

FINAL
SEPTEMBER 2007

On-Post
Quarterly Groundwater Monitoring Report



Prepared For

Department of the Army
Camp Stanley Storage Activity
Boerne, Texas

May 2008

GEOSCIENTIST CERTIFICATION

September 2007 On-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 On-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 TestAmerica, 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

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	BASEWIDE FLOW DIRECTION AND GRADIENT.....	2
3.0	SEPTEMBER ANALYTICAL RESULTS.....	4
3.1	Monitoring Wells.....	4
3.2	Westbay-equipped Wells.....	4
4.0	SUMMARY.....	8

APPENDICES

Appendix A Evaluation of Data Quality Objectives Attainment

Appendix B Quarterly On-Post Groundwater Monitoring Analytical Results

Appendix C Quarterly Westbay Analytical Results

LIST OF TABLES

Table 3-1	Overview of the On-Post Monitoring Program.....	5
Table 3-2	September 2007 On-post Quarterly Groundwater Results, Detected Analytes....	8
Table 3-3	September 2007 Westbay Data, Detected Analytes.....	9

LIST OF FIGURES

Figure 2-1	September 2007 Potentiometric Surface Map, LGR Wells Only.....	3
Figure 3-1	On post Wells Sampled September 2007.....	7

SEPTEMBER 2007 GROUNDWATER MONITORING REPORT CAMP STANLEY STORAGE ACTIVITY, TEXAS

1.0 INTRODUCTION

This report presents results from the on-post quarterly sampling performed at Camp Stanley Storage Activity (CSSA) in September 2007. Laboratory analytical results are presented along with potentiometric and isoconcentration contour figures. The purpose of this report is to present a summary of the sampling results. Similar reports will summarize the planned December 2007 and March 2008 sampling results. Results from all four 2007 quarterly monitoring events (March, June, September, and December) will be described in detail in an Annual Report. 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 at CSSA, scoped under the U.S. Army Corps of Engineers (USACE) Fort Worth District (CESWAF), Contract W91278-06-D-0026, Task Order DY-02, was performed September 24, 2007 through October 4, 2007. On-post groundwater monitoring conducted under this TO began with this September 2007 sampling event. Groundwater monitoring conducted prior to September 2007 was conducted under various TOs as shown in **Table 1** of the **Introduction to the Groundwater Monitoring Program, Volume 5** of the **CSSA Environmental Encyclopedia**. USACE provides technical oversight of the monitoring program.

Current objectives of the groundwater monitoring program are to determine groundwater flow direction and elevations, determine groundwater contaminant concentrations for characterization purposes, and identify meteorological and seasonal variations in physical and chemical properties. **Appendix A** identifies the data quality objectives (DQO) for CSSA's groundwater monitoring program, along with an evaluation of whether each DQO was attained. The objectives listed in Appendix A also reference appropriate sections of the **3008(h) Administrative Order on Consent** (Order).

The CSSA groundwater monitoring program follows the provisions of the groundwater monitoring program DQOs as well as the recommendations of the **Three-Tiered Long Term Monitoring Network Optimization Evaluation (Parsons 2005)** which provided recommendations for sampling based on a long-term monitoring optimization (LTMO) study performed for the CSSA groundwater monitoring program. LTMO study sampling frequencies were implemented on-post in December 2005, as approved by the Texas Commission on Environmental Quality (TCEQ) and the United States Environmental Protection Agency (USEPA).

2.0 BASE-WIDE FLOW DIRECTION AND GRADIENT

Forty-seven water level measurements were recorded on September 24, 2007, from on-post monitoring wells completed in the Lower Glen Rose (LGR), Bexar Shale (BS), and Cow Creek (CC) formations. The groundwater potentiometric surface map illustrating groundwater elevations from the LGR in September 2007 is shown in **Figure 2-1**.

The September 2007 potentiometric surface map for LGR-screened wells exhibited a wide range of groundwater elevations, from a minimum of 1147.92 feet above mean sea level (MSL) at CS-MW10-LGR to a maximum 1185.28 feet MSL at CS-MW4-LGR. Groundwater elevations are generally higher in the northern and central portions of CSSA, and decrease to the southwest and southeast. Groundwater elevations in September 2007 increased 15.00 feet MSL from the elevations measured in June 2007, reflecting a slight increase in elevations following above average precipitation in the area. From June 16, 2007 to July 30, 2007, weather station south (WS-S) recorded 32 rainfall events totaling 20.63 inches. No data was recorded from July 30, 2007 to September 20, 2007 due to SCADA installations. Weather station north (WS-N) recorded 37 rainfall events totaling 20.31 inches from June 15, 2007 to September 30, 2007. No data was recorded on July 8 & 9, 2007 due to SCADA installations. These rainfall totals are not complete for this quarter because both WS-S and WS-N were not operational during the SCADA installations. Climate data recorded for the San Antonio, Texas area by the National Weather Service measured 11.76, 6.77, and 1.09 inches of precipitation in July, August, and September for total rainfall of 19.62 inches during the quarter. The National Weather Service reports average precipitation during these three months totals 7.60 inches.

Well CS-MW4-LGR historically has one of the highest groundwater elevations of LGR screened wells. The elevation is usually 20 to 40 feet higher than the nearest comparable wells (CS-MW2-LGR and CS-MW5-LGR). With above average rainfall in this quarter, these elevations do reflect the general historical trend. The highest elevations were measured in well CS-MWH-LGR (1180.41' MSL) and CS-MW4-LGR (1185.28' MSL).

An overall groundwater gradient averaged across CSSA is to the south at 0.0019 ft/ft. The groundwater gradient varies in direction and velocity in different areas of CSSA. Groundwater gradients calculated from different LGR wells ranged from less than 0.001 ft/ft to 0.006 ft/ft.

Historical groundwater elevations have been recorded since 1992. Previous drought conditions resulted in water levels decreasing substantially in 1996, 1999, and 2000. In 2005 and 2006, average groundwater elevations decreased each quarter from March 2005 through September 2006. The September 2006 average groundwater elevations were the lowest recorded at CSSA since the monitoring program began in 1992. Current groundwater elevations are within the normal range for CSSA.

