboratory
CSSA	Camp Stanley Storage Activity
DCE	Dichloroethene
DQO	Data Quality Objective
FD	Field Duplicate
GAC	Granular Activated Carbon
HSP	Health and Safety Plan
I10	Interstate Highway 10
JW	Jackson Woods
LS	Leon Springs
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	Not Applicable
OFR	Old Fredericksburg Road
Parsons	Parsons Government Services, Inc.
PCE	Tetrachloroethene
P.G.	Professional Geologist
QAPP	Quality Assurance Program Plan
QA/QC	Quality Assurance/Quality Control
RFR	Ralph Fair Road
RL	Reporting Limit
SAP	Sampling and Analysis Plan
SLD	Scenic Loop Drive
TCE	Trichloroethene
VOC	Volatile Organic Compound

SEPTEMBER 2014 OFF-POST GROUNDWATER MONITORING REPORT CAMP STANLEY STORAGE ACTIVITY

1.0 INTRODUCTION

This report presents results from the off-post quarterly sampling performed for Camp Stanley Storage Activity (CSSA) in September 2014 as required by the Administrative Order on Consent dated May 5, 1999. The purpose of this report is to present a summary of the sampling results. Results from all four 2014 quarterly monitoring events (March, June, September, and December) will be described in detail in an Annual Report to be submitted after December 2014. The Annual Report will also provide an interpretation of all analytical results and an evaluation of any temporal or spatial trends observed in the groundwater contaminant plume during investigations.

Groundwater monitoring was performed September 2-17, 2014. The quarterly off-post groundwater monitoring program was initiated in September 2001 in accordance with the **Off-Post Monitoring Program and Response Plan (CSSA, 2002)**, herein referred to as the “Plan”). Action levels for detection of volatile organic compounds (VOCs) and the rationale for sampling off-post wells are described in the Plan.

The CSSA groundwater monitoring program also follows the provisions of the groundwater monitoring program data quality objectives (DQOs) as well as the recommendations of all applicable project-specific work plans. **Appendix A** provides an evaluation of the DQO attainment for this sampling event. Currently, the DQOs and the long term monitoring optimization (LTMO) are under revision and will be submitted to the Texas Commission on Environmental Quality (TCEQ) and US Environmental Protection Agency (USEPA) for approval.

The primary objective of the off-post groundwater monitoring program is to determine whether concentrations of chlorinated VOCs detected in off-post public and private drinking water wells exceed safe drinking water standards. Other objectives are to determine the lateral and vertical extent of the contaminant plumes and identify trends (decreasing or increasing) in contaminant levels over time in the sampled wells.

