

PROGRESS REPORT

January 1, 2012 – June 30, 2012

(40th REPORT)



Camp Stanley Storage Activity

Boerne, Texas

USEPA ID No. TX2210020739

July 2012

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS.....	i
INTRODUCTION.....	1
Summary of Activities this Period.....	1
Report Organization.....	1
RCRA FACILITY INVESTIGATION.....	4
RFI Work Plan.....	4
Environmental Encyclopedia Updates.....	4
Facility Investigations.....	5
Site Closure Investigations.....	6
SWMU B-4.....	7
AOC-51.....	7
East Pasture Well CS-13.....	8
AOC-72.....	8
AOC-74.....	8
RMU-2.....	8
RMU-5.....	8
North Pasture (Active Range) Sites.....	9
Wastewater Treatment Plant.....	9
Groundwater Investigation.....	9
December 2011 Sampling.....	10
March 2012 Sampling.....	10
June 2012 Sampling.....	11
On-Post GAC Systems.....	12
Off-Post GAC Systems.....	12
Data Validation and Verification.....	12
Treatability Studies.....	12
SWMU B-3 Bioreactor.....	12
AOC-65 SVE System/In-Situ Chemical Oxidation.....	15
Meetings.....	15
Summary of Contacts.....	15
PROJECTED WORK FOR THE NEXT PERIOD.....	16
SWMU, AOC, and RMU Investigations.....	16
Groundwater Monitoring.....	17
SWMU B-3 Bioreactor.....	17
AOC-65 SVE System and ISCO Treatability Study.....	17
Meetings.....	17

LIST OF TABLES

Table 1	§3008(h) Administrative Order on Consent Project Phases	3
Table 2	Project Task Completion to Date for Open Projects Only (Values updated through May 31, 2012)	18
Table 3	Project Team Contact Information.....	20

ATTACHMENTS

Attachment 1	On-Post and Off-Post Sampled Wells Figure
Attachment 2	Summary of Status of Each SWMU/AOC/RMU Site
Attachment 3	Overall Order Percent Complete
Attachment 4	Groundwater Results Summary
Attachment 5	Summary of Current and Upcoming Remedial Activities at SWMUs, AOCs, and RMUs

ACRONYMS AND ABBREVIATIONS

µg/l	micrograms per liter
1,1-DCE	1,1-dichloroethene
2,4-DNT	2,4-dinitrotoluene
3D	three-dimensional
AEM	aerial electromagnetic
AL	action level
AOC	Area of Concern
APAR	affected property assessment report
APPL	Agriculture & Priority Pollutants Laboratories, Inc.
As	arsenic
CAH	chlorinated aliphatic hydrocarbons
<i>cis</i> -1,2-DCE	<i>cis</i> -1,2-dichloroethene
COC	contaminant of concern
CSSA	Camp Stanley Storage Activity
CY	cubic yard
DQO	data quality objective
EM	electromagnetic
GAC	granular activated carbon
I/SM	interim/stabilization measures
ISCO	in-situ chemical oxidation
LGR	Lower Glen Rose
LTMO	long-term monitoring optimization
MCL	maximum contaminant level
MD	munitions debris
MEC	munitions and explosives of concern
Mn	manganese
NFA	No Further Action
O&M	operations and maintenance
Order	§3008(h) Administrative Order on Consent
PBR	permit-by-rule
PCE	tetrachloroethene
PCL	protective concentration level
PIMS	Phosphate Induced Metal Stabilization
ppbv	parts per billion by volume
QAPP	Quality Assurance Program Plan
RAL	Residential Action Level
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
RIR	Release Investigation Report
RL	reporting limit
RMU	Range Management Unit
SAWS	San Antonio Water System
SCADA	supervisory control and data acquisition
SIW	steam injection well
SVE	soil vapor extraction
SVOC	semi-volatile organic compound

SWMU	Solid Waste Management Unit
TAC	Texas Administrative Code
TCE	trichloroethene
TCEQ	Texas Commission on Environmental Quality
TPDES	Texas Pollution Discharge Elimination System
<i>trans</i> -1,2-DCE	<i>trans</i> -1,2-dichloroethene
UCL	upper confidence limit
UGR	Upper Glen Rose
UIC	underground injection control
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UXO	unexploded ordnance
VC	vinyl chloride
VEW	vapor extraction well
VOC	volatile organic compound
WP	work plan
WWTP	wastewater treatment plant
XRF	x-ray fluorescence

PROGRESS REPORT JANUARY 1, 2012 – JUNE 30, 2011 (40th PERIOD)

INTRODUCTION

This 40th Progress Report for Camp Stanley Storage Activity (CSSA), Boerne, Texas, U.S. Environmental Protection Agency (USEPA) Identification Number TX2210020739, is submitted in accordance with the Administrative Order on Consent (Order) issued to CSSA on May 5, 1999, pursuant to §3008(h) of the Safe Drinking Water Act, as amended by the Resource Conservation and Recovery Act (RCRA), and further amended by the Hazardous and Solid Waste Act of 1984, 42 United States Code §6928(h). This report addresses the project progress from January 1, 2012 through June 30, 2012. In June 2006, CSSA switched from quarterly to semi-annual progress reporting, as approved by USEPA. Subsequent progress reports will continue to be submitted on a semi-annual basis.

Summary of Activities this Period

Between January 1 and July 30, 2012, significant activities related to the Order included:

- Continuation of Solid Waste Management Unit (SWMU) B-3 bioreactor treatability studies;
- Installation of an additional extraction well (EXW-05) at the SWMU B-3 bioreactor;
- Continuation of Area of Concern (AOC)-65 Soil Vapor Extraction (SVE) and Operations and Maintenance (O&M) of the SVE system treatability study;
- Initiation of AOC-65 in-situ chemical oxidation (ISCO) treatability study;
- Installation of monitoring and fire suppression well in East Pasture (CS-13);
- Collection of groundwater samples in the vicinity of AOC-65;
- Continuation of the groundwater monitoring program under the regulator-approved data quality objectives (DQO);
- Continuation of investigations of SWMUs, AOCs, and Range Management Units (RMUs) including SWMU B-4, AOC-51, AOC-72, AOC-74, and RMU-5;
- Completed investigations and submitted Release Investigation Reports (RIRs) to the Texas Commission on Environmental Quality (TCEQ) for SWMU B-4, AOC-51, AOC-72, AOC-74, and Range Management Unit (RMU) 5;
- Continued maintenance of off-post granular activated carbon (GAC) systems; and
- Continuation of administrative record maintenance.

Details regarding these activities are summarized in this report.

Report Organization

This report details work completed on tasks associated with the four project phases outlined in the Order. Phase names and task names listed in **Table 1** are taken directly from the Order. Information for tasks active from January 1 through June 30, 2012 is provided in this

report. No current information is provided for tasks that are not active; however, a summary of all tasks, subtasks, and their status has been presented in previous reports. Details of the evaluation of the percent complete by awarded projects are included in **Table 2**. An updated project team contact information chart with telephone numbers and addresses is included in **Table 3**.

Attachment 1 shows the locations of groundwater wells referenced in this report. A summary of the status of all identified SWMUs, AOCs, and RMUs at CSSA is provided in **Attachment 2**. **Attachment 3** is a summary of the physical percent complete of each order related task being conducted at CSSA. **Attachment 4** is a summary of groundwater results for sampling events conducted this period. **Attachment 5** details the current and upcoming remedial activities at various SWMUs, AOCs, and RMUs at CSSA.

Table 1 §3008(h) Administrative Order on Consent Project Phases

3008(h) Order Phase and Subtasks	Phase Purpose	Phase's % of Overall Order	Subtask's % of Phase	Physical % Complete of Subtask	Subtask portion of Phase % Complete	Physical % Complete of Phase	Active During P40
Interim Measures		30%				99%	
Interim Measures Work Plan	Mitigate a current or potential threat to human health and/or the environment.		7%	100%	7%		No
Interim Measures Implementation			70%	99%	69%		No
Reports			23%	99%	23%		No
RCRA Facility Investigation		30%				91%	
Preliminary Report	Characterize the environmental setting of CSSA; define the sources of contamination; define the degree and extent of contamination; identify actual or potential receptors; and assess whether any additional interim/stabilization measures may be warranted.		5%	100%	5%		No
RFI Work Plan			5%	100%	5%		Yes
Facility Investigation			40%	93%	38%		Yes
Risk Assessment			10%	91%	9%		No
Investigation Analysis			10%	91%	9%		Yes
Groundwater Investigation			15%	90%	14%		Yes
Treatability Studies			10%	74%	7%		Yes
Progress Reports			5%	68%	4%		Yes
Corrective Measures Study		10%				0%	
Identify and Develop Alternatives	Identification, screening, and development of alternatives for removal, containment, treatment, and/or other remediation of the contamination.		15%	0%	0%		No
Evaluate Alternatives			60%	0%	0%		No
Reports			25%	0%	0%		No
Corrective Measures Implementation		30%				0%	
Implementation Program Plan	Design, construct, operate, maintain, and monitor the performance of corrective measure(s) selected to protect human health and the environment.		5%	0%	0%		No
Corrective Measure Design			15%	0%	0%		No
Corrective Measure Construction			70%	0%	0%		No
Reports			10%	0%	0%		No
% of All Phases Complete						57%	

RCRA FACILITY INVESTIGATION

The RCRA Facility Investigation (RFI) is being conducted to characterize the environmental setting of CSSA, define the sources of contamination, define the degree and extent of contamination, identify actual or potential receptors, and assess whether any additional interim/stabilization measures (I/SM) may be warranted. The discussions below include only the tasks related to Facility Investigations and Treatability Studies. Discussion of other RFI subtasks will be included in future reports if changes or additions to previously reported activities occur. The majority of current ongoing environmental activities at CSSA are part of the RFI task. Work on each of these tasks is described in the following paragraphs. The main areas of work during this period included:

- Groundwater monitoring of on- and off-post wells;
- Groundwater monitoring of Westbay[®]-equipped wells;
- Verification and validation of analytical data;
- SVE system O&M, treatability studies, and an interim removal action at AOC-65;
- Continuation of bioreactor operation and other treatability studies at SWMU B-3;
- Investigations and/or interim removal actions at SWMU B-4, AOC-51, AOC-72, AOC-74, and RMU-5.

RFI Work Plan

The Order requires the RFI work plan (WP) task to include a Project Management Plan, Data Collection Quality Assurance Plan, Health and Safety Plan, and a Community Relations Plan. As previously agreed by USEPA, because the CSSA Environmental Encyclopedia includes all information required by the Order, it is used to fulfill this requirement. The RFI WP task makes up approximately 5 percent of the RFI phase. Estimation of percent complete is difficult due to the continuing need for plan addenda as new projects are identified and awarded. The CSSA Environmental Encyclopedia will continue to be updated as WPs for any new projects are finalized.

Environmental Encyclopedia Updates

The CSSA website (www.stanley.army.mil) was updated with documents added to the Environmental Encyclopedia through the end of June 2012. The website serves as CSSA's Administrative Record as required under the Order. The Environmental Encyclopedia was updated with all final reports through June 2012. Updates made in Period 40 (and late Period 39) included the following:

- December 2011 Well owner letters (January 2012);
- Submission of 39th Progress Report (January 2012);
- January 24, 2012 Minutes for Regulatory Meeting (January 2012);
- January 24, 2012 Slides for Regulatory Meeting (January 2012);
- Cancellation of Permit No. WQ000384900 (January 2012);
- Addendum Work Plan for AOC-65 Interim Removal (January 2012);
- Work Plan and Sampling and Analysis Plan Addendum for SWMU B-4 (February 2012);
- Storm Water Pollution Prevention Plan for SWMU B-4 (February 2012);

- RFI and Interim Measures Waste Management Plan Addendum for SWMU B-4 (February 2012);
- Release Investigation Report - Area of Concern 74 (February 2012)
- Amendment to Class V Authorization (February 2012);
- Release Investigation Report for AOC-74 (February 2012);
- Memo regarding CSSA Constituent Concentration Maps (February 2012);
- EPA Notification of groundwater monitoring activities (February 2012);
- Memo on SWMU investigations in the North Pasture at CSSA (February 2012);
- Work Plan and Sampling and Analysis Plan Addendum for AOC51-A (March 2012);
- RFI and Interim Measures Waste Management Plan Addendum for AOC51-A (March 2012);
- Release Investigation Report for AOC-72 (March 2012);
- Interim Removal Action for New Trench at Solid Waste Management Unit B-4 (April 20, 2012)
- March 2012 Well Owner Letters (May 2012)
- Final ISCO Bench-Scale Work Plan (May 2012)
- Final ISCO Tracer Test Work Plan (May 2012)
- March 2012 Off-Post Groundwater Report (May 2012)
- Release Investigation Report for RMU-5 (June 2012)
- Various correspondence to and from CSSA (see Summary of Contacts for more information);
- Various meeting minutes; and
- Various tables of contents, site chronologies, and indices.

Facility Investigations

An investigation of the facility is being conducted to:

- Characterize the environmental setting of the facility;
- Define the source(s) of contamination;
- Define the nature and extent of contamination; and
- Identify actual or potential receptors.

In some cases, multiple investigational phases may be necessary. Investigation results will be used to develop and evaluate alternatives during the Corrective Measures Study. All investigation activities are being conducted in accordance with the RFI WP discussed above.

Completion of the facility investigations for the planned RFI tasks is partially funded. Attachment 2 indicates the sites for which investigations have been initiated with site status, as well as sites that have been identified, but not yet investigated. The Facility Investigations subtask makes up approximately 40 percent of the RFI phase. As of the end of Period 40, this task is approximately 91 percent complete.

A total of 84 SWMUs, AOCs, and RMUs have been identified at CSSA, and investigations have been conducted at most of those sites. A summary of the status of each site, including

whether the site is recommended for closure or if closure is approved, is provided in Attachment 2. To date, closure of 69 CSSA sites has been approved by TCEQ, and of these, 25 sites were either delisted or granted No Further Action (NFA) status.

The remaining sites are listed in the table below, and additional information regarding recent actions are provided in the following paragraphs.

Remaining Sites at CSSA

Site Name	Status
1. SWMU B-3 2. AOC-65	Ongoing treatability study for groundwater.
3. SWMU B-4 4. AOC-51 5. RMU-5	Closure report currently being prepared.
6. SWMU B-34	Closure report to be prepared in future FY.
7. SWMU B-13 8. AOC-75 9. RMU-3 10. RMU-4	Remediation planned in future FY.
11. SWMU B-2 12. SWMU B-8 13. SWMU B-20/21 14. SWMU B-24 15. RMU-1	Sites located in current active range fan. Closure to be deferred to when range closes, per EPA Memo re: CSSA North Pasture Fencing (February 29, 2012).

Site Closure Investigations

During Period 40, CSSA continued to conduct field investigations and interim removal actions at a number of the remaining open sites, and exceeded the goal of closing approximately one site per quarter. Investigations and/or interim removal actions were conducted at eight sites during this period, three NFA RIRs were submitted to the TCEQ for approval (AOC-72, AOC-74, and RMU-5), and TCEQ approval was received for the closure of two sites (AOC-72 and AOC-74). Detailed discussions on each of these sites are included below. In addition to AOCs 72 and 74, an RIR for the former wastewater treatment plant (WWTP) was also submitted to and approved by TCEQ. Approval for closure of the WWTP was obtained on May 24, 2012.

CSSA plans to continue to close as many sites as possible to background or Tier 1 Protective Concentration Levels (PCLs). At sites where Tier 1 PCLs cannot be met, closure under Tier 2 requirements will be sought. Upon completion of site investigation activities, CSSA will submit either an RIR or an Affected Property Assessment Report (APAR) depending on the results of the investigation and the type of closure sought for the site. CSSA plans to combine appropriate sites together in APARs to minimize redundant documentation requirements. Field activities at the remaining open sites, shown in Attachment 5, are anticipated to potentially include x-ray fluorescence (XRF) sampling, geophysical surveying, exploratory trenching, soil sampling and laboratory analysis, and interim removal actions.