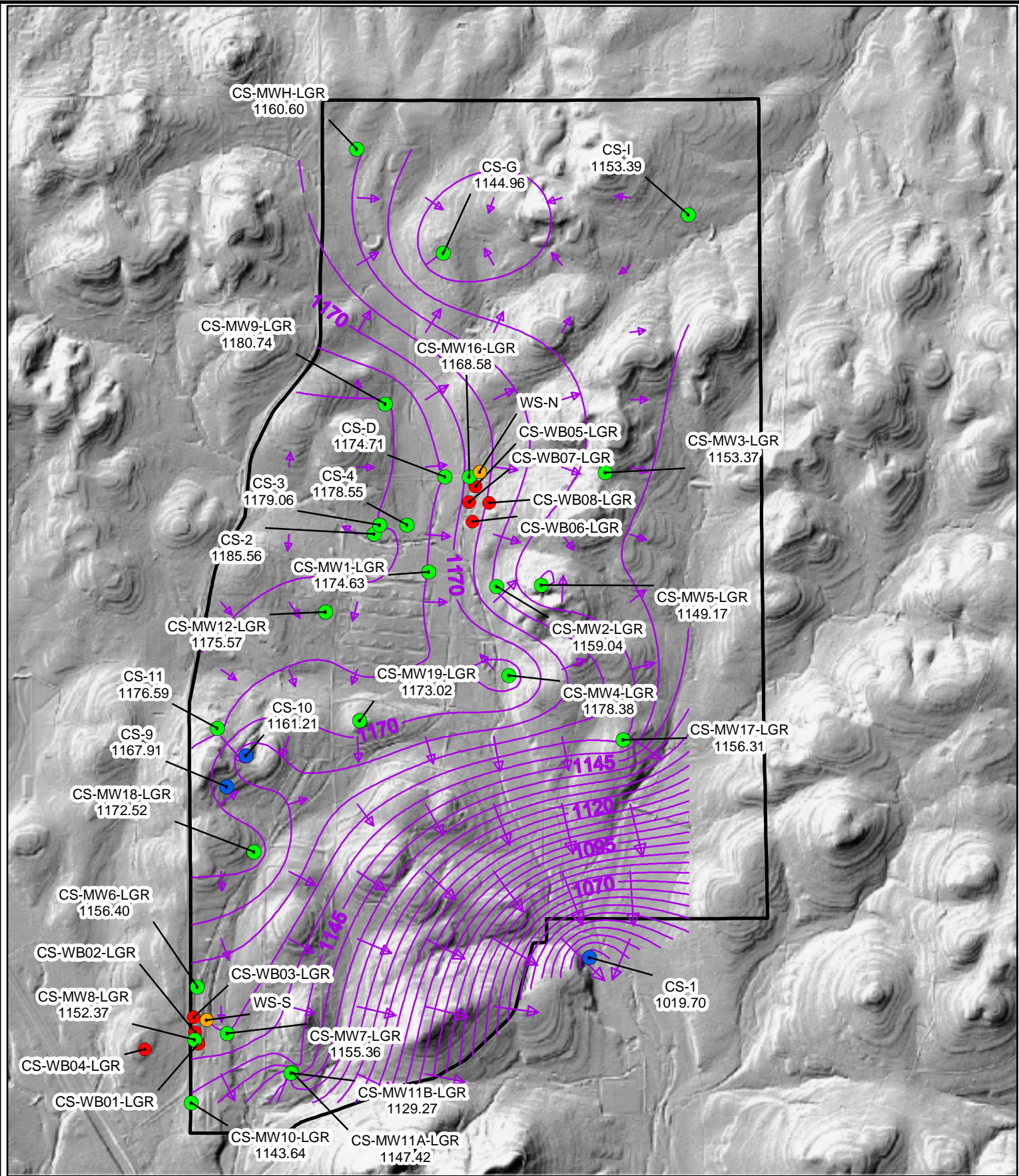


Figure 2.1

June 2007 Potentiometric
Surface Map, LGR Wells
Camp Stanley Storage Activity

Parsons

3.0 SEPTEMBER ANALYTICAL RESULTS

3.1 Monitoring Wells

Under the provisions of the groundwater monitoring DQOs and the LTMO study, the schedule for sampling on-post in September 2007 included 35 on-post monitoring wells. **Table 3-1** provides a sampling overview for September 2007 and the schedule under the LTMO recommendations and **Figure 3-1** shows the locations of the sampled wells. The monitoring wells indicated on Table 3-1 were sampled using dedicated low-flow gas operated bladder pumps. Wells CS-MWH-LGR and CS-MW16-CC were sampled using dedicated submersible pumps or dedicated submersible pumps.

Wells sampled by low-flow pumps were purged until the field parameters stabilized. Field parameters including pH, temperature, and conductivity were recorded to ensure stabilization during well purging. The on-post monitoring wells were sampled in September 2007 for the short list of volatile organic compounds (VOC), including 1,1-dichloroethene, *cis*-1,2-DCE, *trans*-1,2-DCE, PCE, TCE, and vinyl chloride and metals including nickel, cadmium, and lead. The 6 newly installed monitoring wells (#41 to 46 on Table 3-1) were sampled for short list VOCs and the 9 CSSA metals (arsenic, cadmium, lead, mercury, barium, chromium, copper, nickel, zinc) to verify metals results from last quarter. Samples were analyzed by APPL Laboratories in Fresno, California. The 6 newly installed monitoring wells samples were analyzed by TestAmerica Laboratory in Arvada, Colorado. All detected concentrations of VOCs and metals are presented in **Table 3-2**. Full analytical results are presented in **Appendix B**.

Results from on-post monitoring wells are considered definitive data and are subject to data validation and verification under provisions of the CSSA Quality Assurance Project Plan (QAPP). Parsons data package numbers DY02- #3 through #6 and TO08 #214 containing the analytical results from this sampling event were received by Parsons October 18 - 30, 2007. Data validation was conducted and the data validation summary was submitted to CSSA. Cumulative historical analytical results can be found in **Tables 6 and 7** of the **Introduction to the Quarterly Groundwater Monitoring Program** (Parsons 2001) (**Volume 5, Groundwater**).

3.2 Westbay-equipped Wells

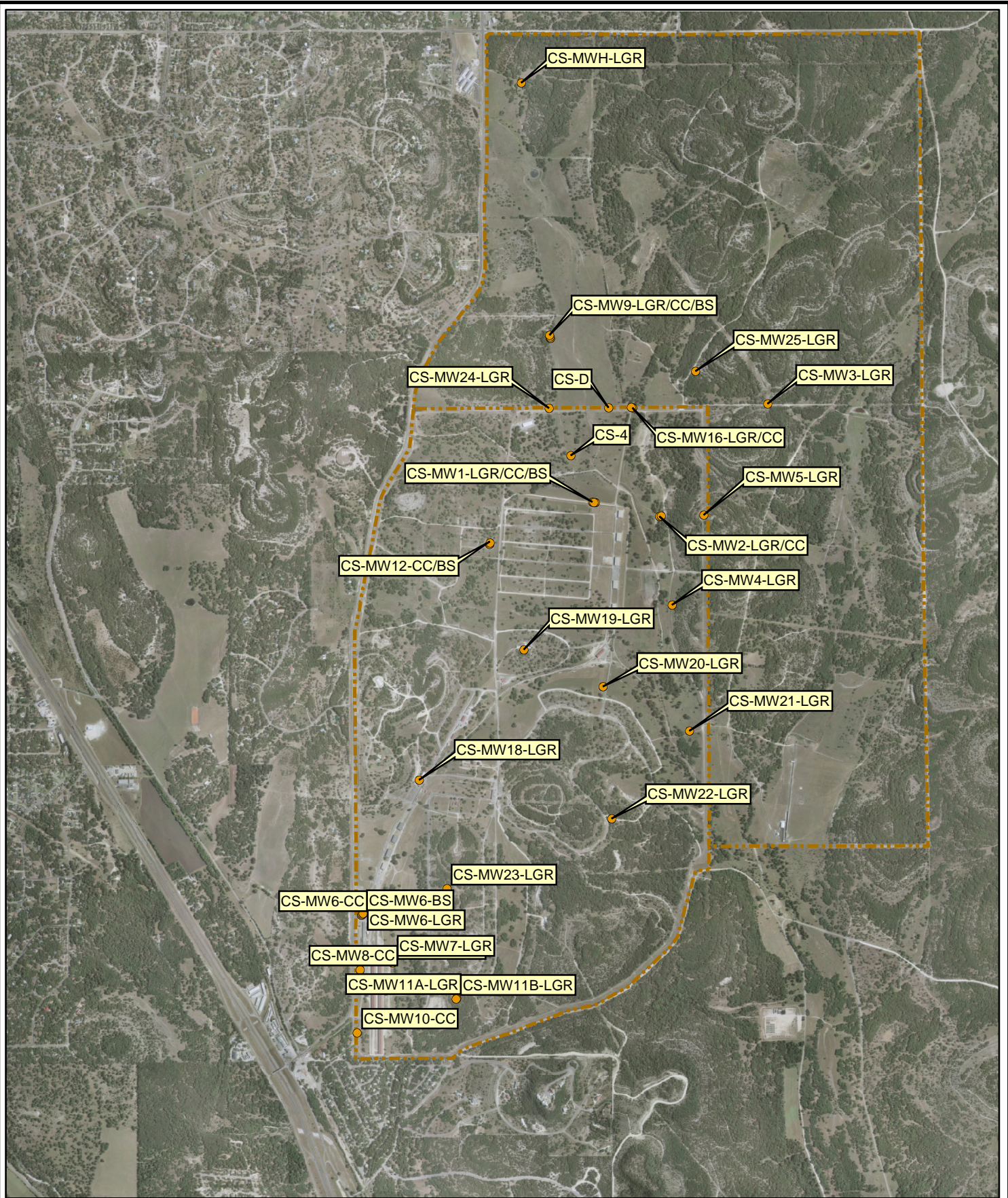
Under the provisions of the groundwater monitoring DQOs and the LTMO study, the schedule for on-post sampling in September 2007 included the four Westbay wells CS-WB01, CS-WB02, CS-WB03 and CS-WB04. These wells are sampled on a semi-annual frequency under the LTMO study and will be sampled again during the March 2008 event. Full analytical historical results are presented in **Appendix C**. The Westbay wells are sampled for the VOCs 1,1-dichloroethene, *cis*-1,2-DCE, *trans*-1,2-DCE, PCE, TCE, and vinyl chloride.