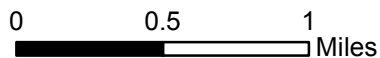
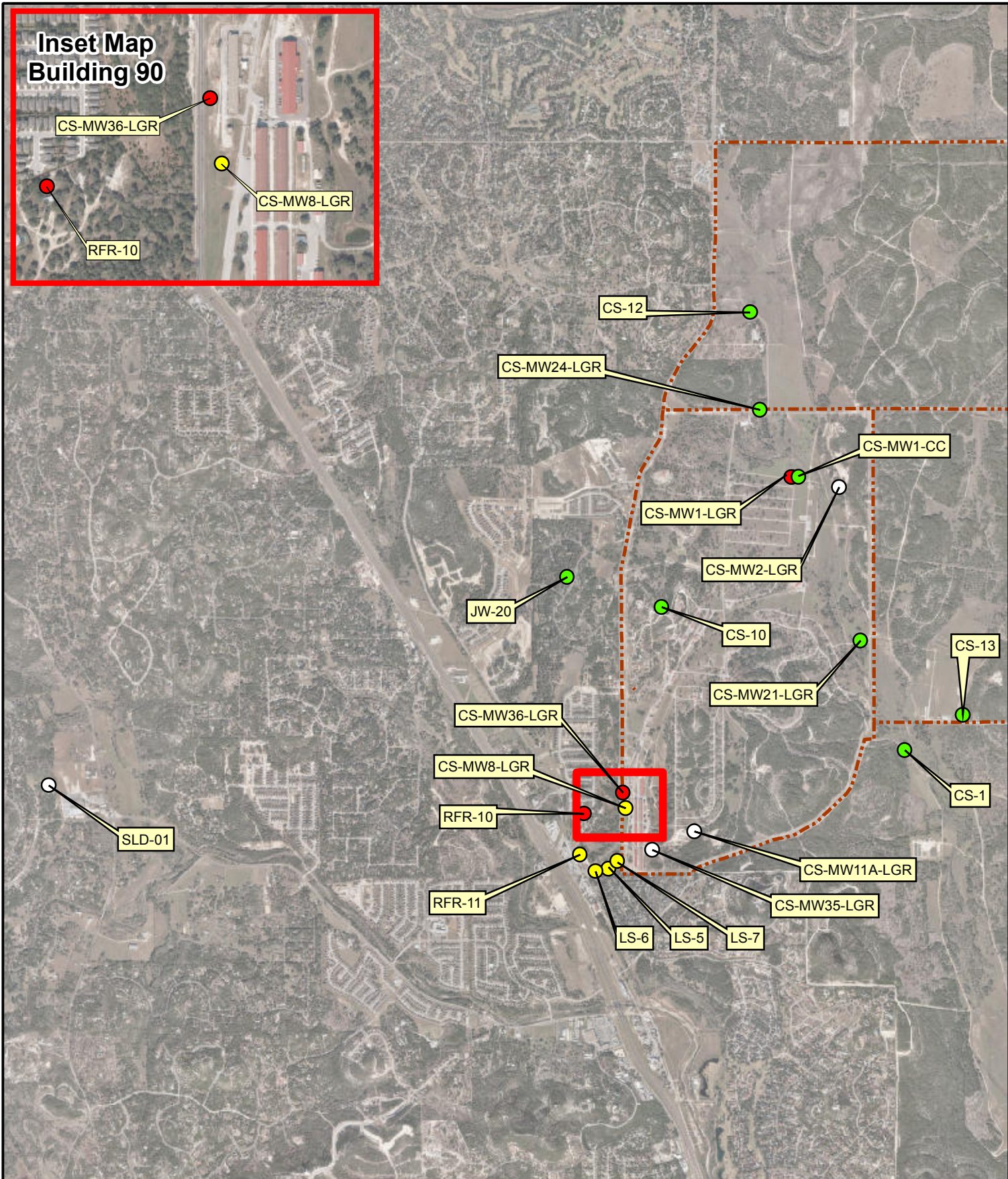
2.0 SEPTEMBER 2014 ANALYTICAL RESULTS

During the September 2014 event, groundwater samples were collected from 7 off-post wells shown in **Figure 2.1**. GAC (granular activated carbon) filtered samples (LS-5-A2, LS-6-A2, LS-7-A2, RFR-10-A2, RFR-10-B2, and RFR-11-A2) are collected semi-annually and were also collected this event. **Table 2.1** includes the rationale for selection of the wells sampled in September 2014, and **Figure 2.1** provides well locations for the following sampled wells:

- One privately-owned well in the Jackson Woods subdivision (JW-20).
- Three privately-owned wells in the Leon Springs Villa area: LS-5, LS-6, and LS-7.
- Two privately-owned wells in the Ralph Fair Road area (RFR-10 and RFR-11);
- One public supply well in the Scenic Loop Drive area, SLD-01.

All active wells with submersible pumps were sampled from a tap located as close to the wellhead as possible. Most taps were previously installed by CSSA to obtain a representative groundwater sample before pressurization or storage of groundwater in the water supply distribution system. Water was purged to engage the well pump prior to sample collection. Conductivity, pH, and temperature readings were recorded to confirm adequate purging while the well was pumping. Generally, this required an average of 20 gallons to be purged prior to sample collection.

A total of 13 groundwater samples, two trip blanks, one field duplicate (FD), and one matrix spike/matrix spike duplicate (MS/MSD) included with the on-post data groups were submitted to Agriculture & Priority Pollutant Laboratory (APPL) in Clovis, California for analysis. Groundwater samples were analyzed for the short list of VOCs using SW-846 Method 8260B. The approved short list of VOCs includes *cis*-1,2-dichloroethene (*cis*-1,2-DCE), *trans*-1,2-DCE, 1,1-DCE, PCE, TCE, and vinyl chloride.



