

FINAL

September 2007

Off-Post

Quarterly Groundwater Monitoring Report



Prepared For

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

May 2008

GEOSCIENTIST CERTIFICATION

September 2007 Off-post Quarterly Groundwater Monitoring Report

For

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

I, Julie Burdey, P.G., hereby certify that the September 2007 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 CSSA Environmental Office, laboratory data provided by APPL, and field data obtained during groundwater monitoring conducted at the site in September 2007, and is true and accurate to the best of my knowledge and belief.

Julie Burdey, P.G.
State of Texas
Geology License No. 1913

Date

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SEPTEMBER 2007 OFF-POST GROUNDWATER MONITORING REPORT CAMP STANLEY STORAGE ACTIVITY

1.0 INTRODUCTION

This report presents results from the off-post quarterly sampling performed at Camp Stanley Storage Activity (CSSA) in September 2007 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. A similar report will summarize the planned December 2007 sampling results. Results from all four 2007 quarterly monitoring events (March, June, September, and December) will be described in detail in an Annual Report to be submitted after December 2007. 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 scoped under the U.S. Army Corps of Engineers (USACE) Fort Worth District (CESWF), Contract W91278-06-D-0026, Task Order DY02, was performed September 10 - 21, 2007. The quarterly off-post groundwater monitoring program was initiated in September 2001 in accordance with the **Off-Post Monitoring Program and Response Plan (CSSA, June 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 located in the Plan.

The CSSA groundwater monitoring program also follows the provisions of the groundwater monitoring program DQOs as well as the recommendations of all applicable project-specific work plans. **Appendix A** provides an evaluation of the Data quality Objectives Attainment for this sampling event.

Current objectives of the off-post groundwater monitoring program include determining whether concentrations of chlorinated volatile organic compounds (VOC) 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 2007 ANALYTICAL RESULTS

Twenty-eight samples were collected from 22 off-post wells in September 2007. One well (JW-28) was not sampled due to refusal of access. Post-GAC (granular activated carbon) samples were collected during this event. These samples (LS-6, LS-7, RFR-10, RFR-11, and OFR-3) are collected semi-annually and will be sampled again during the March 2008 monitoring event. **Table 2-1** includes the rationale for selection of the wells to be sampled in September 2007, and **Figure 2-1** gives well locations for the following sampled wells:

- One public supply well in the Fair Oaks area (FO-J1);
- Two public supply wells in the Hidden Springs Estates subdivision (HS-1 and HS-2);
- One public well (I10-7) in the Interstate-10 area;
- Eight privately owned wells in the Jackson Woods subdivision (JW-5, JW-7, JW-8, JW-12, JW-14, JW-27, JW-29, and JW-30);

- Three wells in the Leon Springs Villa area (one public wells: LS-6; and two privately-owned wells: LS-5 and LS-7);
- Two privately owned wells on Old Fredericksburg Road (OFR-1 and OFR-3); and
- Four privately owned wells in the Ralph Fair Road area (RFR-9, RFR-10, RFR-11 and RFR-14).

All wells were sampled from a tap located as close to the wellhead as possible. Most taps were 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 27 groundwater samples, three field duplicate samples, two matrix spike/matrix spike duplicate (MS/MSD) pairs, and two trip blanks were submitted to APPL Laboratory (APPL) in Fresno, California for analysis. Groundwater samples were analyzed for the short list of VOCs using SW-846 Method 8260. The approved short list of VOCs includes *cis*-1,2-dichloroethene (*cis*-1,2-DCE), *trans*-1,2-DCE, 1,1-DCE, tetrachlorethene (PCE), trichloroethene (TCE), and vinyl chloride.

The data packages (Parsons internal reference DY02 #1 - #2) contain the analytical results for this sampling event. Laboratory results were reviewed and verified according to the guidelines outlined in the CSSA Quality Assurance Project Plan (QAPP). Parsons received data packages on October 25 and 26, 2007, and the data verification reports were submitted to CSSA.