Westbay wells CS-WB05, CS-WB06, CS-WB07, and CS-WB08 are not sampled as part of the groundwater monitoring program but are sampled under the solid waste management unit B-3 bioreactor monitoring. Results for those wells are presented in a separate report.

**Table 3-1
Overview of the On-Post Monitoring Program**

Count	Well ID	Analytes	Current Sample Date	Sampled September 2007	Next Sample Date	Sampling Frequency
1	CS-MW1-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
2	CS-MW1-BS	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
3	CS-MW1-CC	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
4	CS-MW2-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
5	CS-MW2-CC	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
6	CS-MW3-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
7	CS-MW4-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
8	CS-MW5-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
9	CS-MW6-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
10	CS-MW6-BS	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
11	CS-MW6-CC	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
12	CS-MW7-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
13	CS-MW7-CC	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
14	CS-MW8-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
15	CS-MW8-CC	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
16	CS-MW9-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
17	CS-MW9-BS	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
18	CS-MW9-CC	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
19	CS-MW10-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
20	CS-MW10-CC	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
21	CS-MW11A-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
22	CS-MW11B-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
23	CS-MW12-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
24	CS-MW12-BS	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
25	CS-MW12-CC	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
26	CS-MW16-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
27	CS-MW16-CC	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
28	CW-MW17-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
29	CS-MW18-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
30	CS-MW19-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
31	CS-1	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
32	CS-2	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
33	CS-4	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
34	CS-9	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
35	CS-10	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
36	CS-11	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
37	CS-D	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Mar-08	Semi-annual
38	CS-MWG-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
39	CS-MWH-LGR	VOC on-post short list & metals (Pb, Cd, Ni)	Sep-07	Yes	Sep-09	Biennial
40	CS-I	VOC on-post short list & metals (Pb, Cd, Ni)	Dec-07	No	Sep-08	Every 9 months*
41	CS-MW20-LGR	VOC on-post short list & metals (As, Cd, Pb, Hg, Ba, Cr, Cu, Ni, Zn)	Sep-07	Yes	Dec-07	Quarterly for 1 year, thru March 08
42	CS-MW21-LGR	VOC on-post short list & metals (As, Cd, Pb, Hg, Ba, Cr, Cu, Ni, Zn)	Sep-07	Yes	Dec-07	Quarterly for 1 year, thru March 08
43	CS-MW22-LGR	VOC on-post short list & metals (As, Cd, Pb, Hg, Ba, Cr, Cu, Ni, Zn)	Sep-07	Yes	Dec-07	Quarterly for 1 year, thru March 08
44	CS-MW23-LGR	VOC on-post short list & metals (As, Cd, Pb, Hg, Ba, Cr, Cu, Ni, Zn)	Sep-07	Yes	Dec-07	Quarterly for 1 year, thru March 08
45	CS-MW24-LGR	VOC on-post short list & metals (As, Cd, Pb, Hg, Ba, Cr, Cu, Ni, Zn)	Sep-07	Yes	Dec-07	Quarterly for 1 year, thru March 08
46	CS-MW25-LGR	VOC on-post short list & metals (As, Cd, Pb, Hg, Ba, Cr, Cu, Ni, Zn)	Sep-07	Yes	Dec-07	Quarterly for 1 year, thru March 08

*Wells recommended for annual sampling frequency in the LTMO are scheduled every nine months (every third quarter) to gather seasonal data.



- On-Post Wells
- CSSA Boundary

0 2,000 4,000
 Feet

Figure 3-1

On-Post Wells Sampled September 2007
 Camp Stanley Storage Activity

Parsons

4.0 SUMMARY AND RECOMMENDATIONS

- The newly installed on-post monitoring wells MW20 through MW25 were sampled in September 2007 for the second event. Metals analysis for nine metals were included based on results from June 2007.
- The MCL was exceeded for PCE, TCE, and/or *cis*-1,2-DCE in wells CS-D, CS-MW1-LGR, CS-MW16-LGR and CS-MW16-CC during this event.
- PCE was detected below the MCL, in wells CS-4, and CS-MW20-LGR during this event.
- Vinyl chloride was detected in wells CS-MW12-BS and CS-MW16-CC, below the RL, during the September 2007 event. TCE was detected in well CS-MW8-CC, below the RL.
- Wells CS-MW9-BS, CS-MW22-LGR, and CS-MW25-LGR exceeded the action level for lead, 0.015 mg/L. Well CS-MW25-LGR (0.24 mg/L) also exceeded the MCL for chromium (0.1 mg/L). Well CS-MW22-LGR (6.7 mg/L) exceeded the MCL for zinc (5.0 mg/L). These wells will continue to be sampled for the nine CSSA metals for two more quarters.
- The MCL for cadmium (0.005 mg/L) was exceeded in well CS-MW2-CC, with a concentration of 0.0073 mg/L.
- Water levels increased an average of 15.00 feet per well this quarter. The water levels have recovered significantly since the drought in 2005 and 2006.
- All thirty-five of the monitoring wells scheduled to be sampled in September 2007 were sampled.
- All zones in WB01 had PCE and TCE detections with an increase in PCE and TCE concentration since March 2007 in most zones. CS-WB01-UGR-01 was dry and CS-WB01-LGR-01 had no detection for TCE.
- PCE and TCE were detected in 10 of the 11 zones of WB02, with one zone CS-WB02-UGR-01 dry. PCE exceeded the MCL in zones CS-WB02-LGR-01, LGR-02, LGR-03, and LGR-09.
- In WB-03 every zone had detections of PCE and TCE and in every concentration increased since these zones were sampled in March 2007. Zone CS-WB03-LGR-01 was dry.
- WB04 zones LGR-09, LGR-07, and LGR-06 exceeded the MCLs for TCE and/or PCE. Zone CS-WB04-UGR-01 was dry. Zone CS-WB04-LGR-02 had its first detection of PCE since the well was initially sampled in September 2003.