SWMU B-4

While scraping the surface of the site in September 2011, additional partially-buried guns and magazines were discovered in an area between two of the previously-excavated trenches. A Schonstedt hand-held magnetometer was used by the unexploded ordnance (UXO) team to help delineate the boundaries of a new trench. During Period 40, the new trench was excavated to remove scrap metal, miscellaneous debris, and contaminated soil. Approximately 2,100 cubic yards (CY) of soil and waste materials were excavated, inspected for UXO and properly disposed of. No munitions and explosives of concern (MEC). Confirmation sampling was performed at the excavation extent. In total, five samples exceeded Tier 1 PCLS. Four of these five sample locations were over-excavated to below Tier 1 PCLs. One additional sample (B4-NT1-SW5) exceeded the Tier 1 PCL for mercury (0.77 mg/kg) with a concentration of 0.93 mg/kg; however, the concentration was below the Tier 1 Residential Action Level (RAL) for Total Soil Combined of 2.1 mg/kg, so it was left in place. An APAR for SWMU B-4 is expected to be submitted by Weston to TCEQ during Period 41.

AOC-51

Soil samples were collected at AOC-51 in 2011 to follow up on results from the XRF field investigation conducted in December 2010. Samples were analyzed for metals and explosives. No explosives were detected; however results showed elevated copper and lead in the soils in one small area of the site (approximately 2 acres).

In January 2012, six additional surface soil samples were collected to delineate the extent of the metal contamination. Three samples exceeded Tier 1 PCL for zinc (120 mg/kg) and one sample exceeded the Tier 1 PCL for lead. In February 2012, fourteen surface soil samples were collected from within the site to confirm the proposed excavation boundary. The samples were analyzed for CSSA 9 metals and explosives. Results showed concentrations of copper, lead, and zinc above Tier 1 PCLs at two of the sample locations. Low levels of explosives were detected below Tier 1 PCLs. Eighteen soil samples were collected in March 2012 to further delineate the extent of the metal contamination in the AOC-51 area. One sample exceeded the Tier 1 PCL for lead with a concentration of 320 mg/kg.

Excavation activities to remove soils with metal concentrations above their Tier 1 PCLs were conducted between April 17 and April 24, 2012. During this period, approximately 1,300 CY of contaminated soil were removed from the site. Following completion of the excavation, a confirmation sample from the bottom of the excavated area was collected and analyzed for lead. The results were below Tier 1 PCLs.

Per TAC §350.79(2)(A), a 95% upper confidence limit (UCL) may be calculated to determine if there is a statistical basis for no further action on a particular contaminant of concern (COC). A 95% UCL of 12.8 mg/kg was calculated for the copper concentrations remaining in site soils, which does not exceed the Tier 1 PCL of 61 mg/kg. A 95% UCL of 38.7 mg/kg was calculated for the lead concentrations remaining in site soils, which does not exceed the Tier 1 PCL of 84.5 mg/kg. A 95% UCL of 113.6 mg/kg was calculated for the zinc concentrations remaining in site soils, which does not exceed the Tier 1 PCL of 120 mg/kg.

An RIR requesting NFA for AOC-51 is being prepared and will be submitted to TCEQ in July 2012.

East Pasture Well CS-13

In spring 2012, Parsons installed test well (TW-2) in the East Pasture of CSSA. The well was drilled through the entire thickness of the Middle Trinity Aquifer to a depth of 578 feet below ground surface (bgs). Groundwater samples were collected from the test well and submitted for chemical and microbial analysis to determine if the groundwater met regulatory requirements for safe drinking water. No organic, inorganic, radionuclide results exceeded any regulatory standard. Following a 36-hour pumping test, CSSA concluded that the well location met the expectations of a fire suppression system for the East Pasture. CSSA opted to convert the test well into a fully constructed fire suppression supply well, now designated CS-13.

The upper 300 feet of strata were reamed to 14 inches in diameter, and 10-inch diameter steel casing was cemented into the subsurface. The remainder of the well was reamed to a 10-inch diameter to a total depth of 579.5 feet bgs. A new, 30-hp submersible pump capable of producing 120 gpm was installed to a depth of 554 feet bgs. The well was developed, disinfected, and purged for a final round of sampling. Three consecutive daily samples for microbial parameters all resulted in "NOT FOUND" for total coliform, fecal coliform, and *E. coli*. A final round of samples for organic and inorganic constituents did not exceed any regulatory requirement. In accordance with TCEQ Rules, this well meets the requirements for interim approval for public water supply, and could therefore be incorporated into the CSSA public water supply system upon approval by the TCEQ

AOC-72

Excavation of debris and surrounding soils took place at AOC-72 between January 23, 2012 and February 16, 2012. During this period, approximately 530 CY of soils intermixed with construction debris containing non-friable asbestos tiling were excavated and disposed of off-site. An RIR requesting NFA for AOC-72 was prepared and submitted to TCEQ in March 2012. Closure of AOC-72 was approved by TCEQ on May 18, 2012.

AOC-74

Investigations and/or interim removal actions at AOC-74 were completed during Period 39. An RIR requesting NFA for AOC-74 was prepared and submitted to TCEQ in February 2012. Closure of AOC-74 was approved by TCEQ on May 8, 2012.

RMU-2

Investigations and/or interim removal actions at RMU-2 were completed during Period 39. An RIR requesting NFA for RMU-2 was prepared and submitted to TCEQ in November 2011. Closure of RMU-2 was approved by TCEQ on February 14, 2012.

RMU-5

During Period 39, an assessment took place in the North Pasture, including in and around RMU-5, to evaluate if there was any evidence indicating that there was a rocket range in the vicinity of RMU-5. The presence and nature of the MD identified during this investigation within the RMU-5 boundary was not indicative of a rocket range, but of kick-out from historical ordnance activities at SWMU B-20/21.

In December 2011, an XRF field investigation was used at the site to help delineate metal contamination at RMU-5. Thirteen soil samples were collected at RMU-5 in February 2012 and analyzed for metals and explosives. One soil sample (RMU5-SS05) slightly exceeded the Tier 1

PCL for chromium of 40.2 mg/kg with a concentration of 46.7 mg/kg. a 95% upper confidence limit (UCL) of 25.9 mg/kg was calculated (per TAC §350.79(2)(A)) for the chromium concentrations remaining in site soils, which does not exceed the Tier 1 PCL of 40.2 mg/kg. An RIR requesting NFA for RMU-5 was prepared and submitted to TCEQ on June 15, 2012.

North Pasture (Active Range) Sites

A memo was submitted to EPA on February 29, 2012 as a follow-up to January 24, 2012 discussions on potentially leaving waste in place at several Solid Waste Management Units (SWMUs) in the North Pasture until such time as the current active range (and associated firing fan) is no longer in use and has been closed. Specifically, SWMUs B-2, B-8, B-20, B-21, and B-24 will be investigated, remediated, and closed when the active firing range is closed. The rationale for this decision is pursuant to the fact that these SWMUs are located within the active firing range fan, and even if they are investigated and remediated now, they will require further investigation when the active range is closed, due to the potential of re-contamination from the active firing range. It was recommended that these areas be fenced off to prevent any accidental exposure, an ecological risk assessment be conducted where waste is remaining in place, and the groundwater monitoring network in the North Pasture continue to be monitored as long as the Order is in place and there are COCs in the groundwater.

Wastewater Treatment Plant

While not part of the Administrative Order, information on the WWTP closure is included in this Progress Report for documentation purposes. Confirmation sampling and analysis following excavation showed that four locations still exceeded the Tier 1 PCL for nitrate. If COC concentrations exceed soil PCLs, the release is subject to TRRP unless the groundwater exposure pathway is evaluated and determined to be incomplete (per TCEQ guidance Determining Which Releases are Subject to TRRP, revised November 19, 2010). In order to evaluate the soil-to-groundwater pathway, three soil borings were drilled in the former Sludge Drying Bed to vertically delineate the extent of the nitrate. One sample was collected from the limestone bedrock at each boring location at a depth ranging from 19.5 feet (ft) to 25 ft, and all sample results were below the Tier 1 PCL for nitrate. To further evaluate the soil-to-groundwater pathway, groundwater samples were collected from two nearby wells (CS-MW35-LGR and CSMW36-LGR) to document whether groundwater contained nitrate levels above the Tier 1 groundwater PCLs. Both samples were below the PCL for nitrate. The analytical results for both the soil boring and groundwater samples indicate that the soil-to-groundwater pathway at the WWTP is incomplete. An RIR requesting NFA for the WWTP was prepared and submitted to TCEQ in March 2012 and approval was received on May 24, 2012.

Groundwater Investigation

The groundwater investigation subtask makes up approximately 15 percent of the RFI phase. As of the end of Period 40, this task is approximately 91 percent complete.

On- and off-post groundwater monitoring was conducted in accordance with regulator-approved DQOs during Period 40. Sampling frequencies for on-post and off-post wells are currently determined by the long-term monitoring optimization (LTMO) study updated in November 2010, as approved by TCEQ and USEPA. A map of the well locations is provided in Attachment 1 of this report. The updated 2010 LTMO monitoring recommendations were implemented during the June 2011 sampling event for both on- and off-post wells.

The analyte list for each monitoring event was in accordance with the applicable work plans (WPs) and DQOs. On- and off-post monitoring wells and Westbay-equipped wells were sampled for the SW-846 Method 8260B VOCs 1,1-dichloroethene (1,1-DCE), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), *trans*-1,2-dichloroethene (*trans*-1,2-DCE), tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride (VC). On-post monitoring wells were sampled for the SW-846 Method 6010/6020 metals lead, cadmium, mercury, and chromium. On-post drinking water wells were also sampled for four additional metals: barium, arsenic, copper, and zinc. Additional samples were collected off-post from wells with GAC filtration systems. Samples were analyzed by Agriculture & Priority Pollutants Lab Inc. (APPL) in Clovis, California. Chemists validated and verified the data in accordance with the CSSA Quality Assurance Program Plan (QAPP). All detected concentrations of VOCs and metals are presented in Attachment 4.

December 2011 Sampling

Fourteen on-post wells were scheduled for sampling in December 2011. Off-post wells scheduled for sampling in December 2011 included 17 private and public drinking water wells. At total of 37 Westbay zones from four multi-port wells were sampled as well. Wells CS-4 and CS-D were not sampled due to water levels falling below the dedicated low flow pumps.

Sampling was conducted between December 5 and December 16, 2011. Analytical results from the December 2011 sampling event are included in Attachment 4. The average groundwater elevation in December 2011 increased 14.73 feet from that measured in September 2011. Bexar County and surrounding areas remained under an extreme to exceptional drought alert and the Trinity Glen Rose Groundwater Conservation District declared Stage 2 severe drought water restrictions that went into effect June 1, 2011. The average depth to water in the Lower Glen Rose (LGR) screened wells was approximately 287 feet below ground surface.

The maximum contaminant level (MCL) was exceeded in on-post monitoring wells CS-MW1-LGR, and CS-MW36-LGR for PCE and/or TCE in December 2011. The action level (AL) for lead (0.015 mg/L) and mercury were exceeded in well CS-9 (0.058 mg/L & 0.018 mg/L, respectively); this well has been offline since 2006. Thirty-seven Westbay zones were sampled in December 2011 and 18 of the 37 zones had detections that exceeded the MCL for PCE and/or TCE.

Analyses indicated that only two off-post wells, I10-4 and RFR-10, exceeded the MCL for PCE. Well I10-4 is not in use. Six other wells (I10-9, LS-5, LS-6, LS-7, OFR-3, and RFR-11) had PCE or TCE detections above the reporting limit, but below the MCL. Eight other wells had no VOC detections.

Semi-annual GAC maintenance was performed in January 2012. 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 July 2012.

March 2012 Sampling

Thirty-four on-post wells and 56 private and public off-post wells with 7 post-GAC samples were scheduled for sampling in March 2012 in accordance with the LTMO schedule. All samples were analyzed for VOCs. In addition, the on-post samples were analyzed for selected metals. Analytical results from the March 2012 sampling event are included in Attachment 4.

Sampling was conducted March 5-23, 2012. Average groundwater elevations in March 2012 increased 55.51 feet from the elevations measured in December 2011. The average depth to water in the LGR screened wells was approximately 225 feet below ground surface.

Thirty-three of thirty-four on-post wells scheduled for monitoring in March 2012 were sampled. Well CS-MW11B-LGR was not sampled due to low water levels. All wells were analyzed for selected VOCs (CSSA short list) and metals (chromium, cadmium, mercury, and lead) additional metals (arsenic, barium, copper, and zinc) were collected from the drinking water wells. Sixty-two of the 63 wells scheduled for sampling off-post were collected, one well (FO-J1) was not sampled due to a pump outage.

The MCLs for PCE, TCE, and *cis*-1,2-DCE were exceeded in monitoring wells CS-MW1-LGR, CS-MW16-LGR, CS-MW16-CC, CS-MW36-LGR, and CS-D in March 2012. The AL for lead (0.015 mg/L) was slightly exceeded in well CS-MW9-BS (0.0168 mg/L). The 8 LTMO selected Westbay well zones, from WB01-WB04, in the vicinity of AOC-65 were sampled in March 2012. The MCL for PCE and/or TCE was exceeded in 6 of the 8 zones. These wells were also profiled to collect water level data in the area. The Westbay wells are scheduled to be sampled in September 2012, in accordance with the LTMO schedule.

Eight additional privately owned wells south and west of CSSA on the west side of IH-10 were identified for sampling. Four of these wells were sampled during this event: SLD-01, SLD-02, BSR-03, and I10-9. Well I10-9 reported a detection of TCE only, at a concentration above the RL (1.04 mg/L). This well will be sampled on a quarterly basis. Wells SLD-01 and SLD-02 were non-detect: these wells are a significant distance west of CSSA (~ 2.5 miles) and could be considered for sampling in the future or on an as needed basis. Well BSR-03 is also a significant distance from CSSA, approximately 2 miles, and was also non-detect. This well could also be considered for sampling in the future or on an as needed basis.

A total of thirteen off-post wells reported detections of PCE and/or TCE during the March 2012 event. Two of those wells (OFR-3 and RFR-10) exceeded the MCL for PCE and/or TCE. Both of these wells are equipped with GAC filtration systems. Six wells (I10-4, I10-9, LS-5 LS-6, LS-7, and RFR-11) reported concentrations below the MCL, but above the RL. Wells (JW-7, JW-8, LS-1, OFR-1, and RFR-12) were the only wells sampled this quarter that contained a trace concentration of PCE and/or TCE below the laboratory RL.

GAC-filtered samples were also collected in March 2012. No VOCs were detected in any of these samples, indicating the GAC systems are functioning properly. GAC-filtered samples will be collected again during the September 2012 event.

During the September 2011 sampling event, lead was detected in supply well CS-1 above the action level (0.015 mg/L). The well was resampled in November 2011 in order to confirm lead contamination and lead remained above the action level. In March 2012 lead was non-detect in drinking water well CS-1. From January 1 to March 21, 2012 the CSSA weather station recorded 8.58 inches of rainfall. Although this did not make up for the extreme drought conditions of 2011 it did help water levels rebound.

June 2012 Sampling

Six on-post wells were scheduled for sampling in June 2012. Off-post wells scheduled for sampling in June 2012 included 11 private and public drinking water wells. No Westbay zones from four multi-port wells (WB01-WB04) are scheduled for sampling. Sampling was conducted

June 4-15, 2012. Laboratory results will be received in July 2012 and summarized in the next progress report.

On-Post GAC Systems

The on-post GAC unit at Outfall 002 and the permitted discharge at Outfall 004 are no longer in use. CSSA is now connected to the SAWS sanitary sewer system. As of January 10, 2012 the TPDES permit has been canceled.

Off-Post GAC Systems

Based on sampling results received in 2001, 2002, and 2011 indicating VOC levels above or approaching the MCL, GAC filtration systems were installed at six off-post wells. In accordance with the *CSSA Off-Post Monitoring Program Response Plan* dated June 2002 and the Groundwater Monitoring DQOs, the off-post GAC filtration systems are maintained by CSSA and sampled every six months.