Concentrations of the VOCs detected in September 2007 are presented in **Table 2-2**. Full analytical results from the September 2007 sampling event are presented in **Appendix B**. As shown in **Table 2-1**, 28 samples were scheduled for collection in September 2007. Twenty-seven of the 28 samples scheduled were collected. The homeowner at the location of well JW-28 has elected not to participate in the CSSA groundwater monitoring program. The homeowner denied access to the property. CSSA has offered to include this well in future sampling events if the homeowner requests additional sampling and agrees to sign an access agreement.

On May 9, 2007 routine maintenance was performed on the GAC treatment systems installed at LS-6, LS-7, OFR-3, RFR-10, and RFR-11. The carbon canisters were exchanged and the ultraviolet lights were replaced. Post-GAC samples were collected in September 2007 and will be collected again in March 2008.

Based on historical detections, the lateral extent of VOC contamination extends approximately 0.5 mile beyond the south and west boundaries of CSSA. Detections of VOCs have extended south to well LS-4 and west to I10-7.

**Table 2-1
Sampling Rationale for September 2007**

Well ID	2001		2002				2003				2004				2005				2006				2007			Sampling Frequency:		
	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept			
DOM-2		NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	As needed, once annually		
FO-8	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	As needed, once annually		
FO-17	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	As needed, once annually		
FO-22		NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	As needed, once annually		
FO-J1												NS						NS	NS						Yes	Qtrly, 1 year thru June 08		
HS-1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				Yes	Qtrly, 1 year thru June 08		
HS-2	NS																									Yes	Qtrly, 1 year thru March 08	
HS-3	NS		NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	As needed, once annually	
I10-2																				NS	NS	NS		NS	NS	NS	As needed, once annually	
I10-4	NS									NS															NS	NS	Plugged & abandoned	
I10-5	NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually	
I10-7	NS	NS		NS	NS	NS			NS	NS	NS															Yes	Qtrly, for delineation	
I10-8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	NS	As needed, once annually	
JW-5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						NS	NS	NS			Yes	Qtrly, 1 year thru March 08		
JW-6		NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	As needed, once annually	
JW-7		NS	NS	NS	NS	NS	NS	NS																		Yes	Qtrly, 1 year thru June 08	
JW-8	NS	NS	NS	NS	NS	NS																				Yes	Qtrly, 1 year thru June 08	
JW-9																				NS	NS	NS		NS	NS	NS	As needed, once annually	
JW-9-A2*	NS	NS	NS	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	As needed	
JW-12		NS	NS	NS	NS		NS	NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS		NS	NS	NS	NS	Yes	As needed, once annually	
JW-13		NS	NS	NS	NS		NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	As needed, once annually	
JW-14																				Tol						Yes	Qtrly, 1 year thru March 08	
JW-15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						NS	NS	NS		NS	NS	NS	As needed, once annually	
JW-26	NS	NS		NS											NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually	
JW-27	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS									Yes	Qtrly, 1 year thru Dec. 07	
JW-28	NS	NS	NS	NS	NS	NS	NS	NS																		Yes	Qtrly, due to location	
JW-29	NS	NS	NS	NS	NS	NS	NS																			Yes	Qtrly, due to location	
JW-30	NS	NS	NS	NS	NS	NS																				Yes	Qtrly, 1 year thru June 08	
LS-1																				NS	NS	NS	NS	NS	NS	NS	Well is offline	
LS-2																										NS	Well is offline	
LS-2/LS-3-A1	NS	NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	NS	NS	Well is offline	
LS-3																										NS	NS	Well is offline
LS-2/LS-3-A2	NS	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	NS	NS	Well is offline	
LS-4																										NS	NS	Well is offline
LS-5																										Yes	Qtrly, 1 year thru June 08	
LS-6																										Yes	Qtrly, 1 year thru June 08	
LS-6-A2																										Yes	Biannually (Mar & Sept)	
LS-7																										Yes	Qtrly, 1 year thru June 08	
LS-7-A2																										Yes	Biannually (Mar & Sept)	
OFR-1	NS																									Yes	Qtrly, 1 year thru March 08	
OFR-2	NS	NS																			NS	NS	NS	NS	NS	NS	Well was P&A by Centex	