Table 3-2
September 2007 On-post Quarterly Groundwater Analytical Results, Detected Analytes

Well ID	Date Sampled	VOCs (µg/L)						Metals (mg/L)								
		1,1-DCE	<i>cis</i> -1,2-DCE	PCE	<i>trans</i> -1,2-DCE	TCE	Vinyl Chloride	Arsenic	Cadmium (Cd)	Lead	Nickel	Barium	Chromium	Copper	Zinc	Mercury
CS-4	9/25/07	--	0.53F	1.74	--	1.92	--	NA	0.0004F	0.0015F	--	NA	NA	NA	NA	NA
CS-D	9/25/07	--	102.79*	94.38	1.04	112.93*	--	NA	0.0018F	0.0016F	--	NA	NA	NA	NA	NA
CS-MW1-BS	9/25/07	--	0.81F	--	--	--	--	NA	0.0012F	0.0047	--	NA	NA	NA	NA	NA
CS-MW1-CC	9/25/07	--	--	--	--	--	--	NA	0.0007F	0.0014F	--	NA	NA	NA	NA	NA
CS-MW1-CC (FD)	9/5/07	--	--	--	--	--	--	NA	0.0006F	0.0005F	--	NA	NA	NA	NA	NA
CS-MW1-LGR	9/25/07	--	46.31	30.82	0.81	34.62	--	NA	0.0036F	0.0063	0.066	NA	NA	NA	NA	NA
CS-MW2-CC	9/25/07	--	--	--	--	--	--	NA	0.0073	0.0051	0.011	NA	NA	NA	NA	NA
CS-MW2-LGR	9/25/07	--	2.22	0.11F	--	0.10F	--	NA	0.0004F	0.0049	0.003F	NA	NA	NA	NA	NA
CS-MW3-LGR	10/1/07	--	--	--	--	--	--	NA	0.0003F	0.0004F	0.006F	NA	NA	NA	NA	NA
CS-MW4-LGR	9/27/07	--	--	--	--	--	--	NA	0.0005F	0.0008F	--	NA	NA	NA	NA	NA
CS-MW5-LGR	9/27/07	--	1.15F	0.63F	--	0.75F	--	NA	--	0.0016F	0.008F	NA	NA	NA	NA	NA
CS-MW6-BS	10/2/07	--	--	--	--	--	--	NA	--	--	--	NA	NA	NA	NA	NA
CS-MW6-CC	10/2/07	--	--	--	--	--	--	NA	0.0004F	0.0004F	--	NA	NA	NA	NA	NA
CS-MW6-LGR	10/2/07	--	--	--	--	--	--	NA	--	--	0.028	NA	NA	NA	NA	NA
CS-MW6-LGR (FD)	10/2/07	--	--	--	--	--	--	NA	0.0002F	0.0004F	0.027	NA	NA	NA	NA	NA
CS-MW7-CC	10/2/07	--	--	--	--	--	--	NA	--	--	--	NA	NA	NA	NA	NA
CS-MW7-LGR	10/2/07	--	--	--	--	--	--	NA	0.0003F	0.0004F	--	NA	NA	NA	NA	NA
CS-MW8-CC	10/2/07	--	--	0.65F	--	0.08F	--	NA	0.0002F	--	0.003F	NA	NA	NA	NA	NA
CS-MW9-BS	9/25/07	--	--	--	--	--	--	NA	0.0019F	0.1065	0.019	NA	NA	NA	NA	NA
CS-MW9-CC	9/25/07	--	--	--	--	--	--	NA	0.0002F	0.0009F	--	NA	NA	NA	NA	NA
CS-MW9-LGR	9/25/07	--	--	--	--	--	--	NA	0.0012F	0.0048	0.032	NA	NA	NA	NA	NA
CS-MW10-CC	10/2/07	--	--	--	--	--	--	NA	0.0004F	0.0004F	0.003F	NA	NA	NA	NA	NA
CS-MW11A-LGR	9/27/07	--	--	0.60F	--	--	--	NA	0.0003F	0.0005F	0.005F	NA	NA	NA	NA	NA
CS-MW11A-LGR (FD)	9/27/07	--	--	0.65F	--	--	--	NA	0.0003F	0.0008F	0.005F	NA	NA	NA	NA	NA
CS-MW11B-LGR	9/27/07	--	--	1.29F	--	--	--	NA	0.0009F	0.0013F	0.007F	NA	NA	NA	NA	NA
CS-MW12-BS	9/27/07	--	--	--	--	--	0.13F	NA	0.0002F	--	0.003F	NA	NA	NA	NA	NA
CS-MW12-CC	9/27/07	--	--	--	--	--	--	NA	--	--	--	NA	NA	NA	NA	NA
CS-MW16-CC	9/25/07	0.60F	67.13	24.59	2.45	73.05	0.25F	NA	0.0015F	0.0072	0.003F	NA	NA	NA	NA	NA
CS-MW16-LGR	9/25/07	--	27.4	38.5	0.15F	34.66	--	NA	0.0003F	0.0007F	--	NA	NA	NA	NA	NA
CS-MW18-LGR	10/2/07	--	--	--	--	--	--	NA	0.0003F	0.0006F	0.007F	NA	NA	NA	NA	NA
CS-MW18-LGR (FD)	10/2/07	--	--	--	--	--	--	NA	0.0009F	0.0008F	0.007F	NA	NA	NA	NA	NA
CS-MW19-LGR	9/27/07	--	--	0.48F	--	--	--	NA	0.0006F	0.0009F	0.134	NA	NA	NA	NA	NA
CS-MWH-LGR	9/24/07	--	--	--	--	--	--	NA	0.0014F	0.009	0.0005F	NA	NA	NA	NA	NA
CS-MW20-LGR	10/1/07	--	--	1.8	--	--	--	0.00081F	--	0.00065F	--	0.15	--	--	0.029F	--
CS-MW21-LGR	10/1/07	--	--	--	--	--	--	0.0034F	--	0.0013F	--	0.091	--	--	0.34	--
CS-MW22-LGR	10/1/07	--	--	--	--	--	--	0.0056F	0.00013F	0.086	0.037	0.093	0.023	0.026	6.7	0.00012F
CS-MW23-LGR	10/1/07	--	--	--	--	--	--	0.0011F	0.00046F	0.0018F	--	0.054	--	0.0046F	0.28	--
CS-MW24-LGR	10/1/07	--	--	--	--	--	--	0.00081F	--	0.00085F	--	0.033	--	--	0.11	--
CS-MW25-LGR	10/1/07	--	--	--	--	--	--	0.0044F	0.00016F	0.032	0.14	0.063	0.24	0.065	2.2	--

Groundwater Comparison Criteria																
MDL	0.074	0.098	0.14	0.056	0.10	0.078	0.00004	0.00018	0.0078	0.001	0.0026	0.0045	0.0045	0.00027		
RL	1.2	1.2	1.4	0.60	1.0	1.1	0.02	0.002	0.01	0.005	0.01	0.01	0.05	0.001		
MCL/AL	7	70	5	100	5	2	0.01	0.005	0.015	--	2	0.1	1.3	5	0.002	

BOLD	= Above the MCL
BOLD	= Above the RL
BOLD	= Above the MDL (F flagged)

Precipitation/Quarter:	Mar-07 *	Jun-07	Sep-07
WS-S	9.86	11.96	20.63**
WS-N	9.00	--	20.31*

* both weather stations down for SCADA, no rainfall data recorded 2/13/07 to 3/4/07
 -- weather station down due to SCADA install
 ** no data recorded 7/30/07 to 9/20/07 due to SCADA outage.
 * no data recorded 7/8 & 9, 2007 due to SCADA outage.

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

*-- indicates the result was non-detect
 VOC concentrations are reported in µg/L and metals concentrations are reported in mg/L.
 * = dilution run was performed.