Monthly O&M activities for the off-post residential GAC filtration systems were performed this period. Work included inspection and replacement, as needed, of the pre- and post-GAC filters at wells LS-5, LS-6, LS-7, RFR-10, RFR-11, and OFR-3. Post-GAC confirmation samples from all of the off-post GAC systems were collected during the March 2012 event. All VOC results for the post-GAC water samples were non-detect. Carbon canister exchange was completed in January 2012 for the off-post GAC systems and will be due again in July 2012.

Data Validation and Verification

Laboratory results from sampling efforts and investigations are validated and verified by chemists to ensure results are in compliance with CSSA QAPP requirements. Data validation and verification continued during Period 40.

Treatability Studies

The Treatability Study subtask makes up approximately 10 percent of the RFI phase. As of the end of Period 40, this task is approximately 74 percent complete.

SWMU B-3 Bioreactor

SWMU B-3 Bioreactor Performance Status Reports were submitted to CSSA, TCEQ and USEPA on a semi-annual basis during Period 40. Approximately 59,632,337 gallons of groundwater extracted from CS-MW16-LGR, CS-MW16-CC, CS-B3-EXW01, and CS-B3-EXW02 have been injecting into the bioreactor trenches since the start of injection in 2007. A semi-annual underground injection control (UIC) report for the period, in accordance with CSSA's Class V Aquifer Remediation Injection Well Permit, TCEQ Authorization No. 5X2600431; WWC12002216 was submitted to the TCEQ in June 2012.

Groundwater samples were collected from sumps, monitoring wells, Westbay-equipped wells, and from the injection discharge. Sampling frequency was based on permit requirements and water availability. In general, injected groundwater samples are collected monthly and monitoring samples from the Westbay-equipped monitoring wells and injection trench sumps are collected quarterly. Additional performance sampling is conducted on a semi-annual basis. Beginning in May 2012, injected groundwater samples are collected quarterly and all other samples are collected on a semi-annual basis. All samples were analyzed for permit parameters

– VOCs, total dissolved solids, and other selected performance parameters. Analyses were performed by APPL, DHL Laboratory, Microbial Insights, and Microseeps Laboratory. Collected field data included injection volumes, injection pressures, and the pH of recovered groundwater for TCEQ permit compliance. Results are reported semi-annually, however, beginning in April 2012 reporting frequency will change to an annual basis. Analytical data collected for performance parameters include;

- Dissolved Organic Carbon;
- Methane, Ethane, and Ethene;
- Hydrogen;
- Temperature, pH, and specific conductivity;
- Oxidation Reduction Potential;
- Dissolved Oxygen;
- Total Organic Carbon;
- Carbon Dioxide;
- Hydrogen;
- Sulfide;
- Additional ions including Sulfate, Chloride, Ferrous Iron, and Manganese; and
- Dehalococcoides populations.

Several bioreactor system updates are currently under construction. These system updates are expected to significantly change bioreactor O&M activities. A building is being built on the east side of the bioreactor that will house system controls, storage tanks, the transfer pump, and bag filter. The repositioning of the injection equipment in this new building requires the rerouting of water lines from extraction wells and utilities, and moving supervisory control and data acquisition (SCADA) controls. Two 4,000-gallon tanks have been installed in series in the new building replacing the 6,000-gallon trailer mounted tank previously used.

Two new extraction wells west of the bioreactor (B3-EXW03 and B3-EXW-04), and one extraction wells east of the bioreactor (B3-EXW-05) have been drilled and will be incorporated into the system. Surface completions, utility service connections, installation of electrical boxes, and water line connections have been completed for EXWs -03 and -04 and are currently in the planning stages for EXW-05. The goal of these three wells is to provide additional reliable water sources for the bioreactor and provide a measure of protection against the migration of contaminants in groundwater away from B-3.

Additionally, bioreactor trenches 1, 2, and 6 have been recharged with deciduous tree mulch and pea-sized gravel. The new mulch will provide organic carbon for anaerobic reductive dechlorination of contaminants through dehalorespiration. New injection lines have been installed approximately 18 inches below the surface and covered with new geotextile fabric in these trenches. The new lines will allow the upper portion of trenches to be saturated. Additionally, the sumps in these trenches were extended so they rise above the elevated ground surface and berm located on the west side of the bioreactor. The extension of the sumps required repositioning the float switch located in sump T1-1 and the associated power lines and communication wiring.

During Period 40, the bioreactor remained at saturated conditions due to the continued supply of water from wells CS-MW16-CC, CS-MW16-LGR, B3-EXW01, and B3-EXW02 and

less so from rainfall. Approximately 7,697,982 gallons of water were injected into bioreactor trenches 1 and 6 during Period 40.

Monitoring results continue to indicate that effective treatment of injected groundwater in the bioreactor is occurring; however, VOC components continue to remain in strata adjacent to and beneath the trenches. Breakdown products of highly chlorinated species, such as PCE and TCE, and minor amounts of fuel components, like toluene, are identified in groundwater samples from locations surrounding the bioreactor. During Period 40 (data available through April 2012), degradation products, VC and ethene, were identified within the bioreactor (VC as high as 7.2 µg/L and ethene as high as 6.9 µg/L); and in significant concentrations, respectively, within shallow Upper Glen Rose (UGR) wells: MW26-UGR (39 µg/L and 6.9 µg/L) and MW34-UGR (35 µg/L and 9.4 µg/L); and in Westbay-equipped wells WB08-UGR-01 (56 µg/L and 7.8 µg/L), CS-WB07-UGR01 (15 µg/L and 4.5 µg/L), and CS-WB06-UGR01 (6.4 µg/L VC only). Ethane is present in samples from MW26, -27 and -34, and WB08-UGR-01 (3.5, 3.6, 9.4 and 0.90 µg/L, respectively).

Additionally, end products VC and ethene are observed at depth in the WB05-LGR-03A (23 µg/L VC only), -03B (25 µg/L VC only), -04A (49 µg/L and 2.2 µg/L), and -04B zones (220 µg/L and 41 µg/L) and WB07-LGR-01 (27 µg/L and 4.8 µg/L) and -02 zones (48 µg/L and 5.1 µg/L), as well as CS-B3-MW01 (209 µg/L VC and 19 µg/L ethene). These wells are located north and west of the bioreactor indicating reduction byproducts are migrating vertically in these areas. Ethene represents one of the final degradation products of attenuated chlorinated solvents. In addition, elevated levels of manganese suggest biotic anaerobic oxidation of chlorinated aliphatic hydrocarbons (CAHs) to carbon dioxide, and elevated levels of iron and *trans*-1,2-DCE suggest abiotic reductive dechlorination may also be occurring.

VOC analytical results from bioreactor trench sump samples indicate a decrease in contaminant mass (total molar concentration) in trench sumps T1-2 and T6-2 through the year. Increases in total molar concentrations were observed in samples from T1-1, T1-3, and T6-1 through the year. No significant change in total molar concentration was observed in samples from sump T2-2. Over the bioreactor operational period (5 years), contaminant mass appears stable or decreasing.

In addition, minor amounts of toluene and other fuel related compounds were identified during monitoring of bioreactor sumps from trenches 1, 2, and 6 through Period 40.

Arsenic (As) was detected in concentrations exceeding the MCL (10 µg/L) in one sump, T1-1 (18 µg/L) and one Westbay well zone, CS-WB05-LGR04B (11.0 µg/L) during Period 40. Manganese (Mn) was reported in bioreactor trench water samples at concentrations ranging from 5.3 to 630 µg/L (MCL is 50 µg/L). All of the shallow UGR wells sampled during the year (8 of 9) had, at some point, elevated levels of Mn. During the Period, samples from 6 of 8 UGR wells indicated elevated levels of Mn, with concentrations ranging from 67 to 771 µg/L. One of the shallow UGR wells did not produce enough water to sample during Period 40. An elevated level of Mn was reported in CS-B3-MW01 (148 µg/L) during this Period. Elevated levels of Mn were reported in CS-WB05-LGR-04B (51.0 µg/L), CS-WB08-UGR-01 (542 µg/L) and CS-WB07-LGR-01 (1,020 µg/L), all other MPMW zones reported Mn and As levels below the MCL. The elevated levels are likely due to changing pH conditions of the groundwater and the reduction of naturally occurring As and Mn within the limestone media to more soluble forms. Additionally, the biotic anaerobic oxidation pathway of CAHs may also be contributing to the elevated levels of Mn within the treatment system.

AOC-65 SVE System/In-Situ Chemical Oxidation

Monthly monitoring and semi-annual sampling of the AOC-65 SVE system has been ongoing since April 2008. Initial monitoring results indicate no exceedances of permit-by-rule (PBR) limits occurred for the SVE system. Soil vapor samples were collected from the AOC-65 SVE system during Period 40 and analyzed for VOCs. Results indicated that PCE emissions from the SVE system were 4.68 lb/year during this period, which is well below the permitted level of 0.268 lbs/hr or 2,347.68 lbs/year.

An interim removal action (IRA) was completed along a drainage swale west of Building 90 resulting in the excavation of a trench approximately 300 feet long, between 12 and 15 feet deep, and 4.5 feet wide in March 2012. Approximately 1,000 CY of soil were removed and managed on-post. Following excavation of the trench, several efforts associated with an in-situ chemical oxidation (ISCO) treatability study that is planned to begin in Period 41 have been completed including: a fracture analysis of exposed trench walls, construction of an infiltration gallery within the trench, completion of a gaseous tracer test, completion of ISCO bench-scale tests, and the installation of seven treatability study wells (TSWs).

Meetings

Status meetings with TCEQ and USEPA were held at CSSA on January 24, 2012 and June 27, 2012. The meetings provided summaries of current CSSA environmental investigations and proposed future work. A meeting was held on June 26, 2012 at the TCEQ Headquarters in Austin to present the results of TW-2/CS-13 test well program and installation. Parsons authored a PowerPoint presentation on the findings and path forward to an audience that included TCEQ Water Supply Division, TCEQ Restoration Division, USEPA, and CSSA personnel. The theme of the presentation was that testing showed the well location to be high yielding and free from chemical and microbial contamination. At a minimum, CSSA intends to use the well as a monitoring point and a fire suppression well, but would ideally like to secure approval from the TCEQ for a potable water well facility. Based on a previous transmittal and items raised during the meeting, Parsons and CSSA will be responding to formal questions regarding the nature and extent of contamination at CSSA, and a proposed monitoring strategy to ensure that well does not become impacted by contamination due to prolonged water production.

Summary of Contacts

Letters summarizing the results of the December 2011 and March 2012 off-post groundwater monitoring events were mailed to owners of the off-post wells in Period 40. Groundwater sampling notification letters were sent to the USEPA and TCEQ one month prior to the start of the March 2012 and June 2012 sampling events. Other Order-related correspondence during Period 40 included:

- Biannual Status Report (Month 49 - Month 54, May, 2011 -October, 2011) of the Pilot Study Class V Aquifer Remediation Injection Wells (December 7, 2011)
- Submittal of Final September 2011 On-Post Groundwater Report (December 14, 2011)
- TCEQ Approval - Release Investigation Report Salado Creek Area: AOCs 42, 52, 58, and 62 (December 16, 2011)
- Submittal of Final Groundwater Sampling Work Plan (December 19, 2011)
- TCEQ Approval - Release Investigation Report for SWMU B-27 (December 29, 2011)

- Submittal of Semi-Annual EPA Progress Report for Period 39 (July 1 – December 31, 2011) (January 3, 2012)
- Minutes for Regulatory Meeting (January 24, 2012)
- Final Sampling and Analysis Plan for the Quarterly Groundwater Monitoring Task (January 9, 2012)
- Addendum Work Plan for AOC-65 Interim Removal (January 12, 2012)
- December 2011 Well owner letters (January 19, 2012)
- Submittal of Work Plan and Sampling and Analysis Plan (February 1, 2012)
- Submittal of Storm Water Pollution Prevention Plan for SWMU B-4 (February 1, 2012)
- Submittal of IM Waste Management Plan Addendum for SWMU B-4 (February 1, 2012)
- Submittal of Release Investigation Report for AOC 74 (February 8, 2012)
- Submittal of EPA Memo re: CSSA Constituent Concentration Maps (February 13, 2012)
- TCEQ Approval - Release Investigation Report for Range Management Unit No.2 (February 14, 2012)
- Submittal of Release Investigation Report - Area of Concern 74 (February 14, 2012)
- TCEQ Amendment to Class V Authorization, Authorization No. 5X2600431 (February 17, 2012)
- Submittal of EPA Memo re: CSSA North Pasture Fencing (February 29, 2012)
- Submittal of Release Investigation Report for AOC 72 (March 1, 2012)
- Submittal of WP and SAP Addendum for AOC51-A (March 5, 2012)
- Submittal of RFI IM WMP Addendum for AOC51-A (March 5, 2012)
- TCEQ Authorization and Registration of Class V Injection Wells (March 13, 2012)
- Submittal of Release Investigation Report for the Wastewater Treatment Plant (March 20, 2012)
- Interim Removal Action for New Trench at Solid Waste Management Unit B-4 (April 20, 2012)
- Notification to EPA of Groundwater Monitoring Activities (May 2, 2012)
- March 2012 Well Owner Letters (May 8, 2012)
- Submittal of Final ISCO Bench-Scale Work Plan (May 11, 2012)
- Submittal of Final ISCO Tracer Test Work Plan (May 14, 2012)
- March 2012 Off-Post Groundwater Report (May 21, 2012)
- TCEQ Approval of Closure Report for the Wastewater Treatment Plant (May 24, 2012)
- Submittal of Release Investigation Report for RMU-5 (June 15, 2012)

PROJECTED WORK FOR THE NEXT PERIOD

SWMU, AOC, and RMU Investigations

Investigations, interim removal actions, and/or reporting will be continued for SWMU B-13, AOC-75, RMU-3, and RMU-4. Reports summarizing investigation results will be submitted upon completion. ISCO treatability studies will continue at AOC-65 (see below). A summary of upcoming remedial activities at several SWMUs, AOCs, and RMUs is included as Attachment 5.

Groundwater Monitoring

Continued sampling of on- and off-post monitoring and water supply wells will continue in September and December 2012. Quarterly and annual groundwater monitoring reports will be submitted next period. O&M at the residential GAC filtration systems (LS-6, LS-7, OFR-3, RFR-10, and RFR-11) will be conducted every three weeks during Period 41. The semi-annual carbon exchange will be performed in July 2012.

SWMU B-3 Bioreactor

Monitoring of the bioreactor at SWMU B-3 will continue during Period 41. Monitoring requirements will be performed to meet TCEQ's UIC authorization requirements. Performance monitoring data will be collected in accordance with the Bioreactor O&M Manual.

Various bioreactor system controls and components have been re-designed and construction is expected to continue into Period 41. Specifically, two extraction wells (EXW-03 and EXW-04) will be brought online to deliver groundwater to the bioreactor and the construction of the surface completion, water conveyance and power will be completed so that EXW-05 can be integrated into the system. CSSA discussed these plans with USEPA on January 24, 2012 and these improvements to the bioreactor were agreed on.

AOC-65 SVE System and ISCO Treatability Study

AOC-65 SVE system O&M will continue in Period 41. The system includes four blowers operating continuously, and O&M of those systems will be performed in accordance with the Updated O&M Manual for SVE Systems at CSSA. Various levels of monitoring will occur twice monthly, monthly, and semi-annually.

An ISCO treatability study is planned to be completed in Period 41. This effort includes the injection of an oxidant (10,500 gallons of 20% sodium persulfate) and an activator (3,270 gallons of 25% sodium hydroxide) into the recently constructed infiltration gallery. The injections will be followed by several rounds of groundwater sampling (days 1, 5, 15, and 30 following injections) at wells both on and off post and daily and weekly field parameter collection (pH and water levels) at VEWs and newly installed TSWs within AOC-65.

Finally, the investigation and evaluation of other potential treatment options for AOC-65 and Plume 2 will be continued in Period 41.

Meetings

A status meeting will be held with TCEQ and USEPA in January 2013 (tentative date). Quarterly groundwater meetings will be held prior to the quarterly events scheduled in September and December 2012.