**Table 2-1
Sampling Rationale for September 2007**

Well ID	2001		2002				2003				2004				2005				2006				2007			Sampling Frequency:	
	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept		
OFR-3																									Yes	Qtrly, 1 year thru June 08	
OFR-3-A2	NS	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	Yes	Biannually (Mar & Sept)	
OFR-4	NS	NS	NS	NS	NS	NS	NS			NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	As needed, once annually
RFR-3	NS	NS	NS	NS	NS	NS	NS	NS	NS					NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS	As needed, once annually
RFR-4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	Tol	NS	NS	NS		NS	NS	NS		NS	NS	NS	As needed, once annually
RFR-5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	As needed, once annually
RFR-6		NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS		NS	NS	NS		NS	NS	NS	Well to be abandoned by owner
RFR-7		NS	NS		NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	Plugged & abandoned
RFR-8		NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually
RFR-9			NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	Yes	As needed, once annually	
RFR-10																									Yes	Qtrly, 1 year thru June 08	
RFR-10-A2				NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	Yes	Biannually (Mar & Sept)	
RFR-10-B2				NS	NS	NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		NS	Yes	Biannually (Mar & Sept)	
RFR-11																									Yes	Qtrly, 1 year thru June 08	
RFR-11-A2				NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	Yes	Biannually (Mar & Sept)	
RFR-12																									NS	NS	As needed, once annually
RFR-13											Well Installed													NS	NS	NS	As needed, once annually
RFR-14															Well Installed										Yes	Qtrly, 1 year thru June 08	

Total Pre GAC	22
Total Post GAC	6
Total # of first time samples	0
Total # of samples:	28

Red VOCs detected are greater than 90% of the MCL. Sample monthly; quarterly after GAC installation.

Orange VOCs detected are greater than 80% of the MCL. The well will be placed on a monthly sampling schedule until GAC installation.

Yes To be sampled in September 2007

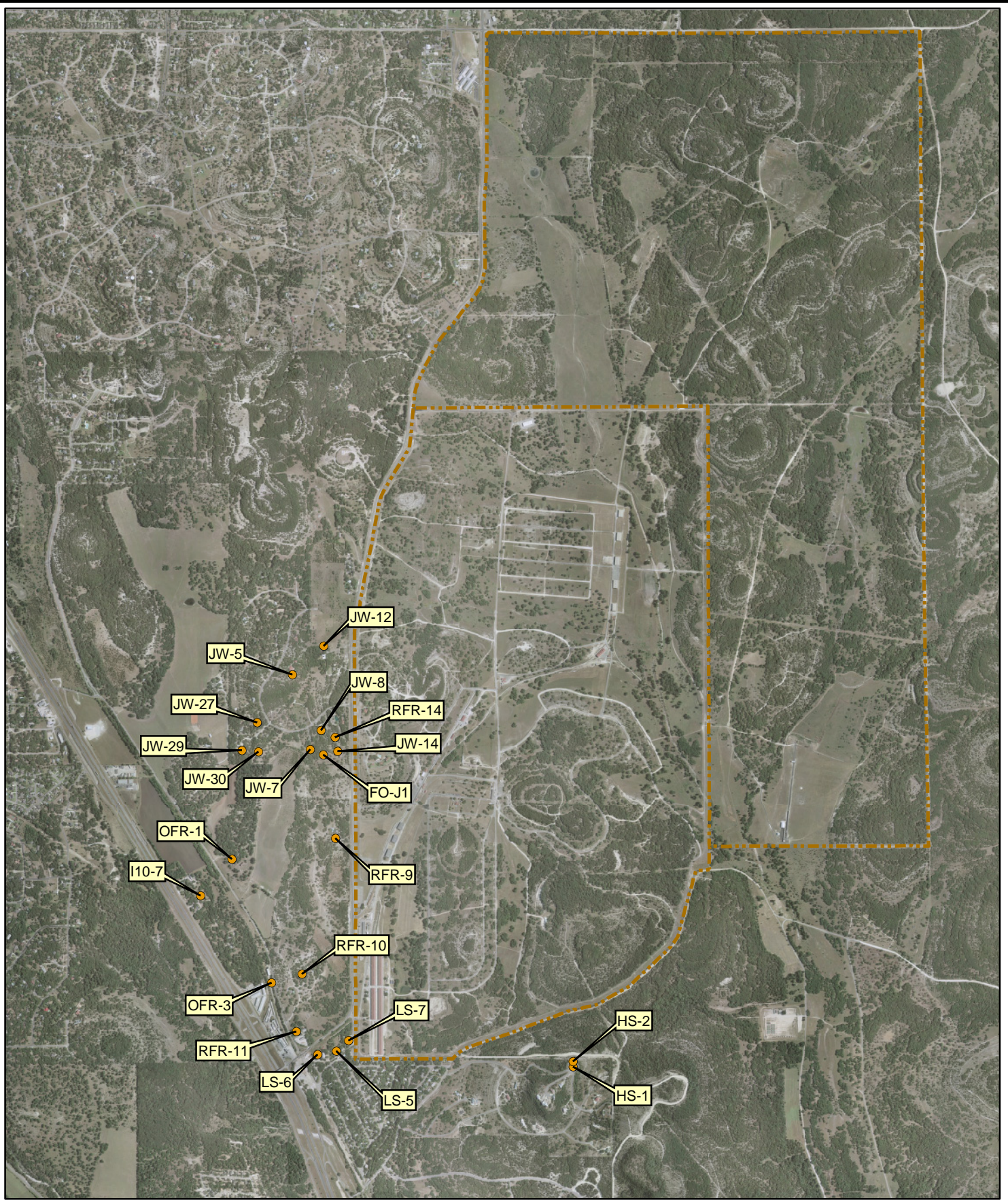
FT First event for sampling by CSSA.