NA = Not Analyzed
 SS = Secondary Standard
 MCL = Maximum Contaminant Level
 AL = Action Level
 MDL = method detection limit
 RL = reporting limit
 FD = field duplicate

**Table 3-3
September 2007 Westbay Analytical Results**

Well ID	Date Sampled	1,1-DCE (1,1-dichloroethene)	cis-1,2-DCE (cis-1,2-dichloroethene)	PCE (tetrachloroethene)	trans-1,2-DCE (trans-1,2-dichloroethene)	TCE (trichloroethene)	Vinyl Chloride
CS-WB01-UGR-01	10/4/07	dry	dry	dry	dry	dry	dry
CS-WB01-LGR-01	10/4/07	--	--	6.2	--	--	--
CS-WB01-LGR-02	10/5/07	--	--	12	--	4.8	--
CS-WB01-LGR-03	10/5/07	--	--	2.2	--	7.7	--
CS-WB01-LGR-04	10/5/07	--	--	0.38J	--	0.40J	--
CS-WB01-LGR-05	10/5/07	--	--	0.32J	--	0.77J	--
CS-WB01-LGR-06	10/5/07	--	--	0.48J	--	1.8	--
CS-WB01-LGR-07	10/5/07	--	--	16	--	15	--
CS-WB01-LGR-08	10/5/07	--	0.25J	0.96J	--	1.9	--
CS-WB01-LGR-09	10/5/07	--	0.42J	21	--	32	--
CS-WB02-UGR-01	10/3/07	dry	dry	dry	dry	dry	dry
CS-WB02-LGR-01	10/3/07	--	--	8.2	--	2	--
CS-WB02-LGR-02	10/3/07	--	--	5.1	--	0.68J	--
CS-WB02-LGR-03	10/3/07	--	--	7.8	--	1.2	--
CS-WB02-LGR-04	10/3/07	--	--	2.2	--	9.2	--
CS-WB02-LGR-05	10/3/07	--	--	0.90J	--	3.6	--
CS-WB02-LGR-06	10/3/07	--	--	3.3	--	4.2	--
CS-WB02-LGR-07	10/3/07	--	--	1.9	--	1.5	--
CS-WB02-LGR-08	10/3/07	--	--	3.4	--	2.2	--
CS-WB02-LGR-09	10/3/07	--	0.25J	9.3	--	10	--
CS-WB03-UGR-01	10/4/07	0.39J	7.6	22,000*	0.22J	450J*	--
CS-WB03-LGR-01	10/4/07	dry	dry	dry	dry	dry	dry
CS-WB03-LGR-02	10/4/07	--	--	140*	--	11	--
CS-WB03-LGR-03	10/4/07	--	--	24	--	9.8	--
CS-WB03-LGR-04	10/4/07	--	--	35	--	12	--
CS-WB03-LGR-05	10/4/07	--	--	33	--	9.7	--
CS-WB03-LGR-06	10/4/07	--	--	16	--	2.3	--
CS-WB03-LGR-07	10/4/07	--	0.73J	31	--	28	--
CS-WB03-LGR-08	10/4/07	--	--	21	--	2	--
CS-WB03-LGR-09	10/4/07	--	--	13	--	11	--
CS-WB04-UGR-01	10/3/07	dry	dry	dry	dry	dry	dry
CS-WB04-LGR-01	10/3/07	--	--	0.28J	--	--	--
CS-WB04-LGR-02	10/3/07	--	--	0.30J	--	--	--
CS-WB04-LGR-03	10/3/07	--	--	--	--	--	--
CS-WB04-LGR-04	10/3/07	--	--	--	--	--	--
CS-WB04-LGR-06	10/3/07	--	2.9	1.4	0.36J	9.1	--
CS-WB04-LGR-07	10/3/07	--	2.2	1.4	--	8	--
CS-WB04-LGR-08	10/3/07	--	--	0.33J	--	1.1	--
CS-WB04-LGR-09	10/3/07	--	--	12	--	11	--
CS-WB04-LGR-10	10/3/07	--	--	0.82J	--	1.2	--
CS-WB04-LGR-11	10/3/07	--	--	--	--	--	--
CS-WB04-BS-01	10/3/07	--	--	--	--	--	--
CS-WB04-BS-02	10/3/07	--	0.25J	--	--	--	--
CS-WB04-CC-01	10/3/07	--	0.48J	--	--	0.19J	--
CS-WB04-CC-02	10/3/07	--	--	--	--	--	--
CS-WB04-CC-03	10/3/07	--	--	--	--	--	--
Groundwater Comparison Criteria							
MDL	0.3	0.16	0.15	0.19	0.16	0.23	
RL	1.2	1.2	1.4	0.6	1	1.1	
MCL	7	70	5	100	5	2	

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.
 "--" indicates the result was non-detect.
 All values are reported in µg/L.
 * - A dilution run was performed on the sample.

BOLD	= Above the MCL
BOLD	= Above the RL
BOLD	= Above the MDL (F flagged)

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
Characterization of Environmental Setting (Hydrogeology)	Prepare water-level contour and/or potentiometric maps for each formation of the Middle Trinity Aquifer (3.5.3).	Potentiometric surface maps were prepared based on water levels measured in each of CSSA's wells screened in three formations on September 24, 2007.	To the extent possible with data available. Due to the limited data available and the fact that wells are completed across multiple water-bearing units, potentiometric maps should only be used for regional water flow direction, not local. Ongoing pumping in the CSSA area likely affects the natural groundwater flow direction.	As additional wells are installed screened in distinct formations, future evaluations will eliminate reliance on wells screened across multiple formations.
	Describe the flow system, including the vertical and horizontal components of flow (2.1.9).	Potentiometric maps were created using September 24, 2007 water level data, and horizontal flow direction was tentatively identified. Insufficient data are currently available to determine vertical component of flow.	As described above, due to the lack of aquifer-specific water level information, potentiometric surface maps should only be used as an estimate of regional flow direction.	Same as above.
	Define formation(s) in the Middle Trinity Aquifer are impacted by the VOC contaminants (2.1.3).	Quarterly groundwater monitoring provides information on Middle Trinity Aquifer impacts. Monitoring wells equipped with Westbay® - multi-port samplers are sampled semiannually and will be sampled again during the March 2008 event.	Yes.	Continue sampling.

Activity	Objectives	Action	Objective Attained?	Recommendations
	Identify any temporal changes in hydraulic gradients due to seasonal influences (2.1.5).	Downloaded data from continuous-reading transducers in wells: CS-MW16-LGR, CS-MW4-LGR, CS-MW9-LGR, CS-MW9-BS, CS-MW9-CC, CS-MW11A-LGR, CS-MW11B-LGR, CS-MW18-LGR, CS-MW1-LGR, CS-MW1-CC, CS-MW2-LGR, CS-MW2-CC, CS-MW12-LGR, CS-MW12-CC, CS-MW17-LGR, CS-MW19-LGR, and CS-MW16-CC. Additional continuous reading transducers were added to the program through the SCADA project. The following wells can be uploaded to see real time water level data: CS-MW9-LGR, CS-MW9-BS, CS-MW9-CC, CS-MW16-LGR, CS-MW16-CC, CS-MW1-LGR, CS-MW1-BS, CS-MW1-CC, CS-MW12-LGR, CS-MW12-BS, CS-MW12-CC, CS-MW10-LGR, CS-MW10-CC, CS-MW6-LGR, CS-MW6-BS, CS-MW6-CC, CS-1, and CS-10. Data was also downloaded from the northern and southern continuous-reading weather stations WS-N and WS-S. Water levels will be graphed at these wells against precipitation data through December 2007 and included in the annual groundwater report.	Yes.	Continue collection of transducer data and possibly install transducers in other cluster wells.
Contamination Characterization (Ground Water Contamination)	Characterize the horizontal and vertical extent of any immiscible or dissolved plume(s) originating from the Facility (3.1.2).	Samples for laboratory analysis were collected from 35 of 46 CSSA wells. All 35 of the wells scheduled to be sampled in September 2007 were sampled.	The horizontal and vertical extent of groundwater contamination is continuously monitored.	Continue groundwater monitoring and construct additional wells as necessary.