**Table 2, Project Task Completion to Date for Open Projects Only
 (Values updated through May 31, 2012)**

Project Number	Description of Task	Relation to Order	Percent Complete	Start/End Dates
Order 37	UST Investigations	NA	100%	1991-1995
Order 52	Investigation of F-14	I/SM/RFI	100%	1992-1993
Order 67	Groundwater sampling, Water Well Inventory, Hydrogeologic Report	I/SM/RFI	100%	1992-1996
Order 71	Environmental Assessment	I/M	100%	1992-1993
Order 126	B-20, F-14 Investigations, Background Soils Study	RFI	100%	1994-1996
RL17	Geophysical surveys, Well Installations Soil Sampling and Groundwater sampling	I/SM/RFI	100%	1995-2003
RL33	Site investigations, B-20 treatability studies and unexploded ordnance investigation	RFI	100%	1996-2002
Order 23	Groundwater Sampling	RFI	100%	1996-1998
RL53	SWMU and AOC Investigations	RFI	100%	1997-2003
RL83	Geophysical Surveys	RFI	100%	1999-2003
RL74	Current Conditions Report, Community Relations, Groundwater Monitoring	RFI	100%	1999-2001
DO5068	Soil Gas Surveys	RFI	100%	1999-2002
DO23	Groundwater Monitoring	RFI	100%	1998-2001
DO5084	Building 90 Investigation, Groundwater Monitoring	RFI	100%	2000-2003
TO0058	Treatability Study for AOC-65	RFI	100%	2001-2005
TO0042	Well Installations and Groundwater Monitoring	I/SM/RFI	100%	2001-2006
TO0017	East Pasture Removal Action	Other	100%	2005-2006
TO0019	SWMU Closures	RFI	100%	2003-2006
TO0005	Environmental Program Technical Support	I/SM/RFI	100%	2003-2007
TO0098	Miscellaneous Studies	Other	100%	2004-2007
TO0008	Groundwater Monitoring	I/SM/RFI	100%	2003-2008
TO0006	SWMU B-3 and AOC-65 Remediation	I/SM/RFI	100%	2004-2008
TO0207	Environmental Support, Groundwater Monitoring	I/SM/RFI	100%	2006-2008
DY01 (Weston)	Affected Property Assessment Investigations	RFI	100%	2006-2007
DY01 (Parsons)	Environmental Compliance, SWMU, and AOC Closure Investigations	RFI	100%	2006-2010
DY02 (Parsons)	Environmental Compliance, SWMU and AOC closure Investigations	I/SM/RFI	100%	2007-2009
DO11 (Parsons)	Environmental and Groundwater Investigations	RFI	100%	2008-2010

**Table 2 Continued, Project Task Completion to Date for Open Projects Only
 (Values updated through May 31, 2012)**

Project Number	Description of Task	Relation to Order	Percent Complete	Percent Spent
DY02 (Weston)	Removal Action at AOC-64, B-71	RFI	100%	100%
H&A (Parsons)	Administrative Support and Environmental Services	Other/RFI	100%	100%
DO50 (Parsons)	Environmental and Groundwater Investigations	RFI	100%	100%
Army Contract (Parsons)	Environmental and Groundwater Investigations	RFI	100%	99%
DO07 (Parsons)	Environmental Program Support	RFI	68%	68%
	Routine Environmental Program Support	RFI	63%	63%
	Non-Routine Environmental Program Support	RFI	50%	50%
	AOC-65 Waste Excavation and Removal	RFI	100%	100%
	Task Order Management	RFI	86%	86%
Contract *G012 TO1 (Parsons)	Program Management			
	Project Management	RFI	66%	66%
	Environmental, Safety, and Occupational Health Support	RFI	31%	31%
	Data & Information Management Support	RFI	51.5%	51.5%
Contract *G012 TO2 (Parsons)	O&M, Compliance, & Monitoring			
	Treatability Study Systems Operation	RFI	62%	62%
	Compliance and Sampling	RFI	46%	46%
	Groundwater Monitoring	RFI	71%	71%
Contract *G012 TO3 (Parsons)	Site Investigations and Closures			
	AOC-51	RFI	63%	133%
	AOC-74	RFI	100%	82%
	RMU-5	RFI	100%	74%
	SWMU B-27	RFI	100%	100%
	AOC-72	RFI	100%	58%
	SWMU B-4	RFI	90%	81%
Contract *G012 TO4 (Parsons)	Environmental Studies			
	AOC-65	RFI	49%	54%
	AOC-51	RFI	99%	91%
	AOC-65 Water Line Investigation	RFI	99%	97%

Table 3, Project Team Contact Information

Name	Organization/Role	Street Address	City, State, Zip	Phone No.	Fax No.	E-mail
Atkinson, Stephen	USACE, Program Mgr					stephen.atkinson@usace.army.mil
Burdey, Julie	Parsons, Project Mgr	8000 Centre Park Dr., Suite 200	Austin, TX 78754	(512) 719-6062	(512) 719-6099	julie.burdey@parsons.com
Caskey, Kyle	Parsons, Site Mgr	c/o Environmental Office, 25800 Ralph Fair Road	Boerne, TX 78015-4800	(210) 204-8529	(210) 295-7386	Kerry.k.caskey@parsons.com
Cason, Russ	Weston, Project Mgr	70 NE Loop 410, Suite 600	San Antonio, TX 78216	(210) 308-4338	(210) 308-4329	r.cason@westonsolutions.com
Chang, Tammy	Parsons, Senior Scientist	8000 Centre Park Dr., Suite 200	Austin, TX 78754	(512) 719-6092	(512) 719-6099	tammy.chang@parsons.com
Coulter, Kirk	TCEQ, Project Mgr	P.O. Box 13087, MC-127	Austin, TX 78711-3087	(512) 239-2572		kcoulter@tceq.state.tx.us
Edwards, Bob	Noblis, Environmental Chemist	16414 San Pedro, Suite 340	San Antonio, TX 78232	(210) 408-5552	(210) 479-0482	Robert.edwards@noblis.org
Elliott, Samantha	Parsons, Task Mgr	c/o Environmental Office, 25800 Ralph Fair Road	Boerne, TX 78015-4800	(210) 347-6012	(210) 295-7386	Samantha.elliott@parsons.com
Lyssy, Greg	USEPA, Project Manager	1445 Ross Avenue (6PD-N)	Dallas, TX 75202-2733	(214) 665-8317	(214) 665-6660	lyssy.gregory@epa.gov
Marbury, Laura	Parsons, Task Mgr	8000 Centre Park Dr., Suite 200	Austin, TX 78754	(512) 719-6855	(512) 719-6099	laura.marbury@parsons.com
Moreno, Gabriel-Fergusson	CSSA Environmental Program Manager	25800 Ralph Fair Road	Boerne, TX 78015-4800	(210) 698-5208	(210) 295-7386	morenog@envirodept.net
Pearson, Scott	Parsons, Task Mgr	8000 Centre Park Dr., Suite 200	Austin, TX 78754	(512) 719-6087	(512) 719-6099	william.scott.pearson@parsons.com
Rice, Ken	Parsons, Task Mgr	8000 Centre Park Dr., Suite 200	Austin, TX 78754	(512) 719-6050	(512) 719-6099	ken.r.rice@parsons.com
Salazar, Jorge	TCEQ	14250 Judson Road	San Antonio, TX 78233	(210) 403-4059		jsalazar@tceq.state.tx.us
Shirley, Jason (LTC, retired)	CSSA Installation Manager	25800 Ralph Fair Road	Boerne, TX 78015-4800	(210) 295-7416	(210) 295-7386	jason.d.shirley.civ@mail.mil

ATTACHMENT 1

ON-POST AND OFF-POST SAMPLED WELLS FIGURE

ATTACHMENT 2
SUMMARY OF STATUS OF EACH SWMU/AOC/RMU SITE

Attachment 2
Summary of SWMUs, AOCs, and RMUs Status Table

Unit No.	Description	Investigation Report(s)	Recommendations	Requested Action				Closure Approved	Closure Type
				RRS1	NFA	Delisting	TRRP		
B-1	Powder and ammo burn area (1954).	RFI/Closure Report July 2002	NA	X				November-02	RRS1
B-2	Small arms ammunition burning area (1954) - North Pasture	RFI/closure Report June 2002 Closure Report March 2005	Closure						
B-3	Landfill area (garbage disposal and burning trash); filled in 1990-91.	RFI Report March 2005	Continue bioreactor treatability study						
B-4	Classified burn area (documents and trash).	RFI Report June 2002	Closure				X		
B-5	Possible fired small arms ammo brass area. Not located.	RFI/Closure Report July 2002	NA	X				October-02	RRS1
B-6	Possible solid waste disposal area.	RFI/Closure Report July 2002	NA	X				October-02	RRS1
B-7	Possible fired small arms ammunition brass disposal area	RFI/Closure Report July 2002	NA	X				October-02	RRS1
B-8	Fired small arms ammo brass disposal area (piles of fire bricks, ammo shells) - North Pasture	RFI Report December 2003	Excavate as necessary						
B-9	Miscellaneous solid waste (metal and weapons) disposal area.	RFI/Closure Report September 2002	NA	X				March-03	RRS1
B-10	Ammunition disposal area.	RFI/Closure Report May 2003	NA	X				January-04	RRS1
B-11	Miscellaneous solid waste disposal (ammo, scrap metal, const. debris).	RFI Closure Report June 04	NA	X				September-04	RRS1
B-12	Landfill, WPA trash when igloos were being built	RFI Report April-05	NA	X				July-05	RRS1
B-13	Trash dump area.	RFI Report June 2002	Excavation of waste and surface sampling.						
B-14	Possible fired brass area - not located.	Delisting Request November 2007	NA			X		February-08	Delisting
B-15/16	Landfill (target vehicles, weapons mounts)	RIR June 2011	NA		X			September-11	NFA
B-19	Solid waste disposal area (metals and weapons).	RFI/Closure Report June 2002	NA	X				September-02	RRS1

Attachment 2 (continued)
Summary of SWMUs, AOCs, and RMUs Status Table

Unit No.	Description	Investigation Report(s)	Recommendations	Requested Action				Closure Approved	Closure Type
				RRS1	NFA	Delisting	TRRP		
B-20/21	Former OB/OD area & ammunition disposal areas - North Pasture	RFI Report July 2002	Closure						
		Combined with B-20							
B-22	Burn area (artillery shells).	RFI/Closure Report August 2002	NA	X				December-02	RRS1
B-23	Disposal trenches (two green canisters)	RFI Report April 2005	NA	X				July-05	RRS1
B-23A	Disposal Trench (glass ampoules of liquid)	RFI Closure Report September 2004	NA	X				March-05	RRS1
B-24	Spent ammo/rockets area - North Pasture	RFI Report May 2002	MC removal						
B-25	Possible disposal trench	RFI Report April 2005	NA	X				July-05	RRS1
B-26	Possible disposal trench	Delisting Report August 2004	NA			X		November-04	Delisting
B-27	Sanitary landfill, consisting of 5-6 trenches (6 ft deep, 3 ft wide).	RFI Report July 2002 RIR September 2011	NA		X			December-11	NFA
B-28	Disposal trenches (molten metal, ammo, ammo parts)	RFI Report April 2002 RIR July 2011	NA		X			November-11	NFA
B-29	Solid waste disposal area (in old quarry)	RFI Report April 2005	NA	X				February-08	RRS1
B-30	Solid waste disposal area	RFI Report September 2004	NA	X				February-05	RRS1
B-31	Lead shot/sand pipe bedding	RFI/Closure Report July 2002	NA	X				November-02	RRS1
B-32	Lead shot/sand pipe bedding	RFI/Closure Report January 2003	NA	X				November-03	RRS1
B-33	Lead shot/sand pipe bedding	RFI Report September 2004	NA	X				November-04	RRS1
B-34	Maintenance pit floor drain and discharge point	RFI Report August 2002	Delineate contamination, disposal of soil						
B-71	Livestock area. Inner cantonment, SW of Well 16.	APAR	NA				X	October 2011	TRRP
AOC-64	Area east of SWMU B-4; flares observed in the area	APAR	NA				X	October 2011	TRRP
Bldg 40	less-than 90-day accumulation container storage area	RFI/Closure Report September 2003	NA	X				January-04 and January-06	RRS1
Bldg 43	Inactive makeshift ammo demolition facility	RFI Report April 2005	NA	X				August-05	RRS1

Attachment 2 (continued)
Summary of SWMUs, AOCs, and RMUs Status Table

Unit No.	Description	Investigation Report(s)	Recommendations	Requested Action				Closure Approved	Closure Type
				RRS1	NFA	Delisting	TRRP		
DD	Dud ammunition disposal area	RFI Report January 2005	NA	X				April-05	RRS1
F-14	Hazardous waste storage area (<90-day)	RFI/Closure Report, 1995	NA	X				November-95	RRS1
I-1	Inactive incinerator (built in 1943), currently used for transformer storage	RFI Report February 2003	NA				X	November-08	NFA
O-1	Waste liquid/sludge oxidation pond (1975)	RFI/Closure Report October 2000	NA	X				April-02	RRS1
Coal Bins	Coal bins (no longer in use)	Delisting Requested January 2003	NA			X		February-08	Delisting
AOC 35	Area immediately around Well 16. Northeast area of inner cantonment.	RFI/Closure Report October 2002	NA	X				February-03	RRS1
AOC 36	Area between Well 16 and B-3. Possible waste verified not present by magnetometer survey.	RFI/Closure Report April 2002	NA	X				August-02	RRS1
AOC 37	Livestock area. NW of Well 16 and N of Well D.	RFI/Closure Report June 2004	NA	X				January-05	NFA
AOC 38	Livestock area. Inner cantonment, SW of Well 16.	RFI Report September 2004	NA	X				February-05	RRS1
AOC 39	None. Area west of Well 16 between North Outer Rd and cantonment fence.	RFI/Closure Report April 2002	NA	X				September-02	RRS1
AOC 40	None. Area east of Well 16 between North Outer Rd and cantonment fence.	RFI/Closure Report May 2002	NA	X				August-02	RRS1
AOC 41	Gate area east of well 16. North Pasture, north of gate 6.	NFA Report April 2005	NA		X			July-05	NFA
AOC 42	None. South of SWMUs B-28 and B-19, west of B-4.	RFI Report October 2002 RIR August 2011	NA		X			December-11	NFA
AOC 43	Shallow trench without mounds. Metal, UXO. Located 50 ft south of B-7.	RFI/Closure Report October 2002	NA	X				February-03	RRS1
AOC 44	Fox holes and trenches south of B-9 along west slope of hill. UXO includes Stokes mortars and 20-lb bombs.	Delisting Report April 2005	NA			X		July-05	Delisting
AOC 45	Flat area with spent and undamaged bullets. Located east of B-31, near bend in road.	RIR July 2011	NA		X			October-11	NFA

Attachment 2 (continued)
Summary of SWMUs, AOCs, and RMUs Status Table

Unit No.	Description	Investigation Report(s)	Recommendations	Requested Action				Closure Approved	Closure Type
				RRS1	NFA	Delisting	TRRP		
AOC 46	Bermed area with stockpile of lead shot and sand. Located south of Engineering on east side of Thompkins Road.	RFI/Closure Report April 2005	NA	X				July-05	RRS1
AOC 47	Area of trenches and mounds (similar to B-15/16). South of B-15/16, in SW area of East Pasture.	RFI/Closure Report June 2002	NA	X				September-02	RRS1
AOC 48	Three N-S trending mounds and a construction debris pile. Located north of B-15/16.	Delisting Report August 2004	NA			X		November-04	Delisting
AOC 49	Trench (4 x 7 ft) without surficial debris. Located SW of deer stand 41 in central East Pasture.	Delisting Report April 2005	NA			X		July-05	Delisting
AOC 50	Area with orange discolored material (most likely nickel penetrate) at ground surface. South of B-30 along gravel road.	RFI/Closure Report January 2005	NA	X				April-05	RRS1
AOC 51	East pasture, east of active range, approximately 25 acres, area around B-9	--	Closure		X				
AOC 52	Area west of B-4 towards Salado Creek near trees, two trenches	RIR August 2011	NA		X			December-11	NFA
AOC 53	Building foundation near B-27 at Central Road and road to "D" Tank, batteries at rear of slab	RFI/Closure Report April 2005	NA	X				July-05	RRS1
AOC 54	Area near gutting pit, east of Welding Shop Building, right side of road batteries were stored in the area	Closure Report July 2004	NA	X				November-04	RRS1
AOC 55	Landfill, south of Tenberg Drive, east of Salado Creek	RFI/Closure Report Feb 04	NA	X				June-08	RRS1
AOC 56	Landfill, at intersection of Bernard Road and East Outer Road, surface depression on south side of intersection	Closure Report June 04	NA	X				September-04	RRS1
AOC 57	East of Building 98 and KOA Area, cleaning/maintenance activities performed at temporary structures	RIR May 2011	NA		X			September-11	NFA
AOC 58	Suspected disposal trench within Inner Cantonment	RFI Report October 2002 RIR August 2011	NA		X			December-11	NFA
AOC 59	Trench-type anomaly located west Test Pad in the East Pasture	RIR July 2011	NA		X			October-11	NFA
AOC 60	Trench located west of tunnel and entrance roadway in the East Pasture.	Delisting Report April 2005	NA			X		July-05	Delisting
AOC 61	Suspected landfill	RFI/Closure Report October 2002	NA	X				February-03	RRS1