Yellow VOCs detected are less than 80% of the MCL (<4.0 ppb and >0.06 ppb for PCE & <4.0 ppb >0.05 ppb for TCE). After four quarters of stable results the well can be removed from quarterly sampling.

Light Blue This well has a GAC filtration unit installed by CSSA. Post GAC samples are collected every six months.
A1 - after GAC canister #1
A2 - after GAC canister #2
*JW-9-A2 is the well owner's system, not a CSSA GAC.

NS Not sampled for that event.

Green No VOCs detected. Sample on an as needed basis.



- Off-Post Wells
- CSSA Boundary

0 2,000 4,000
 Feet

Figure 2-1

Off-Post Wells Sampled September 2007
 Camp Stanley Storage Activity

Parsons

Table 2-2
September 2007 Quarterly Off-Post Groundwater Results, Detected Analytes Only

Subdivision	Sample ID	Sample Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride	Comments
Fair Oaks	FO-J1	18-Sep-07	--	--	--	--	--	--	
Hidden Springs Estates	HS-1	20-Sep-07	--	--	--	--	--	--	
	HS-2	20-Sep-07	--	--	--	0.18F	--	--	
IH-10 Area	I10-7	18-Sep-07	--	--	--	--	--	--	
Jackson Woods Subdivision	JW-12	20-Sep-07	--	--	--	0.21F	--	--	First occurrence of PCE in this well.
	JW-14	18-Sep-07	--	--	--	--	--	--	
	JW-27	18-Sep-07	--	--	--	--	--	--	
	JW-29	20-Sep-07	--	--	--	0.16F	--	--	First PCE detection since December 2005.
	JW-29 FD	20-Sep-07	--	--	--	--	--	--	
	JW-30	18-Sep-07	--	--	--	--	--	--	
	JW-5	20-Sep-07	--	--	--	--	--	--	
	JW-7	18-Sep-07	--	--	--	0.34F	--	--	
	JW-8	19-Sep-07	--	--	--	--	--	--	
Leon Springs Villas	LS-5	17-Sep-07	--	--	--	--	--	--	
	LS-5 FD	17-Sep-07	--	--	--	--	--	--	
Leon Springs Villas	LS-6	17-Sep-07	--	--	--	1.5	0.68F	--	Decrease in PCE & TCE from last quarter.
	LS-6-A2	17-Sep-07	--	--	--	--	--	--	
	LS-7	17-Sep-07	--	--	--	2.5	--	--	Increase in PCE from last quarter.
	LS-7-A2	17-Sep-07	--	--	--	--	--	--	
Old Fredericksburg Road	OFR-1	19-Sep-07	--	--	--	--	--	--	
	OFR-3	17-Sep-07	--	--	--	1.1F	1.2	--	Decrease in PCE & TCE from last quarter.
	OFR-3-A2	17-Sep-07	--	--	--	--	--	--	
Ralph Fair Road	RFR-10	17-Sep-07	--	0.34F	--	8.4	4.5	--	Decrease in PCE & TCE from last quarter.
	RFR-10-A2	17-Sep-07	--	--	--	--	--	--	
	RFR-10-B2	17-Sep-07	--	--	--	--	--	--	
	RFR-11	17-Sep-07	--	--	--	1.5	1.1	--	Significant decrease in PCE from last quarter.
	RFR-11-A2	17-Sep-07	--	--	--	--	--	--	
	RFR-14	18-Sep-07	--	--	--	--	--	--	
	RFR-9	20-Sep-07	--	--	--	--	--	--	
Laboratory Detection Limits and Maximum Contaminat Level									
Method Detection Limit	MDL	0.3	0.16	0.19	0.15	0.16	0.23		
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 = Above the MDL (F flagged)
BOLD = Above the RL
BOLD = Above the MCL

This table presents detected analytical results only.
All samples were analyzed by APPL, Inc.
All data reported in ug/L.
Abbreviations/Notes:
FD Field Duplicate
MDL Method Detection Limit
RL Reporting Limit
MCL Maximum Contaminant Level
Data Qualifiers:
F- The analyte was positively identified but the associated numerical value is below the RL.
J - The analyte was positively identified, the quantitation is an estimation.

3.0 SUMMARY AND RECOMMENDATIONS

Results of the September 2007 sampling are summarized as follows:

- PCE exceeded the MCL in well RFR-10 in September 2007.
- PCE was detected in wells LS-6, LS-7, and RFR-11.
- TCE did not exceed the MCL in any off-post wells.
- TCE was detected in wells OFR-3, RFR-10, and RFR-11.
- PCE and/or TCE were detected below the RL in wells HS-2, JW-7, JW-12, JW-29, LS-6, OFR-3, and RFR-10. This was the first PCE detection for well JW-12. The sampling frequency for JW-12 will be changed from annually to quarterly in accordance with project DQOs.
- *Cis*-1,2-DCE was detected below the RL in well RFR-10, the only *cis*-1,2-DCE detection this quarter.
- *Trans*-1,2-DCE, 1,1-DCE, and vinyl chloride were not detected in any wells in September 2007.
- No VOCs were detected in wells LS-5, LS-6-A2, LS-7-A2, OFR-3-A2, RFR-10-A2, RFR-10-B2, RFR-11-A2, FO-J1, I10-7, JW-14, JW-27, JW-30, RFR-14, JW-8, OFR-1, HS-1, JW-5, and RFR-9.
- Post GAC samples were collected in September 2007. All post GAC samples were non detect indicating the GAC units are functioning properly. The next post-GAC samples will be collected in March 2008.
- In the event additional wells are located to the west and southwest of CSSA, they may be added to future sampling events.
- In accordance with project DQOs, the rationale for the selection of 24 wells to be sampled in December 2007 is provided in **Table 3-1**.