Activity	Objectives	Action	Objective Attained?	Recommendations																														
	<p>Determine the horizontal and vertical concentration profiles of all constituents of concern (COC) in the groundwater that are measured by USEPA-approved procedures (3.1.2). COCs are those chemicals that have been detected in groundwater in the past and their daughter (breakdown) products.</p>	<p>Groundwater samples were collected from wells: CS-MW1-LGR, CS-MW1-BS, CS-MW1-CC, CS-MW2-LGR, CS-MW2-CC, CS-MW3-LGR, CS-MW4-LGR, CS-MW5-LGR, CS-MW6-LGR, CS-MW6-BS, CS-MW6-CC, CS-MW7-LGR, CS-MW7-CC, CS-MW8-CC, CS-MW9-LGR, CS-MW9-BS, CS-MW9-CC, CS-MW10-CC, CS-MW11A-LGR, CS-MW11B-LGR, CS-MW12-BS, CS-MW12-CC, CS-MW16-LGR, CS-MW16-CC, CS-MW18-LGR, CS-MW19-LGR, CS-4, CS-D, CS-MWH-LGR, CS-MW20-LGR, CS-MW21-LGR, CS-MW22-LGR, CS-MW23-LGR, CS-MW24-LGR and CS-MW25-LGR. Samples were analyzed for the short list of VOCs using USEPA method SW8260B, and metals (nickel, cadmium, and lead). The 6 newly installed monitoring wells were sampled for 9 CSSA metals (arsenic, cadmium, lead, mercury, barium, chromium, copper, nickel, and zinc) to verify results from last quarter. Analyses were conducted in accordance with the AFCEE QAPP and approved variances. All RLs were below MCLs, as listed below:</p>	<p>Yes.</p>	<p>Continue sampling.</p>																														
		<table border="1"> <thead> <tr> <th data-bbox="617 938 793 959">ANALYTE</th> <th data-bbox="793 938 970 959">RL (µg/L)</th> <th data-bbox="970 938 1136 959">MCL(µg/L)</th> </tr> </thead> <tbody> <tr> <td data-bbox="617 959 793 980">Chloroform</td> <td data-bbox="793 959 970 980">0.4</td> <td data-bbox="970 959 1136 980">100</td> </tr> <tr> <td data-bbox="617 980 793 1002">Chloromethane</td> <td data-bbox="793 980 970 1002">1.3</td> <td data-bbox="970 980 1136 1002">--</td> </tr> <tr> <td data-bbox="617 1002 793 1023">Dibromochloromethane</td> <td data-bbox="793 1002 970 1023">0.5</td> <td data-bbox="970 1002 1136 1023">100</td> </tr> <tr> <td data-bbox="617 1023 793 1044">1,1-DCE</td> <td data-bbox="793 1023 970 1044">1.2</td> <td data-bbox="970 1023 1136 1044">7</td> </tr> <tr> <td data-bbox="617 1044 793 1065"><i>cis</i>-1,2-DCE</td> <td data-bbox="793 1044 970 1065">1.2</td> <td data-bbox="970 1044 1136 1065">70</td> </tr> <tr> <td data-bbox="617 1065 793 1086"><i>trans</i>-1,2-DCE</td> <td data-bbox="793 1065 970 1086">0.6</td> <td data-bbox="970 1065 1136 1086">100</td> </tr> <tr> <td data-bbox="617 1086 793 1107">Methylene Chloride</td> <td data-bbox="793 1086 970 1107">2</td> <td data-bbox="970 1086 1136 1107">5</td> </tr> <tr> <td data-bbox="617 1107 793 1128">PCE</td> <td data-bbox="793 1107 970 1128">1.4</td> <td data-bbox="970 1107 1136 1128">5</td> </tr> <tr> <td data-bbox="617 1128 793 1149">TCE</td> <td data-bbox="793 1128 970 1149">1.0</td> <td data-bbox="970 1128 1136 1149">5</td> </tr> </tbody> </table>	ANALYTE	RL (µg/L)	MCL(µg/L)	Chloroform	0.4	100	Chloromethane	1.3	--	Dibromochloromethane	0.5	100	1,1-DCE	1.2	7	<i>cis</i> -1,2-DCE	1.2	70	<i>trans</i> -1,2-DCE	0.6	100	Methylene Chloride	2	5	PCE	1.4	5	TCE	1.0	5		
ANALYTE	RL (µg/L)	MCL(µg/L)																																
Chloroform	0.4	100																																
Chloromethane	1.3	--																																
Dibromochloromethane	0.5	100																																
1,1-DCE	1.2	7																																
<i>cis</i> -1,2-DCE	1.2	70																																
<i>trans</i> -1,2-DCE	0.6	100																																
Methylene Chloride	2	5																																
PCE	1.4	5																																
TCE	1.0	5																																

Activity	Objectives	Action	Objective Attained?	Recommendations																														
		<table border="1"> <thead> <tr> <th data-bbox="613 289 800 310">ANALYTE</th> <th data-bbox="800 289 940 310">RL (µg/L)</th> <th data-bbox="940 289 1136 310">MCL (µg/L)</th> </tr> </thead> <tbody> <tr> <td data-bbox="613 321 695 342">Barium</td> <td data-bbox="831 321 850 342">5</td> <td data-bbox="993 321 1054 342">2,000</td> </tr> <tr> <td data-bbox="613 347 716 368">Chromium</td> <td data-bbox="831 347 850 368">10</td> <td data-bbox="1014 347 1033 368">100</td> </tr> <tr> <td data-bbox="613 373 680 394">Copper</td> <td data-bbox="831 373 850 394">10</td> <td data-bbox="993 373 1054 394">1,300</td> </tr> <tr> <td data-bbox="613 399 680 420">Nickel</td> <td data-bbox="831 399 850 420">10</td> <td data-bbox="1014 399 1033 420">100</td> </tr> <tr> <td data-bbox="613 425 659 446">Zinc</td> <td data-bbox="831 425 850 446">10</td> <td data-bbox="982 425 1064 446">11,000</td> </tr> <tr> <td data-bbox="613 451 695 472">Arsenic</td> <td data-bbox="831 451 850 472">5</td> <td data-bbox="1014 451 1033 472">50</td> </tr> <tr> <td data-bbox="613 477 709 498">Cadmium</td> <td data-bbox="831 477 850 498">1</td> <td data-bbox="1014 477 1033 498">3</td> </tr> <tr> <td data-bbox="613 503 659 524">Lead</td> <td data-bbox="831 503 850 524">2</td> <td data-bbox="1014 503 1033 524">15</td> </tr> <tr> <td data-bbox="613 529 695 550">Mercury</td> <td data-bbox="831 529 850 550">1</td> <td data-bbox="1014 529 1033 550">2</td> </tr> </tbody> </table>	ANALYTE	RL (µg/L)	MCL (µg/L)	Barium	5	2,000	Chromium	10	100	Copper	10	1,300	Nickel	10	100	Zinc	10	11,000	Arsenic	5	50	Cadmium	1	3	Lead	2	15	Mercury	1	2		
ANALYTE	RL (µg/L)	MCL (µg/L)																																
Barium	5	2,000																																
Chromium	10	100																																
Copper	10	1,300																																
Nickel	10	100																																
Zinc	10	11,000																																
Arsenic	5	50																																
Cadmium	1	3																																
Lead	2	15																																
Mercury	1	2																																
Contamination Characterization (Ground Water Contamination) (Continued)	Meet AFCEE QAPP quality assurance requirements.	Samples were analyzed in accordance with the CSSA QAPP and approved variances. Parsons chemists verified all data, and AFCEE approval was obtained.	Yes.	NA																														
		<p>All data flagged with a “U,” “J,” and “F” are usable for characterizing contamination. All “R” flagged data are considered unusable.</p> <p>Previously, a method detection limit (MDL) study for arsenic, cadmium, and lead was not performed within a year of the analyses, as required by the AFCEE QAPP.</p>	<p>Yes.</p> <p>The laboratory performed new MDL studies in February 2001 for these metals and the new MDL values were found to be almost identical to the previous MDLs and all met the associated AFCEE QAPP requirements. MDLs for these three metals are well below MCLs. In addition, the laboratory performed daily calibrations and RL verifications for these metals, both of which demonstrate the laboratory’s ability to detect and quantitate these metals at RL levels. These daily analyses also indicate that concentrations above the laboratory RL for these compounds were not affected by the expired MDL study.</p>	<p>NA</p> <p>Use results for groundwater characterization purposes.</p>																														

Activity	Objectives	Action	Objective Attained?	Recommendations
Remediation	Determine goals and create cost-effective and technologically appropriate methods for remediation (2.2.1).	Continued data collection will provide analytical results for accomplishing this objective.	Ongoing.	Continue sampling and evaluation, including quarterly groundwater monitoring teleconferences to address remediation.
	Determine placement of new wells for monitoring (2.3.1, 3.6)	Sampling frequency and sample locations to be monitored (including any new wells) will be based on trend data from monitoring event(s) (3.1.5).	Ongoing.	Continue quarterly groundwater teleconferences to discuss sampling frequency and placement of new monitor wells.
Project schedule/ Reporting	Produce a quarterly monitoring project schedule as a road map for sampling, analysis, validation, verification, reviews, and reports.	Prepare schedules and sampling guidelines prior to each quarterly sampling event.	Yes.	Continue sampling schedule preparation each quarter.

Appendix B
September 2007 Quarterly On-Post Groundwater Analytical

Well ID	Date Sampled	VOCs (µg/L)						Metals (mg/L)								
		1,1-DCE	cis-1,2-DCE	PCE	trans-1,2-DCE	TCE	Vinyl Chloride	Arsenic	Cadmium (Cd)	Lead (Pb)	Nickel (Ni)	Barium	Chromium	Copper	Zinc	Mercury
CS-4	9/25/07	0.074U	0.53F	1.74	0.056U	1.92	0.078U	NA	0.0004F	0.0015F	0.0078U	NA	NA	NA	NA	NA
CS-D	9/25/07	0.074U	102.79*	94.38	1.04	112.93*	0.078U	NA	0.0018F	0.0016F	0.0078U	NA	NA	NA	NA	NA
CS-MW1-BS	9/25/07	0.074U	0.81F	0.14U	0.056U	0.10U	0.078U	NA	0.0012F	0.0047	0.0078U	NA	NA	NA	NA	NA
CS-MW1-CC	9/25/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0007F	0.0014F	0.0078U	NA	NA	NA	NA	NA
CS-MW1-CC (FD)	9/5/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0006F	0.0005F	0.0078U	NA	NA	NA	NA	NA
CS-MW1-LGR	9/25/07	0.074U	46.31	30.82	0.81	34.62	0.078U	NA	0.0036F	0.0036F	0.066	NA	NA	NA	NA	NA
CS-MW2-CC	9/25/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0073	0.0051	0.011	NA	NA	NA	NA	NA
CS-MW2-LGR	9/25/07	0.074U	2.22	0.11F	0.056U	0.10F	0.078U	NA	0.0004F	0.0049	0.003F	NA	NA	NA	NA	NA
CS-MW3-LGR	10/1/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0003F	0.0004F	0.006F	NA	NA	NA	NA	NA
CS-MW4-LGR	9/27/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0005F	0.0008F	0.0078U	NA	NA	NA	NA	NA
CS-MW5-LGR	9/27/07	0.074U	1.15F	0.63F	0.056U	0.75F	0.078U	NA	0.00004U	0.0016F	0.008F	NA	NA	NA	NA	NA
CS-MW6-BS	10/2/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.00004U	0.00018U	0.0078U	NA	NA	NA	NA	NA
CS-MW6-CC	10/2/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0004F	0.0004F	0.0078U	NA	NA	NA	NA	NA
CS-MW6-LGR	10/2/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.00004U	0.00018U	0.028	NA	NA	NA	NA	NA
CS-MW6-LGR (FD)	10/2/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0002F	0.0004F	0.027	NA	NA	NA	NA	NA
CS-MW7-CC	10/2/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.00004U	0.00018U	0.0078U	NA	NA	NA	NA	NA
CS-MW7-LGR	10/2/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0003F	0.0004F	0.0078U	NA	NA	NA	NA	NA
CS-MW8-CC	10/2/07	0.074U	0.098U	0.65F	0.056U	0.08F	0.078U	NA	0.0002F	0.00018U	0.003F	NA	NA	NA	NA	NA
CS-MW9-BS	9/25/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0019F	0.1065	0.019	NA	NA	NA	NA	NA
CS-MW9-CC	9/25/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0002F	0.0009F	0.0078U	NA	NA	NA	NA	NA
CS-MW9-LGR	9/25/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0012F	0.0048	0.032	NA	NA	NA	NA	NA
CS-MW10-CC	10/2/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0004F	0.0004F	0.003F	NA	NA	NA	NA	NA
CS-MW11A-LGR	9/27/07	0.074U	0.098U	0.60F	0.056U	0.10U	0.078U	NA	0.0003F	0.0005F	0.005F	NA	NA	NA	NA	NA
CS-MW11A-LGR (FD)	9/27/07	0.074U	0.098U	0.65F	0.056U	0.10U	0.078U	NA	0.0003F	0.0008F	0.005F	NA	NA	NA	NA	NA
CS-MW11B-LGR	9/27/07	0.074U	0.098U	1.29F	0.056U	0.10U	0.078U	NA	0.0009F	0.0013F	0.007F	NA	NA	NA	NA	NA
CS-MW12-BS	9/27/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.13F	NA	0.0002F	0.00018U	0.003F	NA	NA	NA	NA	NA
CS-MW12-CC	9/27/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.00004U	0.00018U	0.0078U	NA	NA	NA	NA	NA
CS-MW16-CC	9/25/07	0.60F	67.13	24.59	2.45	73.05	0.25F	NA	0.0015F	0.0072	0.003F	NA	NA	NA	NA	NA
CS-MW16-LGR	9/25/07	0.074U	27.4	38.5	0.15F	34.66	0.078U	NA	0.0003F	0.0007F	0.0078U	NA	NA	NA	NA	NA
CS-MW18-LGR	10/2/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0003F	0.0006F	0.007F	NA	NA	NA	NA	NA
CS-MW18-LGR (FD)	10/2/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0009F	0.0008F	0.007F	NA	NA	NA	NA	NA
CS-MW19-LGR	9/27/07	0.074U	0.098U	0.48F	0.056U	0.10U	0.078U	NA	0.0006F	0.0009F	0.134	NA	NA	NA	NA	NA
CS-MWH-LGR	9/24/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	NA	0.0014F	0.009	0.0005F	NA	NA	NA	NA	NA
CS-MW20-LGR	10/1/07	0.074U	0.098U	1.8	0.056U	0.10U	0.078U	0.00081F	0.00004U	0.00065F	0.0078U	0.15	0.0026U	0.0045U	0.029F	0.000027U
CS-MW21-LGR	10/1/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	0.0034F	0.00004U	0.0013F	0.0078U	0.091	0.0026U	0.0045U	0.34	0.000027U
CS-MW22-LGR	10/1/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	0.0056F	0.00013F	0.086	0.037	0.093	0.023	0.026	6.7	0.00012F
CS-MW23-LGR	10/1/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	0.0011F	0.000046F	0.0018F	0.0078U	0.054	0.0026U	0.0046F	0.28	0.000027U
CS-MW24-LGR	10/1/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	0.00081F	0.00004U	0.00085F	0.0078U	0.033	0.0026U	0.0045U	0.11	0.000027U
CS-MW25-LGR	10/1/07	0.074U	0.098U	0.14U	0.056U	0.10U	0.078U	0.0044F	0.00016F	0.032	0.14	0.063	0.24	0.065	2.2	0.000027U

BOLD	= Above the MCL
BOLD	= Above the RL
BOLD	= Above the MDL (F flagged)

Data Qualifiers:
F- The analyte was positively identified but the associated numerical value is below the RL.
U - The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.
"-" indicates the result was non-detected
VOC concentrations are reported in µg/L and metals concentrations are reported in mg/L.
* = dilution run was performed.
NA = Not Analyzed
FD = field duplicate

Appendix C
September 2007 Westbay Analytical Results

Well ID	Date Sampled	1,1-DCE (1,1-dichloroethene)	cis -1,2-DCE (cis-1,2-dichloroethene)	PCE (tetrachloroethene)	trans -1,2-DCE (trans-1,2-dichloroethene)	TCE (trichloroethene)	Vinyl Chloride
CS-WB01-UGR-01	10/4/07	dry	dry	dry	dry	dry	dry
CS-WB01-LGR-01	10/4/07	0.3U	0.16U	6.2	0.19U	0.16U	0.23U
CS-WB01-LGR-02	10/5/07	0.3U	0.16U	12	0.19U	4.8	0.23U
CS-WB01-LGR-03	10/5/07	0.3U	0.16U	2.2	0.19U	7.7	0.23U
CS-WB01-LGR-04	10/5/07	0.3U	0.16U	0.38J	0.19U	0.40J	0.23U
CS-WB01-LGR-05	10/5/07	0.3U	0.16U	0.32J	0.19U	0.77J	0.23U
CS-WB01-LGR-06	10/5/07	0.3U	0.16U	0.48J	0.19U	1.8	0.23U
CS-WB01-LGR-07	10/5/07	0.3U	0.16U	16	0.19U	15	0.23U
CS-WB01-LGR-08	10/5/07	0.3U	0.25J	0.96J	0.19U	1.9	0.23U
CS-WB01-LGR-09	10/5/07	0.3U	0.42J	21	0.19U	32	0.23U
CS-WB02-UGR-01	10/3/07	dry	dry	dry	dry	dry	dry
CS-WB02-LGR-01	10/3/07	0.3U	0.16U	8.2	0.19U	2	0.23U
CS-WB02-LGR-02	10/3/07	0.3U	0.16U	5.1	0.19U	0.68J	0.23U
CS-WB02-LGR-03	10/3/07	0.3U	0.16U	7.8	0.19U	1.2	0.23U
CS-WB02-LGR-04	10/3/07	0.3U	0.16U	2.2	0.19U	9.2	0.23U
CS-WB02-LGR-05	10/3/07	0.3U	0.16U	0.90J	0.19U	3.6	0.23U
CS-WB02-LGR-06	10/3/07	0.3U	0.16U	3.3	0.19U	4.2	0.23U
CS-WB02-LGR-07	10/3/07	0.3U	0.16U	1.9	0.19U	1.5	0.23U
CS-WB02-LGR-08	10/3/07	0.3U	0.16U	3.4	0.19U	2.2	0.23U
CS-WB02-LGR-09	10/3/07	0.3U	0.25J	9.3	0.19U	10	0.23U
CS-WB03-UGR-01	10/4/07	0.39J	7.6	22,000*	0.22J	450J*	0.23U
CS-WB03-LGR-01	10/4/07	dry	dry	dry	dry	dry	dry
CS-WB03-LGR-02	10/4/07	0.3U	0.16U	140*	0.19U	11	0.23U
CS-WB03-LGR-03	10/4/07	0.3U	0.16U	24	0.19U	9.8	0.23U
CS-WB03-LGR-04	10/4/07	0.3U	0.16U	35	0.19U	12	0.23U
CS-WB03-LGR-05	10/4/07	0.3U	0.16U	33	0.19U	9.7	0.23U
CS-WB03-LGR-06	10/4/07	0.3U	0.16U	16	0.19U	2.3	0.23U
CS-WB03-LGR-07	10/4/07	0.3U	0.73J	31	0.19U	28	0.23U
CS-WB03-LGR-08	10/4/07	0.3U	0.16U	21	0.19U	2	0.23U
CS-WB03-LGR-09	10/4/07	0.3U	0.16U	13	0.19U	11	0.23U
CS-WB04-UGR-01	10/3/07	dry	dry	dry	dry	dry	dry
CS-WB04-LGR-01	10/3/07	0.3U	0.16U	0.28J	0.19U	0.16U	0.23U
CS-WB04-LGR-02	10/3/07	0.3U	0.16U	0.30J	0.19U	0.16U	0.23U
CS-WB04-LGR-03	10/3/07	0.3U	0.16U	0.15U	0.19U	0.16U	0.23U
CS-WB04-LGR-04	10/3/07	0.3U	0.16U	0.15U	0.19U	0.16U	0.23U
CS-WB04-LGR-05	10/3/07	dry	dry	dry	dry	dry	dry
CS-WB04-LGR-06	10/3/07	0.3U	2.9	1.4	0.36J	9.1	0.23U
CS-WB04-LGR-07	10/3/07	0.3U	2.2	1.4	0.19U	8	0.23U
CS-WB04-LGR-08	10/3/07	0.3U	0.16U	0.33J	0.19U	1.1	0.23U
CS-WB04-LGR-09	10/3/07	0.3U	0.16U	12	0.19U	11	0.23U
CS-WB04-LGR-10	10/3/07	0.3U	0.16U	0.82J	0.19U	1.2	0.23U
CS-WB04-LGR-11	10/3/07	0.3U	0.16U	0.15U	0.19U	0.16U	0.23U
CS-WB04-BS-01	10/3/07	0.3U	0.16U	0.15U	0.19U	0.16U	0.23U
CS-WB04-BS-02	10/3/07	0.3U	0.25J	0.15U	0.19U	0.16U	0.23U
CS-WB04-CC-01	10/3/07	0.3U	0.48J	0.15U	0.19U	0.19J	0.23U
CS-WB04-CC-02	10/3/07	0.3U	0.16U	0.15U	0.19U	0.16U	0.23U
CS-WB04-CC-03	10/3/07	0.3U	0.16U	0.15U	0.19U	0.16U	0.23U
Groundwater Comparison Criteria							
MDL		0.3	0.16	0.15	0.19	0.16	0.23
RL		1.2	1.2	1.4	0.6	1	1.1
MCL		7	70	5	100	5	2

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.
 "--" indicates the result was non-detect.
 All values are reported in µg/L.
 * - A dilution run was performed on the sample.

BOLD	= Above the MCL
BOLD	= Above the RL
BOLD	= Above the MDL (F flagged)