Sampled Wells September 2014

- > MCL (VOC's) only
- > RL (VOC's) only
- > MDL (VOC's) only
- ND
- Fence Line

Figure 2.1

On-Post and Off-Post Well Sampling Locations for September 2014
Camp Stanley Storage Activity

PARSONS

The data packages (Parsons internal reference 749138-#55) contain the analytical results for this sampling event and are presented in **Appendix C**. Laboratory results were reviewed and verified according to the guidelines outlined in the CSSA Quality Assurance Project Plan (QAPP), Version 1.0. Parsons received data packages October 2nd, 2014.

Concentrations of the VOCs detected in September 2014 are presented in **Table 2.2**. Full analytical results from the September 2014 sampling event are presented in **Appendix B**. As shown in **Table 2.1**, all 13 samples that were scheduled for collection in September 2014 were obtained.

In August 2014, routine semi-annual maintenance was performed on the GAC treatment systems at LS-5, LS-6, LS-7, RFR-10, and RFR-11. Carbon canisters were exchanged and other routine maintenance was performed. GAC-filtered samples were collected this quarter and will be collected again during the March 2015 event. Maintenance was not performed on the OFR-3 GAC system, since it is not in use and the electricity has been shut off at the property. As such, groundwater samples were unable to be collected from this well.

Based on historical detections, the lateral extent of VOC detections extends beyond the south and west boundaries of CSSA. Past detections of VOCs have extended 0.37 miles south to well LS-4 and 2.9 miles west to SLD-01 (**Figure 2.1**).

Table 2.2
September 2014 Off-Post Groundwater Results, Detected Analytes Only

Subdivision	Well ID	Sample Date	1,1-DCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	PCE	TCE	Vinyl Chloride
Jackson Woods Subdivision	JW-20	9/4/2014	--	--	--	--	--	--
	JW-20 FD	9/4/2014	--	--	--	--	--	--
Leon Springs Villas	LS-5	9/3/2014	--	--	--	0.88F	3.14	--
	LS-5-A2	9/3/2014	--	--	--	--	--	--
	LS-6	9/3/2014	--	--	--	0.80F	3.13	--
	LS-6-A2	9/3/2014	--	--	--	--	--	--
	LS-7	9/3/2014	--	--	--	2.14	0.54F	--
Ralph Fair Road	LS-7-A2	9/3/2014	--	--	--	--	--	--
	RFR-10	9/3/2014	--	--	--	6.78	2.41	--
	RFR-10-A2	9/3/2014	--	--	--	--	--	--
	RFR-10-B2	9/3/2014	--	--	--	--	--	--
	RFR-11	9/3/2014	--	--	--	0.73F	2.58	--
Scenic Loop Drive	RFR-11-A2	9/3/2014	--	--	--	--	--	--
	SLD-01	9/4/2014	--	--	--	0.09F	--	--
Laboratory Detection Limits & Maximum Contaminant Level								
Method Detection Limit (MDL)			0.12	0.07	0.08	0.06	0.05	0.08
Reporting Limit (RL)			1.2	1.2	0.6	1.4	1	1.1
Max. Contaminant Level (MCL)			7	70	100	5	5	2

BOLD	≥ MDL
BOLD	≥ RL
BOLD	≥ MCL

All samples were analyzed by APPL, Inc.
VOC data reported in ug/L.

Abbreviations:
FD Field Duplicate
TCE Trichloroethene
PCE Tetrachloroethene
DCE Dichloroethene

Data Qualifiers
--The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.
F-The analyte was positively identified but the associated numerical value is below the RL.

3.0 SUMMARY AND RECOMMENDATIONS

Results of the September 2014 sampling event are summarized as follows:

- All 7 wells and 6 post-GAC samples scheduled for collection in September 2014 were obtained during the quarterly monitoring event.
- Well RFR-10 exceeded the MCL in September 2014 for PCE. This well is equipped with a GAC filtration system.
- PCE and/or TCE were detected above the RLs in public and/or private drinking water wells LS-5, LS-6, LS-7, and RFR-11. These four wells have GAC treatment systems in place.
- 1,1-DCE, *cis*-1,2-DCE, *trans*-1,2-DCE, and vinyl chloride were not detected in any of the off-post wells in September 2014.
- Well JW-20 was added to the sampling program in January 2014. Four consecutive quarterly samples have been collected. All sample results were below the laboratory detection limits. The sampling of this well will be reduced to every 9 months in accordance with the DQO's.
- Well SLD-01 reported its first detection of PCE, below the RL, in September 2013. After three consecutive results below analytical detection limits PCE, below the RL, has been detected in the well again in September 2014. This well will remain on the quarterly sampling schedule until 4 consecutive non-detects have been reported, in accordance with the DQO's. This well is 2.9 miles west of CSSA.
- GAC-filtered samples were collected as part of the quarterly groundwater monitoring. All GAC-filtered samples were non-detect indicating the GAC units are functioning properly. The next GAC-filtered samples will be collected in March 2015.
- Semi-annual GAC maintenance, including carbon change-out, was performed August 5, 2014. The next semi-annual GAC maintenance will be due in February 2015.
- Wells OFR-1, OFR-4, and I10-4 will be removed from the sampling program due to the sale of the properties. These wells have been plugged and abandoned or will be in the near future.
- Well OFR-3 remains on the schedule but has not been sampled since June 2013. The new property owner has returned the access agreement but will not return phone calls. The electricity has been disconnected at the property therefore the well pump cannot be run to collect samples. The property has been vacant during this period and the GAC unit is still intact. A for sale sign was posted on the property in early November.
- In accordance with project DQOs, the rationale for the selection of 6 wells to be collected in December 2014 is provided in **Table 3.1**.

APPENDIX A
EVALUATION OF DATA QUALITY OBJECTIVES ATTAINMENT

Appendix A Evaluation of Data Quality Objectives Attainment

Activity	Objectives	Action	Objective Attained?	Recommendations
Field Sampling	Conduct field sampling in accordance with procedures defined in the project work plan, SAP, QAPP, and HSP.	All sampling was conducted in accordance with the procedures described in the project plans.	Yes	NA
Contamination Characterization (Groundwater Contamination)	Determine the potential extent of off-post contamination (§2.3.1 of the DQOs for the Groundwater Contamination Investigation, revised November 2010).	Samples for laboratory analysis were collected from selected off-post public and private wells, which are located within a 3 mile radius of CSSA.	Partially	Replace wells where no VOCs were detected with wells that may be identified in the future, located to the west and southwest of AOC-65 to provide better definition of Plume 2. Continue sampling of wells to the west of Plume 1 (Fair Oaks and Jackson Woods) to confirm any detections possibly related to Plume 1.
	Meet CSSA QAPP quality assurance requirements.	Samples were analyzed in accordance with the CSSA QAPP, and approved variances. A chemist verified all data.	Yes	NA
		All data flagged with a “U” and “J” are usable for characterizing contamination.	Yes	NA

Activity	Objectives	Action	Objective Attained?	Recommendations
	Evaluate CSSA monitoring program and expand as necessary (§2.3.1 of the DQOs for the Groundwater Contamination Investigation, revised November 2010). Determine locations of future monitoring locations.	Evaluation of data collected is ongoing and is reported in this quarterly groundwater report and will be reported in future quarterly groundwater reports. Additional information covering the CSSA monitoring program is available in Volume 5, CSSA Environmental Encyclopedia.	Yes	Continue data evaluation and quarterly teleconferences for evaluation of the monitoring program. Each teleconference/planning session covers expansion of the quarterly monitoring program, if necessary.
Project schedule/ Reporting	The quarterly monitoring project schedule shall provide a schedule for sampling, analysis, validation, verification, reviews, and reports for monitoring events off-post.	A schedule for sampling, analysis, validation, verification and data review, and reports is provided in this quarterly groundwater report and will be reported in future quarterly groundwater reports. Additional information covering the CSSA monitoring program is available in Volume 5, CSSA Environmental Encyclopedia.	Yes	Continue quarterly reporting to include a schedule for sampling, analysis, validation, and verification and data review and data reports.

Activity	Objectives	Action	Objective Attained?	Recommendations
Remediation	Evaluate the effectiveness of GACs (§3.2.3) and install as needed (§3.2.5 both of the DQOs for the Groundwater Contamination Investigation, revised November 2010).	Perform maintenance as needed. Install new GACs as needed.	Yes	Maintenance to the off-post GAC systems to be continued by Parsons' personnel every 3 weeks. Twice yearly (or as needed) maintenance to the off-post GAC systems by additional subcontractors to continue. Evaluations of future sampling results for installation of new GAC systems will occur as needed.

APPENDIX B
SEPTEMBER 2014 QUARTERLY OFF-POST
GROUNDWATER ANALYTICAL RESULTS

Appendix B
September 2014 Quarterly Off-post Groundwater Analytical Results

Well ID	Sample Date	1,1-DCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	PCE	TCE	Vinyl Chloride
JW-20	9/4/2014	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-20 FD	9/4/2014	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
LS-5	9/3/2014	0.12U	0.07U	0.08U	0.88F	3.14	0.08U
LS-5-A2	9/3/2014	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
LS-6	9/3/2014	0.12U	0.07U	0.08U	0.80F	3.13	0.08U
LS-6-A2	9/3/2014	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
LS-7	9/3/2014	0.12U	0.07U	0.08U	2.14	0.54F	0.08U
LS-7-A2	9/3/2014	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-10	9/3/2014	0.12U	0.07U	0.08U	6.78	2.41	0.08U
RFR-10-A2	9/3/2014	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-10-B2	9/3/2014	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-11	9/3/2014	0.12U	0.07U	0.08U	0.73F	2.58	0.08U
RFR-11-A2	9/3/2014	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
SLD-01	9/4/2014	0.12U	0.07U	0.08U	0.09F	0.05U	0.08U

BOLD	≥ MDL
BOLD	≥ RL
BOLD	≥ MCL

All samples were analyzed by APPL, Inc.
VOC data reported in ug/L.

Abbreviations:

FD Field Duplicate
TCE Trichloroethene
PCE Tetrachloroethene
DCE Dichloroethene

Data Qualifiers:

U-The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.
F-The analyte was positively identified but the associated numerical value is below the RL.

**APPENDIX C
DATA VALIDATION REPORTS**

SDG 74230

DATA VERIFICATION SUMMARY REPORT
for on- and off-post samples collected from
CAMP STANLEY STORAGE ACTIVITY

BOERNE, TEXAS

Data Verification by: Tammy Chang
Parsons - Austin

INTRODUCTION

The following data verification summary report covers groundwater samples and the associated field quality control (QC) sample collected from on-post and off-post Camp Stanley Storage Activity (CSSA) on September 3 and 4, 2014. The samples were assigned to the following Sample Delivery Group (SDG). The on-post sample was analyzed for volatile organic compounds (VOCs) and metals including cadmium, chromium, lead, and mercury. All off-post samples were analyzed for VOCs only.

74230

The field QC samples associated with this SDG were a set of parent/field duplicate (FD) and a trip blank (TB). TB was analyzed for VOC only. No ambient blanks were collected. During the initiation of this project, it was determined that ambient blanks were not necessary due to the absence of a source at these sites.

All samples were collected by Parsons and analyzed by APPL, Inc. following the procedures outlined in the Statement of Work and CSSA QAPP, Version 1.0. The samples in this SDG were shipped to the laboratory in one cooler. The cooler was received by the laboratory at a temperature of 4.0°C, which was within the 2-6°C range recommended by the CSSA QAPP.

EVALUATION CRITERIA

The data submitted by the laboratory has been reviewed and verified following the guidelines outlined in the CSSA QAPP, Version 1.0. Information reviewed in the data package included sample results; field and laboratory quality control samples; calibrations; case narratives; raw data; chain-of-custody (COC) forms and the sample receipt checklist. The findings presented in this report are based on the reviewed information, and whether the guidelines in the CSSA QAPP, Version 1.0, were met.

VOLATILES

General

The volatiles portion of this data package consisted of sixteen (16) samples, including one (1) on-post groundwater sample, thirteen (13) off-post groundwater samples, one (1) FD, and one (1) TB. All samples were collected on September 3 and 4, 2014 and analyzed for a reduced list of VOCs which included: 1,1-dichloroethene, *cis*-1,2-dichloroethene, tetrachloroethene, *trans*-1,2-dichloroethene, trichloroethene, and vinyl chloride.

The VOC analyses were performed using United States Environmental Protection Agency (USEPA) SW846 Method 8260B. The samples were analyzed in one batch (#189914B) under one set of initial calibration (ICAL). All samples were analyzed following the procedures outlined in the CSSA QAPP and were prepared and analyzed within the holding time required by the method. All analyses were performed undiluted.

Accuracy

Accuracy was evaluated using the percent recovery (%R) obtained from the laboratory control spike (LCS) sample and the surrogate spikes.

All LCS and surrogate spike recoveries were within acceptance criteria.

Precision

Precision was evaluated based on the relative percent difference (%RPD) of parent/FD results. Sample JW-20 was collected in duplicate. All results were non-detect at or above the reporting limit so %RPD calculations were not applicable.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the CSSA QAPP;
- Comparing actual analytical procedures to those described in the CSSA QAPP;
- Evaluating holding times; and
- Examining trip and laboratory blanks for cross contamination of samples during transit or analysis.

All samples in this data package were analyzed following the COC and the analytical procedures described in the CSSA QAPP, Version 1.0. All samples were prepared and analyzed within the holding time required by the method.

- All instrument performance check criteria were met.
- All initial calibration criteria were met for both sets of curves.
- The LCS was prepared using a secondary source. All second source verification criteria were met.

- All initial calibration verification (ICV) criteria were met.
- All continuing calibration verification (CCV) criteria were met.
- All internal standard criteria were met.

There were one method blank and one TB associated with the VOC analyses in this SDG. Both blanks were non-detect for all target VOCs. No target VOC was detected at or above the associated MDL in the blanks.

Completeness

Completeness has been evaluated in accordance with the CSSA QAPP. The number of usable results has been divided by the number of possible individual analyte results and expressed as a percentage to determine the completeness of the data set.

All VOC results for the samples in this SDG were considered usable. The completeness for this SDG is 100%, which meets the minimum acceptance criteria of 95%.

ICP-AES METALS

General

The ICP-AES portion of this SDG consisted of one (1) on-post groundwater sample which was collected on September 4, 2014 and analyzed for cadmium, chromium, and lead.

The ICP-AES metals analysis was performed using USEPA SW846 Method 6010B. The on-post well sample was analyzed following the procedures outlined in the CSSA QAPP and was prepared and analyzed within the holding time required by the method.

The sample for ICP-AES metals was digested in batch #189943. The analysis was performed undiluted.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS.

All LCS recoveries were within acceptance criteria.

Precision

Precision could not be evaluated due to lack of duplicate analyses.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the CSSA QAPP;
- Comparing actual analytical procedures to those described in the CSSA QAPP;
- Evaluating preservation and holding times; and

- Examining laboratory blank for cross contamination of samples during analysis.

The sample was analyzed following the COC and the analytical procedures described in the CSSA QAPP, Version 1.0, prepared and analyzed within the holding time required by the method.

- All initial calibration criteria were met.
- All second source verification criteria were met. The ICV was prepared using a secondary source.
- All CCV criteria were met.
- All interference check (ICSA/ICSAB) criteria were met.
- No dilution test was required, as per the CSSA QAPP.

One method blank and several calibration blanks were analyzed in association with the ICP-AES analysis in this SDG. All blanks were free of target metals at or above the RL.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

All ICP-AES metals results for the samples in this SDG were considered usable. The completeness for the ICP metals portion of this SDG is 100%, which meets the minimum acceptance criteria of 95%.

MERCURY

General

The ICP-AES portion of this SDG consisted of one (1) on-post groundwater sample collected on September 4, 2014 and analyzed for mercury.

The mercury analysis was performed using USEPA SW846 Method 7470A. The on-post well sample was analyzed following the procedures outlined in the CSSA QAPP, prepared and analyzed within the holding time required by the method.

The mercury sample was prepared in batch #190303B. The analysis was performed undiluted.

Accuracy

Accuracy was evaluated using the percent recovery obtained from the LCS.

The LCS recovery was within acceptance criteria.

Precision

Precision could not be evaluated due to lack of duplicate analyses.

Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Comparing the COC procedures to those described in the CSSA QAPP;
- Comparing actual analytical procedures to those described in the CSSA QAPP;
- Evaluating holding times; and
- Examining laboratory blanks for cross contamination of samples during analysis.

The sample was analyzed following the COC and the analytical procedures described in the CSSA QAPP, prepared and analyzed within the holding times required by the method.

- All initial calibration criteria were met.
- All second source verification criteria were met. The ICV was prepared using a secondary source.
- All calibration verification criteria were met.

There was one method blank and several calibration blanks associated with the mercury analysis in this SDG. All blanks were free of mercury at or above the RL.

Completeness

Completeness has been evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data.

The mercury result for the sample in this SDG was considered usable. The completeness for the mercury portion of this SDG is 100%, which meets the minimum acceptance criteria of 90%.