**Table 3-1
Sampling Rationale for December 2007**

Well ID	2001		2002				2003				2004				2005				2006				2007				Sampling Frequency:		
	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec			
DOM-2		NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually	
FO-8	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually	
FO-17	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually	
FO-22		NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually		
FO-J1												NS						NS	NS								Yes	Qtrly, 1 year thru June 08	
HS-1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS					Yes	Qtrly, 1 year thru June 08	
HS-2	NS																											Yes	Qtrly, 1 year thru Sept. 08
HS-3	NS		NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually
I10-2																					NS	NS	NS		NS	NS	NS	NS	As needed, once annually
I10-4	NS									NS															NS	NS	NS	NS	Plugged & abandoned
I10-5	NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS	Yes	As needed, once annually
I10-7	NS	NS		NS	NS	NS			NS	NS	NS		NS															Yes	Qtrly, for delineation
I10-8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS	NS	Yes	As needed, once annually
JW-5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						NS	NS	NS					Yes	Qtrly, 1 year thru March 08	
JW-6		NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually
JW-7		NS	NS	NS	NS	NS	NS																					Yes	Qtrly, 1 year thru Sept. 08
JW-8	NS	NS	NS	NS	NS	NS																						Yes	Qtrly, 1 year thru June 08
JW-9																NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS	As needed, once annually
JW-9-A2*	NS	NS	NS	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	As needed
JW-12		NS	NS	NS	NS		NS	NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	Yes	Qtrly, 1 year thru Sept. 08
JW-13		NS	NS	NS	NS		NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	As needed, once annually
JW-14																					Tol							Yes	Qtrly, 1 year thru March 08
JW-15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS							NS	NS	NS		NS	NS	NS	NS	As needed, once annually
JW-26	NS	NS		NS											NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS	Yes	As needed, once annually
JW-27	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS											Yes	Qtrly, 1 year thru Dec. 07
JW-28	NS	NS	NS	NS	NS	NS	NS																				NS	NS	Wellowner declined access.
JW-29	NS	NS	NS	NS	NS	NS																						Yes	Qtrly, due to location
JW-30	NS	NS	NS	NS	NS	NS																						Yes	Qtrly, 1 year thru June 08
LS-1																NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	Well is offline
LS-2																												NS	Well is offline
LS-2/LS-3-A1	NS	NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	NS	NS	Well is offline
LS-3																												NS	Well is offline
LS-2/LS-3-A2	NS	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	NS	NS	Well is offline
LS-4																											NS	NS	Well is offline
LS-5																												Yes	Qtrly, 1 year thru June 08
LS-6																												Yes	Qtrly, 1 year thru Sept. 08
LS-6-A2				NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	NS	NS	Biannually (Mar & Sept)
LS-7																												Yes	Qtrly, 1 year thru Sept. 08
LS-7-A2				NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	NS	NS	Biannually (Mar & Sept)
OFR-1	NS																											Yes	Qtrly, 1 year thru March 08
OFR-2	NS	NS																				NS	NS	NS	NS	NS	NS	NS	Well was P&A by Centex
OFR-3																												Yes	Qtrly, 1 year thru Sept. 08

**Table 3-1
Sampling Rationale for December 2007**

Well ID	2001		2002				2003				2004				2005				2006				2007				Sampling Frequency:
	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	Mar	June	Sept	Dec	
OFR-3-A2	NS	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	Biannually (Mar & Sept)
OFR-4	NS	NS	NS	NS	NS	NS	NS			NS		NS	NS	NS						NS	NS	NS			NS	NS	As needed, once annually
RFR-3	NS	NS	NS	NS	NS	NS	NS	NS	NS					NS	NS	NS			NS	NS	NS			NS	NS	NS	As needed, once annually
RFR-4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				Tol	NS	NS	NS			NS	NS	NS			NS	NS	As needed, once annually
RFR-5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS					NS	NS	NS			NS	NS	NS			NS	NS	As needed, once annually
RFR-6		NS	NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	Well to be abandoned by owner
RFR-7		NS	NS		NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS			NS	NS	NS	NS	NS	NS	NS	Plugged & abandoned
RFR-8		NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	As needed, once annually
RFR-9			NS		NS	NS	NS			NS	NS	NS		NS	NS		NS	NS	NS		NS	NS	NS		NS	NS	As needed, once annually
RFR-10																											Qtrly, 1 year thru Sept. 08
RFR-10-A2				NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	Biannually (Mar & Sept)
RFR-10-B2				NS	NS	NS	NS	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	Biannually (Mar & Sept)
RFR-11																											Qtrly, 1 year thru Sept. 08
RFR-11-A2				NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	Biannually (Mar & Sept)
RFR-12																											As needed, once annually
RFR-13																											As needed, once annually
RFR-14																											Qtrly, 1 year thru June 08