Attachment 2 (continued)
Summary of SWMUs, AOCs, and RMUs Status Table

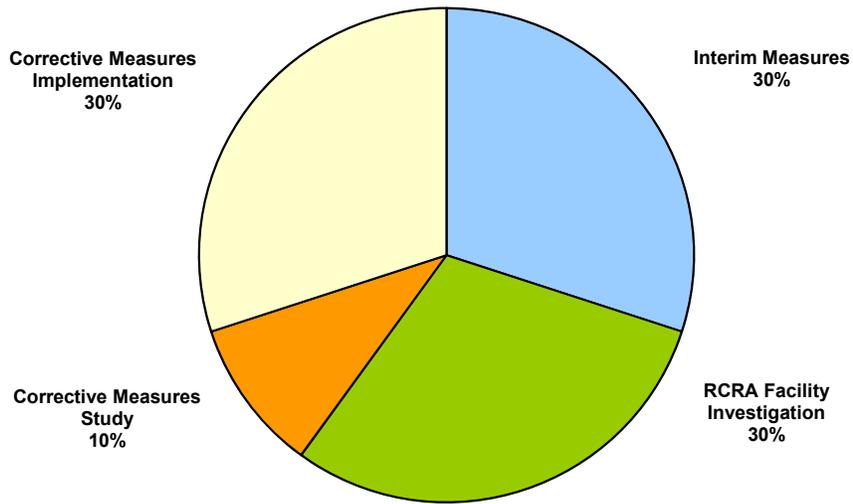
Unit No.	Description	Investigation Report(s)	Recommendations	Requested Action				Closure Approved	Closure Type
				RRS1	NFA	Delisting	TRRP		
AOC 62	Located west of monitoring well MW-2 and east of Salado Creek.	RIR August 2011	NA		X			December-11	NFA
AOC 63	Area consisting of 3 barrels containing rocks, south of deer stand 41 in the East Pasture.	APAR October 2008	NA				X	July-09	TRRP
AOC 65	A concrete pit area that housed a metal vat that contained TCE and PCE.	RFI Report August 2003	Additional investigation, SVE remediation ongoing						
AOC 66	Area north of Well 16 in the outer cantonment.	Closure Report June 04	NA	X				February-05	NFA
AOC 67	Concrete pad near Building 90 housed a vat containing cleaning solvents.	RIR July 2010	NA		X			September-10	NFA
AOC 68	Area includes metal slag/debris storage area from Wheelabrator operations next to Building 90-2.	RIR July 2010	NA		X			September-10	NFA
AOC 69	Located on west side of CSSA.	RIR June 2009	NA				X	October-09	TRRP
AOC 70	Building used to mix pesticides. Near Building 1.	RIR June 2011	NA		X			September-11	NFA
AOC 72	Area containing concrete, possible asbestos. Located east of Building 94, in SW CSSA.	RIR March 2012	Closure		X			May-12	NFA
AOC 73	Ranch landfill with overgrown trenches. Near Well I1, in northwest corner of CSSA.	RIR September 2008	NA				X	January-09	TRRP
AOC 74	Area with scattered building debris near Building 605 in the inner cantonment.	RIR February 2012	Closure		X			May-12	NFA
AOC 75	Area with high levels of mercury and barium.	--	Excavate as necessary						
RMU1	Active firing range in the East Pasture	--	Investigation once range is inactive.						
RMU2	Rifle range located in the inner cantonment.	RIR November 2011	NA		X			February-12	NFA
RMU3	Firing range berm.	--	Excavate as necessary						
RMU4	Former rifle range in East Pasture.	--	Field mapping.						
RMU5	Former rocket range in North Pasture.	RIR June 2012	Closure		X				

ATTACHMENT 3
OVERALL H ORDER PERCENT COMPLETE

Attachment 3
Overall (H) Order Percent Complete

Task Name	% of Project	% of Phase	% Complete	% of Activity Complete	% of Task Complete
Interim Measures	30%				98%
Interim Measures Work Plan		7%	99%	6.9%	
Interim Measures Implementation Reports		70%	98%	68.4%	
		23%	100%	22.9%	
RCRA Facility Investigation	30%				91%
Preliminary Report		5%	100%	5%	
RFI Workplan		5%	100%	5%	
Facility Investigation		40%	95%	38%	
Risk Assessment		10%	91%	9%	
Investigation Analysis		10%	91%	9%	
Groundwater Investigation		15%	92%	14%	
Treatability Studies		10%	74%	7%	
Progress Reports		5%	70%	4%	
Corrective Measures Study	10%				0%
Identify and Develop Alternatives		15%	0%	0%	
Evaluate Alternatives		60%	0%	0%	
Reports		25%	0%	0%	
Corrective Measures Implementation	30%				0%
Implementation Program Plan		5%	0%	0%	
Corrective Measure Design		15%	0%	0%	
Corrective Measure Construction		70%	0%	0%	
Reports		10%	0%	0%	
% of Phase Complete					56.77%

Section 3008(h) Order Tasks



Attachment 3
Overall (H) Order Percent Complete

Task Name	% of Phase	% of Task	% Complete	% of Activity Complete	% of Activity Remaining	% of Task Complete	Comments/Status
1 Interim Measures Work Plan	7%					98.8%	
Draft IM Workplan		80%	100%	80%	0%		
Draft Final IM Workplan		15%	100%	15%	0%		
Final IM Workplan		5%	75%	4%	25%		
2 Interim Measures Implementation	70%					97.8%	
Sample 3 Off-Site Wells		1%	100%	1%	0%		
Sample 20 Off-Site Wells (6 events)		6%	100%	6%	0%		(remaining off-post sampling conducted under the RFI task)
2000 Groundwater Monitoring (4 events)		3%	100%	3%	0%		
2001 Groundwater Monitoring (4 events)		3%	100%	3%	0%		
2002 Groundwater Monitoring (4 events)		3%	100%	3%	0%		
2003 Groundwater Monitoring (4 events)		3%	100%	3%	0%		
2004 Groundwater Monitoring (4 events)		3%	100%	3%	0%		
2005 Groundwater Monitoring (4 events)		3%	100%	3%	0%		
2006 Groundwater Monitoring		3%	100%	3%	0%		
2007 Groundwater Monitoring		3%	100%	3%	0%		
2008 Groundwater Monitoring		3%	100%	3%	0%		
2009 Groundwater Monitoring		3%	100%	3%	0%		
2010 Groundwater Monitoring		3%	100%	3%	0%		
2011 Groundwater Monitoring		3%	100%	3%	0%		
2012 Groundwater Monitoring		3%	50%	2%	50%		
Locate and map off-site wells		1%	100%	1%	0%		
O-1 Soil Borings		3%	100%	3%	0%		
O-1 Excavation, Stabilization, Diposal		12%	100%	12%	0%		
Establish Treatment Unit		1%	0%	0%	100%		may or may not be necessary.
Determine appropriate disposition of soil piles		5%	100%	5%	0%		After treatability studies.
Treat/dispose of soil piles		20%	100%	20%	0%		Unfunded CSSA future work.
AOC 50 Excavation and Disposal		3%	100%	3%	0%		Not included as IM in the Order.
AOC 65 Excavation and Disposal		8%	100%	8%	0%		
3 Reports	23%					99.7%	
Quarterly Progress Report 1 (August 1999)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 2 (November 1999)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 3 (February 2000)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 4 (May 2000)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 5 (August 2000)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 6 (November 2000)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 7 (February 2001)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 8 (May 2001)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 9 (August 2001)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 10 (November 2001)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 11 (February 2002)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 12 (May 2002)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 13 (August 2002)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 14 (November 2002)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 15 (February 2003)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 16 (May 2003)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 17 (August 2003)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 18 (November 2003)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 19 (February 2004)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 20 (May 2004)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 21 (August 2004)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 22 (November 2004)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 23 (February 2005)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 24 (May 2005)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 25 (August 2005)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 26 (October 2005)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 27 (January 2006)		0.66%	100%	0.67%	0%		
Quarterly Progress Report 28 (April 2006)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 29 (Dec 2006)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 30 (July 2007)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 31 (Dec 2007)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 32 (July 2008)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 33 (Dec 2008)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 34 (July 2009)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 35 (Dec 2009)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 36 (July 2010)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 37 (Dec 2010)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 38 (July 2011)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 39 (Dec 2011)		0.66%	100%	0.67%	0%		
Semi-annual Progress Rpt 40 (July 2012)		0.66%	100%	0.67%	0%		
Draft O-1 IM Report		19%	100%	19%	0%		
Draft final O-1 IM Report		12%	100%	12%	0%		
Final O-1 IM Report		5%	100%	5%	0%		
Draft Soil Pile IM Report		20%	100%	20%	0%		
Draft Final Soil Pile IM Report		12%	100%	12%	0%		
Final Soil Pile IM Report		5%	100%	5%	0%		
% of Phase Complete						98.26%	

Attachment 3
Overall (H) Order Percent Complete

Task Name	% of Phase	% of Task	% Complete	% of Activity Complete	% of Activity Remaining	% of Task Complete	Comments/Status
Preliminary Report	5%					100.0%	
Draft DCC Report		80%	100%	80%	0%		
Draft Final DCC Report		15%	100%	15%	0%		
Final DCC Report		5%	100%	5%	0%		
RFI Workplan	5%					100.0%	
Draft Community Relations Plan		25%	100%	25%	0%		
Draft Final CRP		5%	100%	5%	0%		
Final CRP (2006)		10%	100%	10%	0%		
Draft RFI Workplans		20%	100%	20%	0%		
Draft Final RFI Workplan		5%	100%	5%	0%		
Final RFI Workplans		5%	100%	5%	0%		
Final Work Plans (DY01)		10%	100%	10%	0%		
Draft Work Plans (DY02)		10%	100%	10%	0%		
Final Work Plans (DY02)		10%	100%	10%	0%		
Facility Investigation¹	40%					95.1%	
Small Areas (0-2 acres in size)	74%						
B-3 Investigation/Report		1.24%	95%	1.178%	5%		Final report submitted, additional work required.
B-4 Investigation/Report		1.24%	99%	1.228%	1%		Final report submitted. Weston to submit APAR to TCEQ.
B-5 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Oct 02.
B-6 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Oct 02.
B-7 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Oct 02.
B-8 Investigation/Report		1.24%	75%	0.930%	25%		Investigation underway
B-9 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Mar 03
B-10 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Jan 04
B-11 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Sept 04
B-12 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved July 05
B-13 Investigation/Report		1.24%	75%	0.930%	25%		Final report submitted. Additional work required.
B-15/16 Investigation/Report		1.24%	100%	1.240%	0%		NFA Closure Approved Sept 11
B-19 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Sept 02
B-23 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved July 05
B-23A Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Mar 05
B-25 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved July 05
B-26 Investigation/Report		1.24%	100%	1.240%	0%		Delisting approved November 04
B-27 Investigation/Report		1.24%	100%	1.240%	0%		NFA closure approved Dec 11
B-28 Investigation/Report		1.24%	100%	1.240%	0%		NFA Closure approved Nov 11
B-30 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Feb 05
B-31 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Nov 02
B-32 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Nov 03
B-33 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Nov 04
B-34 Investigation/Report		1.24%	75%	0.930%	25%		Final report and Addendum report submitted, additional work required
B-71 Investigation/Report		1.24%	100%	1.240%	0%		TRRP closure approved Oct 11
BLDG-43 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Sept 05
Demo Dud Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Apr 05
F-14 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Nov 95
I-1 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Nov 08
AOC 35 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Feb 03
AOC 37 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Jan 05
AOC 39 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Sept 02
AOC 40 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Aug 02
AOC 43 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved Feb 03
AOC 44 Investigation/Report		1.24%	100%	1.240%	0%		Delisting approved July 2005.
AOC 45 Investigation/Report		1.24%	100%	1.240%	0%		NFA Closure Approved Oct 11
AOC 46 Investigation/Report		1.24%	100%	1.240%	0%		RRS1 closure approved July 05
AOC 47 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Sep 02

Attachment 3
Overall (H) Order Percent Complete

Task Name	% of Phase	% of Task	% Complete	% of Activity Complete	% of Activity Remaining	% of Task Complete	Comments/Status
AOC 49 Investigation/Report		1.24%	100%	1.240%	0%		Delisting approved July 05
AOC 50 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Apr 05
AOC 52 Investigation/Report		1.24%	100%	1.240%	0%		NFA closure approved Dec 11
AOC 53 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved July 05.
AOC 54 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Nov 04
AOC 55 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved June 08.
AOC 56 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Sept 04
AOC 58 Investigation/Report		1.24%	100%	1.240%	0%		NFA closure approved Dec 11
AOC 59 Investigation/Report		1.24%	100%	1.240%	0%		NFA Closure Approved Oct 11
AOC 60 Investigation/Report		1.24%	100%	1.240%	0%		Delisting approved July 05.
AOC 61 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Feb 03
AOC 62 Investigation/Report		1.24%	100%	1.240%	0%		NFA closure approved Dec 11
AOC 63 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Aug 09.
AOC 64 Investigation/Report		1.24%	100%	1.240%	0%		TRRP closure approved Oct 11
AOC 67 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Sept 10.
AOC 68 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved Sept 10.
AOC 69 Investigation/Report		1.24%	100%	1.240%	0%		TRRP closure approved Oct 09
AOC 70 Investigation/Report		1.24%	100%	1.240%	0%		NFA closure approved Sept 11
AOC 72 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved May 12
AOC 73 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved July 2009
AOC 74 Investigation/Report		1.24%	100%	1.240%	0%		Closure approved May 12
AOC 75 Investigation/Report		1.24%	25%	0.310%	75%		Investigation underway
Medium Areas (2-10 acres in size)							
B-1 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved Nov 02
B-2 Investigation/Report		1.2%	75%	0.915%	25%		Investigation underway
B-22 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved Dec 02
B-24 Investigation/Report		1.2%	80%	0.976%	20%		Final report submitted, additional work recommended
B-29 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved
AOC 36 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved Aug 02
AOC 41 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved July 05.
AOC 42 Investigation/Report		1.2%	100%	1.220%	0%		NFA closure approved Dec 11
AOC 48 Investigation/Report		1.2%	100%	1.220%	0%		Delisting approved Nov 04
AOC 57 Investigation/Report		1.2%	100%	1.220%	0%		NFA closure approved Sept 11
Large Areas (>10 acres in size)							
B-20/21 Investigation/Report		1.2%	90%	1.098%	10%		Investigation underway
AOC 38 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved February 05
AOC 51 Investigation/Report		1.2%	95%	1.159%	5%		NFA closure requested
AOC 66 Investigation/Report		1.2%	100%	1.220%	0%		NFA Closure approved Feb 05
RMU-1 Investigation/Report		1.2%	0%	0.000%	100%		
RMU-5 Investigation/Report		1.2%	95%	1.159%	5%		NFA closure requested
AOC 65 Investigation/Report		1.2%	75%	0.915%	25%		Final report submitted, additional work recommended
AOC 69 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved Oct 09
Coal Bins Investigation/Report		1.2%	100%	1.220%	0%		Site de-listed as a SWMU
RMU-2 Investigation/Report		1.2%	100%	1.220%	0%		NFA closure approved Feb 12
RMU-3 Investigation/Report		1.2%	25%	0.305%	75%		Investigation underway
RMU-4 Investigation/Report		1.2%	25%	0.305%	75%		Investigation underway
Groundwater Investigation	15%					92%	
Well Installation		10%	80%	8%	20%		
Groundwater Monitoring 1999		3.0%	100%	3%	0%		
Groundwater Monitoring 2000		3.0%	100%	3%	0%		
Groundwater Monitoring 2001		3.0%	100%	3%	0%		
Groundwater Monitoring 2002		3.0%	100%	3%	0%		
Groundwater Monitoring 2003		3.0%	100%	3%	0%		
Groundwater Monitoring 2004		3.0%	100%	3%	0%		

Attachment 3
Overall (H) Order Percent Complete

Task Name	% of Phase	% of Task	% Complete	% of Activity Complete	% of Activity Remaining	% of Task Complete	Comments/Status
Groundwater Monitoring 2005		3.0%	100%	3%	0%		
Groundwater Monitoring 2006		3.0%	100%	3%	0%		
Groundwater Monitoring 2007		3.0%	100%	3%	0%		
Groundwater Monitoring 2008		3.0%	100%	3%	0%		
Groundwater Monitoring 2009		3.0%	100%	3%	0%		
Groundwater Monitoring 2010		3.0%	100%	3%	0%		
Groundwater Monitoring 2011		3.0%	100%	3%	0%		
Groundwater Monitoring 2012		3.0%	50%	2%	50%		
Conceptual Site Model (CSM)		20.0%	100%	20%	0%		
CSM Update		4.0%	90%	4%	10%		
LTMO 2005 (optimization study)		10%	100%	10%	0%		Complete
LTMO 2010 (review of optimization)		10%	100%	10%	0%		Complete
Risk Assessment	10%					91%	
Draft TAD		10%	100%	10%	0%		
Draft Final TAD		4%	100%	4%	0%		
Final TAD		1%	0%	0%	100%		Complete when analytical data are available for full evaluation.
Draft CSM		70%	100%	70%	0%		
Update to CSM		10%	70%	7%	30%		
Final CSM		5%	0%	0%	100%		
Investigation Analysis	10%					91%	
Collect Background Data		10%	100%	10%	0%		Information included in facility investigation reports; percent complete based on overall percent complete of facility investigation tasks.
Draft Investigation Analysis		85%	90%	77%	10%		
Final Investigation Analysis		5%	85%	4%	15%		
Treatability Studies	10%					74%	
Draft Treatability Study Report B-20		15%	100%	15%	0%		
Final Treatability Study Report B-20		5%	100%	5%	0%		
Continued O&M for B-3		10%	100%	10%	0%		
AOC-65 Treatability Studies		10%	95%	10%	5%		
Draft Treatability Study & Technology Evaluation Reports		10%	100%	10%	0%		
Final Treatability Study		25%	99%	25%	1%		
Recharge Study		25%	100%	25%	0%		
Progress Reports	5%					70.2%	
Quarter 1 (August 1999)		1.75%	100%	1.75%	0%		
Quarter 2 (November 1999)		1.75%	100%	1.75%	0%		
Quarter 3 (February 2000)		1.75%	100%	1.75%	0%		
Quarter 4 (May 2000)		1.75%	100%	1.75%	0%		
Quarter 5 (August 2000)		1.75%	100%	1.75%	0%		
Quarter 6 (November 2000)		1.75%	100%	1.75%	0%		
Quarter 7 (February 2001)		1.75%	100%	1.75%	0%		
Quarter 8 (May 2001)		1.75%	100%	1.75%	0%		
Quarter 9 (August 2001)		1.75%	100%	1.75%	0%		
Quarter 10 (November 2001)		1.75%	100%	1.75%	0%		
Quarter 11 (February 2002)		1.75%	100%	1.75%	0%		
Quarter 12 (May 2002)		1.75%	100%	1.75%	0%		
Quarter 13 (August 2002)		1.75%	100%	1.75%	0%		
Quarter 14 (November 2002)		1.75%	100%	1.75%	0%		
Quarter 15 (February 2003)		1.75%	100%	1.75%	0%		
Quarter 16 (May 2003)		1.75%	100%	1.75%	0%		
Quarter 17 (August 2003)		1.75%	100%	1.75%	0%		
Quarter 18 (November 2003)		1.75%	100%	1.75%	0%		
Quarter 19 (February 2004)		1.75%	100%	1.75%	0%		
Quarter 20 (May 2004)		1.75%	100%	1.75%	0%		
Quarter 21 (August 2004)		1.75%	100%	1.75%	0%		
Quarter 22 (November 2004)		1.75%	100%	1.75%	0%		
Quarter 23 (February 2005)		1.75%	100%	1.75%	0%		

Attachment 3
Overall (H) Order Percent Complete

Task Name	% of Phase	% of Task	% Complete	% of Activity Complete	% of Activity Remaining	% of Task Complete	Comments/Status
Quarter 24 (May 2005)		1.75%	100%	1.75%	0%		
Quarter 25 (August 2005)		1.75%	100%	1.75%	0%		
Quarter 26 (November 2005)		1.75%	100%	1.75%	0%		
Quarter 27 (February 2006)		1.75%	100%	1.75%	0%		
Quarter 28 (May 2006)		1.75%	100%	1.75%	0%		
Semi-Annual 29 (December 2006)		1.75%	100%	1.75%	0%		
Semi-Annual 30 (July 2007)		1.75%	100%	1.75%	0%		
Semi-Annual 31 (December 2007)		1.75%	100%	1.75%	0%		
Semi-Annual 32 (July 2008)		1.75%	100%	1.75%	0%		
Semi-Annual 33 (December 2008)		1.75%	100%	1.75%	0%		
Semi-Annual 34 (July 2009)		1.75%	100%	1.75%	0%		
Semi-Annual 35 (December 2009)		1.75%	100%	1.75%	0%		
Semi-Annual 36 (July 2010)		1.75%	100%	1.75%	0%		
Semi-Annual 37 (December 2010)		1.75%	100%	1.75%	0%		
Semi-Annual 38 (July 2011)		1.75%	100%	1.75%	0%		
Semi-Annual 39 (December 2011)		1.75%	100%	1.75%	0%		
Semi-Annual 40 (July 2012)		1.75%	100%	1.75%	0%		
(Additional Reports - rows hidden)							
% of Phase Complete						90.98%	
¹ Breakdown of percent complete for RFI facility investigations: Field work complete (25%), data validation (20%), boring logs (if applicable)(10%), analytical data tables (10%), figures (10%), draft report (20%), final report (5%). Note: if additional investigations are needed, then the percent complete will need to be adjusted on a site by site basis.							

ATTACHMENT 4

GROUNDWATER RESULTS SUMMARY

Attachment 4
December 2011 Quarterly On-post Groundwater Analytical Results

Well ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Zinc	Mercury
CS-MW1-LGR	12/14/2011	NA	NA	0.0005U	0.002F	NA	0.0086F	NA	0.0001U
CS-MW2-LGR	12/14/2011	NA	NA	0.0005U	0.001U	NA	0.0110F	NA	0.0001U
CS-MW8-LGR	12/13/2011	NA	NA	0.0005U	0.001U	NA	0.0080F	NA	0.0001U
CS-MW10-LGR	12/13/2011	NA	NA	0.0005U	0.001U	NA	0.0096F	NA	0.0001U
CS-MW11A-LGR	12/13/2011	NA	NA	0.0005U	0.009F	NA	0.0082F	NA	0.0001U
CS-MW24-LGR	12/14/2011	NA	NA	0.0005U	0.001U	NA	0.0096F	NA	0.0001U
CS-MW35-LGR	12/13/2011	NA	NA	0.0005U	0.002F	NA	0.0084F	NA	0.0001U
CS-MW36-LGR	12/13/2011	NA	NA	0.0005U	0.001U	NA	0.0099F	NA	0.0001U
CS-9	12/15/2011	NA	NA	0.0005U	0.005F	NA	0.0581	NA	0.0180*
CSSA Drinking Water Well System									
CS-1	12/15/2011	0.003F	0.0318	0.0005U	0.001U	0.012	0.0073F	0.395	0.0001U
CS-10	12/15/2011	0.0018F	0.0388	0.0005U	0.001U	0.004F	0.0019U	0.063	0.0001U
CS-12	12/15/2011	0.002F	0.0294	0.0005U	0.001U	0.005F	0.0019U	0.176	0.0001U
CS-12 FD	12/15/2011	0.0015F	0.0297	0.0005U	0.001U	0.008F	0.0019U	0.18	0.0001U

Well ID	Sample Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
CS-MW1-LGR	12/14/2011	0.12U	18.93	0.08U	14.11	30.37	0.08U
CS-MW2-LGR	12/14/2011	0.12U	0.54F	0.08U	0.06U	0.05U	0.08U
CS-MW8-LGR	12/13/2011	0.12U	0.07U	0.08U	1.94	0.05U	0.08U
CS-MW10-LGR	12/13/2011	0.12U	0.07U	0.08U	1.95	0.51F	0.08U
CS-MW11A-LGR	12/13/2011	0.12U	0.07U	0.08U	1.28F	0.05U	0.08U
CS-MW24-LGR	12/14/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW35-LGR	12/13/2011	0.12U	0.07U	0.08U	0.95F	0.05U	0.08U
CS-MW36-LGR	12/13/2011	0.12U	0.07U	0.08U	7.21	6.23	0.08U
CS-9	12/15/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CSSA Drinking Water Well System							
CS-1	12/15/2011	0.12U	0.07U	0.08U	0.06U	0.28F	0.08U
CS-10	12/15/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-12	12/15/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-12 FD	12/15/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U

BOLD	= Above the MDL
BOLD	= Above the RL
BOLD	= Above the MCL

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

Abbreviations/Notes:

FD Field Duplicate
TCE Trichloroethene
PCE Tetrachloroethene
DCE Dichloroethene
AL Action Level
SS Secondary Standard
NA Not Analyzed for this parameter

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.
* The analyte was run at a dilution of 5.

**Attachment 4
December 2011 Westbay Analytical Results**

Well ID	Date Sampled	1,1-DCE (1,1-dichloroethene)	cis-1,2-DCE (cis-1,2-dichloroethene)	TCE (trichloroethene)	PCE (tetrachloroethene)	trans-1,2-DCE (trans-1,2-dichloroethene)	Vinyl Chloride
CS-WB01-LGR-01	12/8/2011	<0.12	<0.07	0.28F	5.64	<0.08	<0.08
CS-WB01-LGR-02	12/8/2011	<0.12	<0.07	3.21	13.2	<0.08	<0.08
CS-WB01-LGR-03	12/8/2011	<0.12	<0.07	8.93	3.9	<0.08	<0.08
CS-WB01-LGR-04	12/8/2011	<0.12	<0.07	<0.05	<0.06	<0.08	<0.08
CS-WB01-LGR-05	12/8/2011	<0.12	<0.07	0.22F	<0.06	<0.08	<0.08
CS-WB01-LGR-06	12/8/2011	<0.12	0.35F	1.07	<0.06	<0.08	<0.08
CS-WB01-LGR-07	12/8/2011	<0.12	<0.07	14.45	18.91	<0.08	<0.08
CS-WB01-LGR-08	12/8/2011	<0.12	1.03F	6.62	2.86	<0.08	<0.08
CS-WB01-LGR-09	12/8/2011	<0.12	<0.07	20.7	16.91	<0.08	<0.08
CS-WB02-LGR-01	12/7/2011	<0.12	<0.07	0.84F	<0.06	<0.08	<0.08
CS-WB02-LGR-03	12/7/2011	<0.12	<0.07	<0.05	4.68	<0.08	<0.08
CS-WB02-LGR-04	12/7/2011	<0.12	<0.07	9.15	3.61	<0.08	<0.08
CS-WB02-LGR-05	12/7/2011	<0.12	<0.07	3.06	1.02F	<0.08	<0.08
CS-WB02-LGR-06	12/7/2011	<0.12	<0.07	2.95	1.12F	<0.08	<0.08
CS-WB02-LGR-07	12/7/2011	<0.12	<0.07	<0.05	<0.06	<0.08	<0.08
CS-WB02-LGR-08	12/7/2011	<0.12	1.65	1.06	1.09F	<0.08	<0.08
CS-WB02-LGR-09	12/7/2011	<0.12	<0.07	11.23	13.12	<0.08	<0.08
CS-WB03-UGR-01	12/5/2011	<6.00*	<3.50*	32.76F*	2514.83*	<4.00*	<4.00*
CS-WB03-LGR-03	12/5/2011	<0.12	0.34F	14.51	31.71	<0.08	<0.08
CS-WB03-LGR-04	12/5/2011	<0.12	<0.07	12.39	27.28	<0.08	<0.08
CS-WB03-LGR-05	12/5/2011	<0.12	<0.07	8.84	27.14	<0.08	<0.08
CS-WB03-LGR-06	12/5/2011	<0.12	0.25F	0.86F	5.86	<0.08	<0.08
CS-WB03-LGR-07	12/5/2011	<0.12	3.66	5.17	4.56	<0.08	<0.08
CS-WB03-LGR-08	12/5/2011	<0.12	8.3	1.58	3.83	<0.08	<0.08
CS-WB03-LGR-09	12/5/2011	<0.12	45.73	4.05	11.75	<0.08	<0.08
CS-WB04-LGR-06	12/6/2011	<0.12	2.81	9.39	28.76	<0.08	<0.08
CS-WB04-LGR-07	12/6/2011	<0.12	2.81	9.91	24.41	<0.08	<0.08
CS-WB04-LGR-08	12/6/2011	<0.12	<0.07	0.84F	<0.06	<0.08	<0.08
CS-WB04-LGR-09	12/6/2011	<0.12	<0.07	7.09	9.25	<0.08	<0.08
CS-WB04-LGR-10	12/6/2011	<0.12	<0.07	<0.05	1.16F	<0.08	<0.08
CS-WB04-LGR-11	12/6/2011	<0.12	<0.07	<0.05	<0.06	<0.08	<0.08

Data Qualifiers

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

* The analyte was run at a dilution of 50.

All values are reported in µg/L.

BOLD = Above the MDL.

BOLD = Above the RL.

BOLD = Above the MCL.

Attachment 4
December 2011 Quarterly Off-Post Groundwater Analytical Results

Well ID	Sample Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
I10-4	12/6/2011	0.12U	0.07U	0.08U	6.87	2.85	0.08U
I10-9	12/19/2011	0.12U	0.07U	0.08U	0.06U	1.29	0.08U
LS-5	12/5/2011	0.12U	0.07U	0.08U	1.05F	3.87	0.08U
LS-6	12/5/2011	0.12U	0.07U	0.08U	1.16F	2.41	0.08U
LS-7	12/5/2011	0.12U	0.07U	0.08U	2.48	1.03	0.08U
OFR-3	12/5/2011	0.12U	0.07U	0.08U	3.67	3.14	0.08U
RFR-10	12/5/2011	0.12U	0.07U	0.08U	11.41	3.9	0.08U
RFR-11	12/5/2011	0.12U	0.07U	0.08U	0.62F	2.69	0.08U
RFR-11 FD	12/5/2011	0.12U	0.07U	0.08U	0.84F	3.11	0.08U
OW-BARNOWL	12/7/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-BARNOWL FD	12/7/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-CE1	12/7/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-CE2	12/7/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-DAIRYWELL	12/7/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-HH1	12/7/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-HH2	12/7/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-HH3	12/7/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-MT2	12/7/2011	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U

BOLD	= Above the MDL
BOLD	= Above the RL
BOLD	= Above the MCL

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

Abbreviations/Notes:

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.

Attachment 4
March 2012 Quarterly On-Post Groundwater Analytical Results

Well ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Zinc	Mercury
CS-MW1-LGR	3/13/2012	NA	NA	0.0005U	0.003F	NA	0.0019U	NA	0.0001U
CS-MW2-LGR	3/21/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW3-LGR	3/15/2012	NA	NA	0.0005U	0.003F	NA	0.0019U	NA	0.0001U
CS-MW4-LGR	3/15/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW5-LGR	3/13/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW6-LGR	3/20/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW7-LGR	3/20/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0002F
CS-MW8-LGR	3/20/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW9-CC	3/16/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW9-BS	3/16/2012	NA	NA	0.0005U	0.003F	NA	0.0168F	NA	0.0001U
CS-MW10-LGR	3/20/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0002F
CS-MW11A-LGR	3/20/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW12-LGR	3/21/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW16-LGR	3/20/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW16-CC	3/20/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW16-CC FD	3/20/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW17-LGR	3/15/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW18-LGR	3/21/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW19-LGR	3/19/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0002F
CS-MW19-LGR FD	3/19/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0002F
CS-MW20-LGR	3/19/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW21-LGR	3/21/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW22-LGR	3/21/2012	NA	NA	0.0005U	0.001U	NA	0.0029F	NA	0.0001U
CS-MW23-LGR	3/21/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW24-LGR	3/16/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW25-LGR	3/15/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0002F
CS-MW35-LGR	3/20/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-MW36-LGR	3/19/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-D	3/19/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-2	3/19/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-4	3/19/2012	NA	NA	0.0005U	0.001U	NA	0.0019U	NA	0.0001U
CS-9	3/22/2012	NA	NA	0.0005U	0.001U	NA	0.0091F	NA	0.0012
CSSA Drinking Water Well System									
CS-1	3/22/2012	0.0002U	0.0358	0.0005U	0.001U	0.004F	0.0019U	0.23	0.0001U
CS-10	3/22/2012	0.0002U	0.0408	0.0005U	0.001U	0.003U	0.0019U	0.062	0.0001U
CS-10 FD	3/22/2012	0.0002U	0.0423	0.0005U	0.001U	0.003U	0.0019U	0.066	0.0001U
CS-12	3/22/2012	0.0002U	0.0323	0.0005U	0.001U	0.010	0.0019U	0.20	0.0001U

Well ID	Sample Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
CS-MW1-LGR	3/13/2012	0.12U	19.8	0.08U	13.93	31.76	0.08U
CS-MW2-LGR	3/21/2012	0.12U	0.97F	0.08U	0.06U	0.05U	0.08U
CS-MW3-LGR	3/15/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW4-LGR	3/15/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW5-LGR	3/13/2012	0.12U	2.91	0.08U	1.84	2.56	0.08U
CS-MW6-LGR	3/20/2012	0.12U	0.07U	0.08U	0.25F	0.05U	0.08U
CS-MW7-LGR	3/20/2012	0.12U	0.07U	0.08U	0.69F	0.05U	0.08U
CS-MW8-LGR	3/20/2012	0.12U	0.07U	0.08U	2.38	0.05U	0.08U
CS-MW9-CC	3/16/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW9-BS	3/16/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW10-LGR	3/20/2012	0.12U	0.07U	0.08U	2.1	0.54F	0.08U
CS-MW11A-LGR	3/20/2012	0.12U	0.07U	0.08U	1.05F	0.05U	0.08U
CS-MW12-LGR	3/21/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW16-LGR	3/20/2012	0.12U	132	2.88	126.98	154.26	0.08U
CS-MW16-CC	3/20/2012	0.18F	18.55	6.08	1.10F	15.42	0.08U
CS-MW16-CC FD	3/20/2012	0.19F	19.89	6.64	1.14F	17.04	0.08U
CS-MW17-LGR	3/15/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW18-LGR	3/21/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW19-LGR	3/19/2012	0.12U	0.07U	0.08U	0.61F	0.05U	0.08U
CS-MW19-LGR FD	3/19/2012	0.12U	0.07U	0.08U	0.64F	0.05U	0.08U
CS-MW20-LGR	3/19/2012	0.12U	0.07U	0.08U	1.79	0.05U	0.08U
CS-MW21-LGR	3/21/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW22-LGR	3/21/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW23-LGR	3/21/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW24-LGR	3/16/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW25-LGR	3/15/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW35-LGR	3/20/2012	0.12U	0.07U	0.08U	1.26F	0.05U	0.08U
CS-MW36-LGR	3/19/2012	0.12U	0.07U	0.08U	8.43	4.94	0.08U
CS-D	3/19/2012	0.12U	70.06	0.08U	67.27	83	0.08U
CS-2	3/19/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-4	3/19/2012	0.12U	2.44	0.08U	2.59	3.42	0.08U
CS-9	3/22/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CSSA Drinking Water Well System							
CS-1	3/22/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-10	3/22/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-10 FD	3/22/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-12	3/22/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U

BOLD	≥ MDL
BOLD	≥ RL
BOLD	≥ MCL

All samples were analyzed by APPL, Inc.
VOC data reported in ug/L & metals data reported in mg/L.
Abbreviations/Notes:
FD Field Duplicate
TCE Trichloroethene
PCE Tetrachloroethene
DCE Dichloroethene
AL Action Level
SS Secondary Standard
NA Not Analyzed for this parameter

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.

**Attachment 4
March 2012 Westbay Analytical Results**

Well ID	Date Sampled	1,1-DCE (1,1-dichloroethene)	cis-1,2-DCE (cis-1,2-dichloroethene)	TCE (trichloroethene)	PCE (tetrachloroethene)	trans-1,2-DCE (trans-1,2-dichloroethene)	Vinyl Chloride
CS-WB01-LGR-09	3/12/2012	<0.12	0.37F	18.92	14.03	<0.08	<0.08
CS-WB02-LGR-09	3/12/2012	<0.12	0.31F	13.79	16.15	<0.08	<0.08
CS-WB03-LGR-09	3/13/2012	<0.12	21.04	4.99	9.11	<0.08	<0.08
CS-WB04-LGR-06	3/13/2012	<0.12	3.25	11.19	35.08	<0.08	<0.08
CS-WB04-LGR-07	3/13/2012	<0.12	3.18	11	32.3	<0.08	<0.08
CS-WB04-LGR-09	3/13/2012	<0.12	<0.07	7.77	10.34	<0.08	<0.08
CS-WB04-LGR-10	3/13/2012	<0.12	<0.07	0.66F	1.15F	<0.08	<0.08
CS-WB04-LGR-11	3/13/2012	<0.12	<0.07	0.21F	0.42F	<0.08	<0.08

Data Qualifiers

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

All values are reported in µg/L.

BOLD	≥ MDL
BOLD	≥ RL
BOLD	≥ MCL

Attachment 4
March 2012 Quarterly Off-post Groundwater Analytical Results

Subdivision	Well ID	Sample Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Boerne Stage Road	BSR-03	3/9/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
Fair Oaks	FO-8	3/5/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	FO-17	3/5/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	FO-22	3/5/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
Hidden Springs	HS-1	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	HS-2	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	HS-3	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
IH-10	I10-2	3/5/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	I10-4	3/7/2012	0.12U	0.07U	0.08U	4.47	1.9	0.08U
	I10-5	3/5/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	I10-7	3/5/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	I10-8	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	I10-8 FD	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	I10-9	3/20/2012	0.12U	0.07U	0.08U	0.06U	1.04	0.08U
Jackson Woods Subdivision	JW-5	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-5 FD	3/8/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-6	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-6 FD	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-7	3/7/2012	0.12U	0.07U	0.08U	0.33F	0.05U	0.08U
	JW-8	3/7/2012	0.12U	0.07U	0.08U	0.32F	0.05U	0.08U
	JW-9	3/16/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-13	3/8/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-14	3/8/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-15	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-26	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-27	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-28	3/12/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	JW-29	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-30	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U	
JW-31	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U	
Leon Springs Villas	LS-1	3/5/2012	0.12U	0.07U	0.08U	0.70F	0.05U	0.08U
	LS-4	3/5/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	LS-5	3/7/2012	0.12U	0.07U	0.08U	0.81F	2.46	0.08U
	LS-5-A2	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	LS-6	3/7/2012	0.12U	0.07U	0.08U	0.81F	1.85	0.08U
	LS-6-A2	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	LS-7	3/7/2012	0.12U	0.07U	0.08U	2.45	0.36F	0.08U
LS-7-A2	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U	
Old Fredricksburg Road	OFR-1	3/7/2012	0.12U	0.07U	0.08U	0.28F	0.05U	0.08U
	OFR-3	3/8/2012	0.12U	0.17F	0.08U	5.19	3.32	0.08U
	OFR-3-A2	3/8/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	OFR-3-A2 FD	3/8/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	OFR-4	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U

Attachment 4
March 2012 Quarterly Off-post Groundwater Analytical Results

Subdivision	Well ID	Sample Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
Ralph Fair Road	RFR-3	3/12/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	RFR-4	3/12/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	RFR-5	3/12/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	RFR-5 FD	3/12/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	RFR-8	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	RFR-9	3/20/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	RFR-10	3/8/2012	0.12U	0.40F	0.08U	15.95	10.15	0.08U
	RFR-10 FD	3/8/2012	0.12U	0.34F	0.08U	17.6	9.88	0.08U
	RFR-10-A2	3/8/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	RFR-10-B2	3/8/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	RFR-11	3/8/2012	0.12U	0.07U	0.08U	0.47F	1.74	0.08U
	RFR-11-A2	3/8/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	RFR-12	3/5/2012	0.12U	0.07U	0.08U	0.06U	0.35F	0.08U
	RFR-13	3/7/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-14	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U	
The Oaks Water Supply	OW-BARNOWL	3/9/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	OW-CE1	3/9/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	OW-CE2	3/9/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	OW-DAIRYWELL	3/9/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	OW-HH1	3/9/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	OW-HH2	3/9/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	OW-HH3	3/9/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	OW-MT2	3/9/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
Scenic Loop Drive	SLD-01	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
	SLD-02	3/6/2012	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
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 µg/L.

Abbreviations/Notes:

- FD Field Duplicate
- TCE Trichloroethene
- PCE Tetrachloroethene
- DCE Dichloroethene

Data Qualifiers:

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

ATTACHMENT 5

**SUMMARY OF CURRENT AND UPCOMING REMEDIAL
ACTIVITIES AT SWMUS, AOCS, AND RMUS**

Attachment 5
Site Status Matrix

Site	Area	Suspected Munitions	type of site	Work Needed	Current Status	Progress	Site Size (acres)	Estimated Excavation Extent (acres)	total estimated volume to remove CY	estimated excavation time	Original Description	Type of Closure Report	Potential COCs	Office data analysis to date	Notes
Field Effort Unfunded															
SWMU B-13	Inner Cantonment	small arms munitions	construction debris site	-draft SWPPP and WP/SAP -Excavate -RIR		6/21/11 XRF Survey performed across site.	1.5		6000	11 weeks	Construction waste disposal site mixed w/ ammo boxes, etc. Geophysical survey, soil borings. buried materials - approximately 6,000 CYS	RIR	metals, possibly VOCs, SVOCs		500 CY/day piling debris - so 12 days (3 weeks); 1000 CY/day to haul to landfill using 10 20CY endumps - so 6 days of hauling = approx. 2 weeks
AOC-75	Inner Cantonment	none	surface soil contamination	-draft SWPPP and WP/SAP -excavate soils		1/10 Samples collected to help w/ horizontal and vertical contamination delineation and waste characterization purposes.	1.2	1.6		9 weeks	Elevated mercury and lead levels to the north of B-4.	pending	mercury		
RMU-3	Inner Cantonment	small arms munitions	rifle range	- draft Field Plans -excavate soils -RIR		XRF survey completed 12/8, 12/14, 12/20. (80 locations). XRF results contoured 12/27. 2/25 collected surface soil samples (10) Results back 3/2. Collected soil samples 1/3/2012 and 1/10 to further delineate horizontal and verticle delineation.	~1.5			8 weeks	0.5 acres is old boundary, but more like 1.5 acres based on XRF results former rifle range, field survey done.	RIR	Pb		
RMU-4	East Pasture	small arms munitions, stokes mortars	rifle range	- draft SWPPP and WP/SAP -excavate -RIR		XRF Survey completed 12/15, 12/17, and 12/21 (53 locations). XRF results contoured 12/27. Surface soil samples collected 6/23 and 6/24/2011 to confirm XRF survey results (21 day TAT). Collected soil samples 1/5/2012 to further delineate horizontal and vertical extent.	1.6			14 weeks	1.6 acres former rifle range, field survey done, MD found (3" stokes) during road investigation in 2006.	RIR	metals		Zig zag trenches in area.
Field Effort Suspended															
SWMU B-8	North Pasture	none	soil contamination		see TCEQ letter dated 2/29/2012	1/11 samples collected to help delineate vert and horz contamination plus waste characterization.	5.2 acres			6 weeks	former burn area	APAR	Ba, Cu, Pb, Zn		
SWMU B-20/21	North Pasture	various MEC/MD	soil contamination		see TCEQ letter dated 2/29/2012	ESS finalized 3/14. XRF survey conducted 6/16/2011 to characterize Zn levels across the site. UCL calculations showed native soil calculations below PCLs (Tier 2).	36			6 weeks	OB/OD area, MEC and MC issues. MEC will need to be addressed seperately. PIMS area doesn't need to be sifted.	APAR	PIMS Treatment Area		Remove PIMS Treatment area only.
SWMU B-24	North Pasture	misc. small arms munitions, etc.	soil contamination w/ MEC		see TCEQ letter dated 2/29/2012	12/6 flagged XRF sites. 12/7- 8 completed XRF survey (67 of points). XRF samples mapped 1/10. 2/16, soil piles sampled for TCLP. 21-day TAT. Soil matrix of the the overage pile (now partially on B-27 staging area) sampled for berm appropriateness on 2/24. results back 3/2/2011 - good for East Pasture Berm. 2/28 week - looked through overage for MEC, etc. Deemed ok for berm. 3/3 - 8, overage pile moved completely to east pasture berm. ESS finalized 3/14. Surface soil samples collected 3/29 (SS15 - SS29). Results back 4/11. Additional soil samples collected 1/5/2012 to delineate vertical and horizontal extent.	4.1			8 weeks	Disposal area. Need soil excavation to get closure for MC. MEC will be addressed seperately. TRRP: residential, eco, Tier 2	APAR	Ba, Cu, Pb, Zn		
Field Effort Compete - Site Open															
SWMU B-2	North Pasture	none	soil contamination		see TCEQ letter dated 2/29/2012	12/6 excavated DNT location. Collected 26 surface soil samples (lead, zinc) on 12/6. 12/16 collected additional ss for Zinc (7 samples). 1/26 ran 95%UCL calculations for all Zinc levels.	3.6	NA	NA	NA		APAR			
SWMU B-34	Inner Cantonment	none	soil contamination	APAR	Developing ROM estimate.	XRF sampled 12/1/2010 (40 locations). XRF results contoured 12/27. Tentative Tier 2 PCL for lead developed. Collected additonal XRF survey locations 6/13 and 6/14/2011. Collected additional XRF and soil samples 1/16/2012.	0.2	NA	NA	NA	Originally buried pipe, but soil contamination is problem. Surface and subsurface soil samples collected. No MEC concerns.	APAR	metals, possibly explosives		commercial, no eco, tier 2
AOC-51	East Pasture		Misc.	-RIR	Field effort complete.	XRF survey completed 12/28 (69 locations). Soil samples (SS10, 11, and 12) collected 11/15. UXO investigation began 12/2011 and wrapped up 1/2012. Surface soil samples collected 1/16/12. Areas B and C explored with XRF on 2/14/12 to help delineate contamination extent. UXO sweep of excavation/staging/roadway in to AOC51-A took place 3/5 - 3/7. Tree removal took place 3/12-3/16. 3/14 and 3/15 - collected samples across site and deeper in the AOC51-A area. Due back 3/23. Excavation effort began 4/16. Hauling began 5/21 and was completed on 5/23.	72	aproximately .8 acres	estimate pending	3 weeks excavate/2 weeks hauling	No specific records of waste management in area, yet ordnance have been found.	RIR	metals		
AOC-65	Inner Cantonment	none	soil contamination		Infiltration gallery completed and study work progressing through TO4 effort.	Surface preparation for trench excavation completed week of 1/30/12. Construction infiltration gallery on 3/21.					Remove soils and bedrock west of Bldg 90 w/in the ditch area.	NA	PCE		
RMU-5	North Pasture	Same as B-20/21	possible rocket range	-wrap up NP investigation report	Field effort complete. Awaiting TCEQ approval of RIR.	XRF survey conducted 12/8-9 (45 points collected). 10/3 NP UXO Investigation began. Survey continued intermittently through December. Lab samples collected on 2/7/12 to confirm XRF survey results. In addition, XRF survey and samples collected to the se of site in area of original arrow - 21 day TAT (2/27/12). RIR submitted to TCEQ 6/15/2012.	19.3	NA	NA	NA	Former rocket range. Unclear if accurately located, near B-20, several MD items found during cedar clearing	pending	explosives, metals		nothing in XRF above background. No evidence found during XRF survey of rocket range. Only MD suspected to be from B-20
Field Effort Complete - Closed															

Site	Area	Suspected Munitions	type of site	Work Needed	Current Status	Progress	Site Size (acres)	Estimated Excavation Extent (acres)	total estimated volume to remove CY	estimated excavation time	Original Description	Type of Closure Report	Potential COCs	Office data analysis to date	Notes
SWMU B-4	Inner Cantonment	various MEC/MD	trench		Field effort complete.	8/3 Final WP/SAP, SWPPP, RFI IIM/WMP Submitted to CSSA. 8/3 Began MEC identification and sorting. 9/7 Sorting of Metal Debris pile complete. Exposed additional trench during the cleaning of the site on September 27th. September 29 work stopped. UXO team worked at site from 10/31 to 11/4. 11/9 to 11/10. Began work moving overs on 2/1/12. Work halted week of 2/6 due to rain. Kickoff meeting for trench excavation on 2/15/12. Excavation of trench complete on 2/28/12. Trench samples collected 2/27 and 2/29. Additional surface zone trench samples were collected 3/8. Bottom samples came back and bottom rescraped. New bottom samples collected 3/12. Backfilling began week of 3/12 - 3/16. Used Soil pile 1 to refill up to 6 feet depth. then continued to the surface with borrow pit soils. 3/19 - re-excavated shallow sidewall in vicinity of US01. Re-collect sample after excavation - SU10. Backfilling complete on 3/26. Data packaged submitted to Weston - 4/18/2012. Geophysical performed week of 5/14. Hauling restarted on 5/23. Hauling completed on 5/30.						APAR - Weston			
SWMU B-15/16	East Pasture		trenches	None	Complete. Silt fencing still in place. CSSA PW to re-vegetate.	Site mowed 12/20 (USA). Silt Fencing completed 12/21 (USA). SWPPP finalized 12/27. WP/SAP finalized 12/30. Excavation began 1/4 with the middle trench, then southern trench. Estimated soils (1600CY trench 1, 1000 CY trench 2, 500 CY trench 3). 1/10 Collected WC samples as follows: WC01 - 03: trench 1; WC04: gun parts trench 2; WC05: trash to be hauled off-post; and WCo6: clean of metal debris. Rained out 1/10, 1/11. Collected BOT samples 1/13. 1/18 kicked off phase 2. Completed removal action March 1st. RIR completed May 2011. RIR submitted to TCEQ June 6, 2011. RIR approved - letter dated 9/7/2011						RIR			
SWMU B-27	Inner Cantonment, Salado Creek	37 mm projectiles	trenches	- RIR (JM)	Complete.	completed draft of WP/SAP and SWPPP - 1/2011. SWPPP and WP/SAP finalized on 2/25/2011. ESS finalized 3/14. Excavation began 6/15 with Trench 1. Mainly soil with minor amounts of tin cans, etc. Began excavation of trench 2 on 6/27. Still mainly soil w/ minor amounts of tin cans, bottles, 1 gallon containers marked chlorox. Collected Trench 1 confirmation samples on 6/28. Hot cooler issue and VOCs scraped. Recollected VOCs on 7/6. Sampled stockpile soils to be sifted and clean top soil cover from trench 1 on 6/29. Completed trench 2 on 7/6, began Trench 3. Trench 3 completed on 7/12, began work on trench 4. Collected samples from trench 2, 3, and 4 on 7/18 and 7/19. Trench 4 completed 7/14/ Trench 5 started 7/18. Trench 6 started 7/26. Trench 7 started 7/28. Trench 8 completed 8/3. Two locations above with metals above PCL - SW06 and SW67 - rescraped on 8/22/2011. Resampled on 8/23 for 7 day tat (9/2) (SW85 for cu and zn, SW86 for barium - see prelim data file for old locations). Also resample SS09, SS10, and SS14 for MC only - SS20, SS21, and SS22 collected on 8/31. All clean. 9/6 ran UCL for Barium - good (79.78mg/kg). Sampled remaining topsoil pile on 9/7. Draft RIR submitted for CSSA review - 9/26/2011. Site reconstruction work continued through October 27. RIR approved - letter dated 12/29/2011.						RIR			
SWMU B-28	Inner Cantonment, Salado Creek	none	soil contamination	None	Complete. CSSA PW to re-vegetate.	Surface soil samples collected on 11/15 (37 samples). Additional soil samples collected to N. of site 11/22 (3 samples). Erosion control put in place 11/29. Surface soils excavated 11/30-12/2 (Volume removed = 2200 CY). Waste characterization samples, ditch samples sent to the lab 12/1. XRF used to verify vertical excavation on 12/1 (36 samples) and 12/02 (9 samples). Waste Characterization sample back non-hazardous (12/9). Excavation of high ditch levels (12/14). Hauled dirt 12/13-17. BOT samples collected 12/27. BOT samples returned (1/26) - hits of Barium above Tier 1 PCL in 7/10 samples. 2/17, area of site slated for re-excavation 2 additional feet accomplished. Took additional BOT samples for Barium evaluation (2/25). 3/3 95%UCL calculated for remaining samples = 207.5. 3/24 - excavate drainage ditch. Remaining soil hauled to east pasture berm _____. Draft RIR submitted to CSSA on 7/22. Final submitted to CSSA on 8/3. RIR approved - Letter dated 11/17/2011.						RIR			
AOC-45	Inner Cantonment	none	soil contamination	None	Complete. Silt fencing still in place. Final top soil and revegetation to be done by CSSA PW. On hold until drainage plans for area are finalized.	XRF samples collected 12/6, 12/7, 12/21 (69 locations). XRF results contoured 12/27. Surface soil samples collected 4/7 (SS01 - SS14. all analyzed for metals, two analyzed for vocs, svocs, explosives). Results back 4/12. high lead issue at southern end of site. 4/20 collected additional samples for Pb analysis (SS15-SS17). All three came back clean so now have horizontal extent of excavation defined. Began excavation 5/11. Work halted 5/12 for weather. Picked back up 5/16. 5/16 confirmation samples collected. Excavation complete 5/16. Some hits above PCL, but not when using 95% UCL - one hot spot. re-excavation around hot spot 5/23. Confirmation sample collected 5/24. Draft RIR submitted to CSSA for review 7/21. Final submitted to CSSA 8/2. RIR Approved - Letter Dated 10/20/2011.						RIR			XRF showed site is actually situated to the west of the original location, High Pb levels, minimal Zn above background.

Attachment 5 (continued)
Site Status Matrix

Site	Area	Suspected Munitions	type of site	Work Needed	Current Status	Progress	Site Size (acres)	Estimated Excavation Extent (acres)	total estimated volume to remove CY	estimated excavation time	Original Description	Type of Closure Report	Potential COCs	Office data analysis to date	Notes
AOC-42	Inner Cantonment, Salado Creek	radios, grease guns	trenches	None	Complete. CSSA PW to reseed area.	Final WP/SAP completed 3/14. 3/22 began conducting exploratory excavations. 3/23 encountered white substance. Collected sample to send to lab for identification. 3/23 pulled to the north of site to continue excavating. 4/7 collected soil pile sample (AOC42-SP01 for metals, SVOCs, VOCs, explosives). 4/12 SPO1 results came back clean. 4/19 2 samples collected from soil piles (SPO2 and SPO3), 3-day tat. 4/18 sampled asbestos-like material uncovered at trench 2. All trench samples and SPO3 are clean. Asbestos-like material is fibrous glass. Approximately 160 CY of Fibrous glass. Fibrous glass removed June 28th, samples confirmation samples collected 6/28. Two samples (SW13 and BOT03) had high levels of metals and need to be re-excavated. 7/12 overexcavated Trench 2 in the area where the fibrous glass was removed. Salado Creek area - done hauling sifted pile by June 30. Grading of site took place week of 7/5. Geophysical survey conducted the week of July 5th and July 18th. Survey complete. Draft RIR submitted to CSSA for review - 8/29. Final submitted to CSSA 9/6/2011. RIR Approved - letter dated 12/16/2011.						RIR			-Excavated volume: Top soil = 2,300, Trench soil/metal debris = 1,400, Fiber Glass Area = 60.
AOC-52	Inner Cantonment, Salado Creek	spring-filled clips	trenches	None	Complete. CSSA PW to reseed area.	Final WP/SAP completed 3/14. Began excavation 4/18. Pocket of medicaldebris found - est. >500 cy of it. Suspected Asbestos sampled collected 5/24. Confirmation samples collected 5/24 (due back 5/31 and 6/1). All confirmation samples came back clean. Medical debris excavated 6/28/2011. see Salado Creek description under AOC-42.						RIR			-excavated volume: top soil = 600, trench soil/metal debris = 1,200, medical debris = 500.
AOC-57	Inner Cantonment	none	soil contamination	None	Complete.	XRF samples completed 12/2, 12/3, and 12/21 (67 locations). 1/12 collected 10 surface soil samples + QA/QC. 10 for CSSA 9 metals, + 3 of those for vocs and svocs). 2/14 lab results back. RIR submitted to CSSA for review in May, 2011. RIR submitted to TCEQ June, 2011. TCEQ approval recieved - 9/13,2011.						RIR			One original XRF hit above tier 1 for lead. Above tier 1 regardless if commercial/residential/ or if eco is considered. But when re-sampled, it was lower. Include samples of this, and the PCE location.
AOC-58	Inner Cantonment, Salado Creek	bayonnetts	trenches	None	Complete. CSSA PW to reseed area.	Final WP/SAP completed 3/14. 4/4 Field effort began. 4/7 collected soil pile sample (AOC58-SP01 for metals, SVOCs, VOCs, explosives). 4/7 excavation complete. 4/12 SPO1 results came back clean. 4/19 sample taken of soil pile (SPO2) and trench - both trench and pile came back clean. Trench Backfilled. see Salado Creek description under AOC-42.						RIR			- excavated volume: top soil = 1,100, trench soil/metal debris = 650.
AOC-59	East Pasture	unknown	trench-type anomaly/soil berm	None	Complete.	XRF survey completed 12/20 (30 locations). 1/13 collected surface soil samples for metals and explosives (4 samples collected +QA/QC). Completed draft WP/SAP 1/2011. Lab results back 2/14. 3/7 excavation began and wrapped up 3/8. Confirmation samples collected 3/29 (SS05-SS08; BOT05 - BOT-06). Results back 4/7. all below TRRP but one, slightly high. Additional samples collected 4/20 (SS09, SS10, BOT07 and BOT08) to enable 95%UCL calculation. Draft RIR submitted to CSSA for review 7/22. Final submitted to CSSA 8/2. RIR approved - letter dated 10/20/2011.						RIR			
AOC-62	Inner Cantonment, Salado Creek	20 mm guns	trenches	None	Complete. CSSA PW to reseed area.	12/21 completed XRF Survey (16 locations). 3/14 completed final WP/SAP. 3/14 began field effort. 3/22 completed excavation of materials w/ the excavation of 405 CY. Collected confirmation and WC samples 3/29 (SW01-SW16; BOT01-BOT04). Results clean, but need to resample SW14 and BOT02 again. WC01 also TRRP clean. 4/19 sampled SW14 and BOT02 - samples came back clean. Samples SW17 and SW18 - samples were clean.						RIR			
AOC-70	Inner Cantonment	none	soil contamination	None	Complete.	Surface soil samples collected 1/12 for pesticides (4 samples plus QA/QC). Lab results back 2/14. RIR submitted to CSSA for review in May, 2011. RIR submitted to TCEQ June 7, 2011. TCEQ Closure Letter dated September 1, 2011.						RIR			
AOC-72	Inner Cantonment	none	construction debris		Complete.	XRF samples collected 12/15 (17 locations). Surface soil samples around the edge of the site collected 6/23 - all clean. 10/31 Tree clearing activities began. 11/3 tree removal efforts completed. 11/8 waste characterization and soil sample collection performed. soil samples due back 11/21. WC fro class I/II 11/21. WC for Class III 12/1. 11/23 WC sample results submitted to WM for verification. Verification came mid december. Began excavation on 1/23/12. Rain delays. 2/16/12 hauled out remaining soils and backfilled excavation area. Excavation complete. AOC-72 submitted to the TCEQ 3/6. TCEQ Closure Letter dated May 18, 2012.						RIR	VOCs, metals, and asbestos		XRF survey showed no Zn or Pb above background in surface soils.

Attachment 5 (continued)
Site Status Matrix

Site	Area	Suspected Munitions	type of site	Work Needed	Current Status	Progress	Site Size (acres)	Estimated Excavation Extent (acres)	total estimated volume to remove CY	estimated excavation time	Original Description	Type of Closure Report	Potential COCs	Office data analysis to date	Notes
AOC-74	Inner Cantonment	none	construction debris		Complete. Site needs top cover and revegetation - CSSA to take care of.	XRF samples collected in June 2011. Soil samples collected 11/7 (SS01 - SS10). Results due back 11/14. UXO investigation conducted 11/7 and 11/8. 11/15 rained out. 11/15 SS02 tested for herbs/pesticides. Came back clean. 11/16 collected samples SS11- SS14 and BOT01 and BOT02. Due back 11/21. 11/16 Began tree removal work at site. 11/21 still removing trees. 11/22 began excavation at site. 11/23 day off before thanksgiving. 11/28 collected ss16, 17, 18, and WC01. Excavation completed 11/30. Rain delays in December. Began Hauling soils 1/3/2012. Rain delays begin 1/9/2012. 1 pile remaining to haul. Hauling began again 1/16. Fence construction began 1/12, completed 1/18/12. Hauling completed 1/19/12. RIR submitted to TCEQ on 2/14/12. TCEQ Closure Letter dated May 8, 2012.	2					RIR			
RMU-2	Inner Cantonment	small arms munitions	rifle range	-RIR	Complete. Ready for topsoil and re-vegetation.	Basemap w/ XRF survey locations completed 12/29. Completed draft WP/SAP 1/2011. Samples collected 3/1/2011. WP/SAP finalized 3/8. Samples back from lab 3/23- high Pb throughout. TCLP results back 3/29 - hazardous soils. Plans finalized 5/26/ PIMS began arriving 5/26. XRF began May 31. Excavation began June 1. Samples collected 6/1, 6/2, 6/3. XRF perimeter 6/15. collect soil samples for lab analysis 6/16. Complete hauling of PIMS treated piles 6/16. Phase 2: Work started up on 8/1 to complete excavation to RIR standards. 8/16 - new excavation extent excavated. 8/16 - collected confirmation samples from the excavation floor. 8/24 Phase 3 excavation: re-excavated a number of locations w/ hits or boundary issues - SS55, SS43/SS62, and SS44, SS65, and SS19. Additional samples collected 8/31 and 8/30 in newly re-excavated areas- SS69, 70, 71, 72, 73, and 74. Results due back 9/6. 9/8 Pb UCL run for all remaining samples minus SS70/SS74 (at the time - had not collected SS75 and SS76) = 69.43. Two too hot areas remain - SS 70 and SS74. Began Phase 4 excavation in those areas on 9/12. Complete with the collection of 2 additional ss's for Pb (SS75 and SS76) and 2 WC pile samples. All due back 9/19. Final RIR submitted to CSSA on 11/17/2011. RIR approved - letter dated 2/14/2012.						RIR			