Total Pre GAC	24
Total Post GAC	0
Total # of first time samples	0
Total # of samples	24

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> VOCs detected are greater than 90% of the MCL. Sample monthly; quarterly after GAC installation. </div> <div style="border: 1px solid black; padding: 5px;"> VOCs detected are less than 80% of the MCL (<4.0 ppb and >0.06 ppb for PCE & <4.0 ppb >0.05 ppb for TCE). After four quarters of stable results the well can be removed from quarterly sampling. </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> VOCs detected are greater than 80% of the MCL. The well will be placed on a monthly sampling schedule until GAC installation. </div> <div style="border: 1px solid black; padding: 5px;"> This well has a GAC filtration unit installed by CSSA. Post GAC samples are collected every six months. A1 - after GAC canister #1 A2 - after GAC canister #2 *JW-9-A2 is the well owner's system, not a CSSA GAC. </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Yes To be sampled in September 2007 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> FT First event for sampling by CSSA. </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> NS Not sampled for that event. </div> <div style="border: 1px solid black; padding: 5px;"> No VOCs detected. Sample on an as needed basis. </div>
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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 2003).	Samples for laboratory analysis were collected from selected off-post public and private wells, which are located within a ½ 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 2003). 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, and 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 2003).	Perform maintenance as needed. Install new GACs as needed.	Yes	Bi-monthly maintenance to the off-post GAC systems to be continued by Parsons' personnel. Quarterly (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 2007 Quarterly Off-Post Groundwater Analytical Results

Sample ID	Sample Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl chloride
FO-J1	18-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
HS-1	20-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
HS-2	20-Sep-07	0.3U	0.16U	0.19U	0.18F	0.16U	0.23U
I10-7	18-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
JW-12	20-Sep-07	0.3U	0.16U	0.19U	0.21F	0.16U	0.23U
JW-14	18-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
JW-27	18-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
JW-29	20-Sep-07	0.3U	0.16U	0.19U	0.16F	0.16U	0.23U
JW-29 FD	20-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
JW-30	18-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
JW-5	20-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
JW-7	18-Sep-07	0.3U	0.16U	0.19U	0.34F	0.16U	0.23U
JW-8	19-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
JW-8 FD	19-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
LS-5	17-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
LS-5 FD	17-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
LS-6	17-Sep-07	0.3U	0.16U	0.19U	1.5	0.68F	0.23U
LS-6-A2	17-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
LS-7	17-Sep-07	0.3U	0.16U	0.19U	2.5	0.16U	0.23U
LS-7-A2	17-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
OFR-1	19-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
OFR-3	17-Sep-07	0.3U	0.16U	0.19U	1.1F	1.2	0.23U
OFR-3-A2	17-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
RFR-10	17-Sep-07	0.3U	0.34F	0.19U	8.4	4.5	0.23U
RFR-10-A2	17-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
RFR-10-B2	17-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
RFR-11	17-Sep-07	0.3U	0.16U	0.19U	1.5	1.1	0.23U
RFR-11-A2	17-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
RFR-14	18-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U
RFR-9	20-Sep-07	0.3U	0.16U	0.19U	0.15U	0.16U	0.23U

Bold, Boxed, & Shaded = Above the MCL

Bold & Boxed = Above the RL

Bold = Above the MDL (F flagged)

This table presents all laboratory results.
 All samples were analyzed by APPL, Inc.
 All data reported in ug/L.

Data Qualifiers:

F- The analyte was positively identified but the associated numerical value is below the RL.

J - The analyte was positively identified, the quantitation is an estimation.

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

M- Matrix Effect Present

Abbreviations/Notes: