

PROGRESS REPORT

July 1, 2013 – December 31, 2013

(43rd REPORT)



Camp Stanley Storage Activity

Boerne, Texas

USEPA ID No. TX2210020739

January 2014

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ACRONYMS AND ABBREVIATIONS

µg/l	micrograms per liter
1,1-DCE	1,1-dichloroethene
AOC	Area of Concern
APAR	affected property assessment report
APPL	Agriculture & Priority Pollutants Laboratories, Inc.
As	arsenic
Ba	barium
bgs	Below ground surface
BTOC	Below top of casing
CAH	chlorinated aliphatic hydrocarbons
Cd	cadmium
<i>cis</i> -1,2-DCE	<i>cis</i> -1,2-dichloroethene
COC	contaminant of concern
Cr	chromium
CSSA	Camp Stanley Storage Activity
Cu	copper
CY	cubic yard
DO	Dissolved oxygen
DQO	data quality objective
EM	electromagnetic
GAC	granular activated carbon
Hg	mercury
IEUBK	Integrated Exposure and Uptake Biokinetic
IRA	Interim removal action
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
MPMW	multi-port monitoring well
NFA	No Further Action
NH	nonhazardous
Ni	nickel
O&M	operations and maintenance
Order	§3008(h) Administrative Order on Consent
Pb	lead
PBR	permit-by-rule
PCE	tetrachloroethene
PCL	protective concentration level
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
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
<i>trans</i> -1,2-DCE	<i>trans</i> -1,2-dichloroethene
TSW	Treatability study well
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
Zn	zinc

PROGRESS REPORT JULY 1, 2013 – DECEMBER 31, 2013 (43RD PERIOD)

INTRODUCTION

This 43rd 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 July 1, 2013 through December, 2013. 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, until the Order is closed.

Summary of Activities this Period

Between July 1 and December 31, 2013, significant activities related to the Order included:

- Continuation of Solid Waste Management Unit (SWMU) B-3 bioreactor treatability studies;
- Continuation of AOC-65 in-situ chemical oxidation (ISCO) treatability study;
- Continuation of the groundwater monitoring program under the regulator-approved data quality objectives (DQO);
- Completion of a closure investigation of SWMU B-34;
- Submitted Release Investigation Reports (RIR) to the Texas Commission on Environmental Quality (TCEQ) for AOC-75 and Range Management Unit 4 (RMU-4);
- Recycled 29 tons of metal debris and 300 cubic yards of asphalt removed from SWMUs and AOCs;
- Initiated preparation of post-wide risk assessment;
- 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 July 1 through December 31, 2013 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 P43
Interim Measures		30%				99%	
Interim Measures Work Plan	Mitigate a current or potential threat to human health and/or the environment.		7%	99%	7%		No
Interim Measures Implementation			70%	99.5%	70%		No
Reports			23%	99.5%	23%		No
RCRA Facility Investigation		30%				97%	
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%	98%	39%		Yes
Risk Assessment			10%	95%	9.5%		Yes
Investigation Analysis			10%	98%	9.8%		Yes
Groundwater Investigation			15%	98%	14.7%		Yes
Treatability Studies			10%	93%	9.3%		Yes
Progress Reports			5%	98%	4.9%		Yes
Corrective Measures Study		10%				30%	
Identify and Develop Alternatives	Identification, screening, and development of alternatives for removal, containment, treatment, and/or other remediation of the contamination.		15%	50%	8%		Yes
Evaluate Alternatives			60%	36%	22%		Yes
Reports			25%	5%	1%		Yes
Corrective Measures Implementation		30%				44%	
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%	7%	1%		No
Corrective Measure Construction			70%	35%	25%		No
Reports			10%	3%	0.3%		No
% of All Phases Complete						62%	

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 and treatability studies at AOC-65;
- Continuation of bioreactor operation and other treatability studies at SWMU B-3;
- Investigations and/or interim removal action at SWMU B-34;
- Preparation of Basewide Risk Assessment Report; and
- Recycling of metal debris and asphalt previously removed from several SWMUs and AOCs.

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.

Environmental Encyclopedia Updates

The CSSA website (www.stanley.army.mil) was updated with documents added to the Environmental Encyclopedia through the end of December 2013. The website serves as CSSA's Administrative Record as required under the Order. The Environmental Encyclopedia was updated with all final reports through December 2013. Updates made in Period 43 included the following:

July 2013

- Final Release Investigation Report for AOC-75 and Cover Letter
- March 2013 On-Post Groundwater Report
- March 2013 Off-Post Groundwater Report
- Updated Tables 6, 7, and 8 of the Introduction to Groundwater Monitoring Report
- TCEQ Approval of Release Investigation Report for SWMU B-13 (obtained April 2013)
- Semi-Annual EPA Progress Report (Period 42)
- TCEQ Approval of Release Investigation Report for AOC-75

August 2013

- September Groundwater Sample Notification
- TCEQ Approval for Release Investigation Report for RMU-3 (obtained May 2013)

September 2013

- June 2013 Well Owner Letters
- Fact Sheet #33

October 2013

- June 2013 On-Post Groundwater Report
- June 2013 Off-Post Groundwater Report

November 2013

- September 2013 Well Owner Letters
- December Groundwater Sample Notification

Throughout Period 43:

- Various correspondence to and from CSSA;
- 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 (CMS). The CMS will consist of the identification, screening, and development of alternatives for removal, containment, treatment, and/or other remediation of the contamination identified at CSSA. The CMS will be based on results of the RFI, identified corrective measure technologies, and results of any treatability studies. The study will include: identification and development of alternatives (15 percent of CMS), evaluation of alternatives (60 percent), and reports (25 percent). The CMS is currently underway, and a CMS report is expected to be submitted in March 2014 (Period 44). The percent complete values shown in Table 1 are based on the corrective measures that have been evaluated and implemented thus far at SWMU B-3 and AOC-65. 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 43, this task is approximately 97 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 75 CSSA sites has been approved by TCEQ, and of these, 28 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
<ul style="list-style-type: none"> ○ SWMU B-3 ○ AOC-65 	Ongoing treatability study for groundwater.
<ul style="list-style-type: none"> ○ RMU-4 	Remediation effort completed and closure report submitted to TCEQ.
<ul style="list-style-type: none"> ○ SWMU B-34 	Remediation effort completed and closure report being routed for submission.
<ul style="list-style-type: none"> ○ SWMU B-2 ○ SWMU B-8 ○ SWMU B-20/21 ○ SWMU B-24 ○ RMU-1 	Sites located in current active range fan. Closure to be deferred to when range closes, per USEPA Memo re: CSSA North Pasture Fencing (February 29, 2012).

Site Closure Investigations

During Period 43, CSSA continued to conduct field investigations and interim removal actions at SWMU B-34, and met the goal of closing approximately one site per quarter. Investigation and an interim removal action was conducted at one site during this period (SWMU B-34); two NFA RIRs were submitted to TCEQ for approval (AOC-75 and RMU-4), and TCEQ approval was received for the closure of two sites (SWMU B-13 and AOC-75).

SWMU B-34

The excavation effort of the interim removal action at SWMU B-34 was completed on August 6, 2013. Approximately 1,530 CY of contaminated soil, rock, and A2 base material were excavated and properly managed at the East Pasture Berm, and approximately 225 CY of asphalt were transported offsite for recycling. Confirmation samples were collected from trench bottoms and sidewalls to confirm all waste had been removed. A Site-Specific Closure Report requesting NFA for SWMU B-34 will be submitted to TCEQ early in Period 44.

RMU-4

Excavation activities at RMU-4 began on March 4, 2013 and concluded on April 18, 2013. A total of approximately 4,480 CY of soil/material was excavated from the site. This included 4,000 CY of non-hazardous soil which was managed at the East Pasture berm and 160 CY of

concrete material which was recycled off-post at Teslar Concrete Recyclers. An RIR requesting NFA for RMU-4 was submitted to TCEQ on October 24, 2013.

Debris Recycling

In July 2013, approximately 300 cubic yards of asphalt from the parking lot and road associated with the SWMU B-34 project were sent off-post for recycling. All asphalt was previously excavated and stockpiled, then transported to Templar Asphalt Recycling by Maldonado Trucking.

Between October 7 and October 10, 2013, over 29 tons of metal debris was derived from recycling Conex boxes. These Conex boxes were formerly used for target practice in the East Pasture Firing Range. All boxes were inspected and certified free of materials potentially presenting an explosive hazard (MPPEH), transported to Monterrey Iron and Metal, and recycled.

Human/Ecological Risk Assessment Efforts

Parsons followed up with USEPA following the semi-annual regulator meeting on June 27, 2013. Once the methods for the risk characterization were agreed upon, Parsons completed the risk calculations and Draft Baseline Risk Assessment Report for CSSA. The report was made available for CSSA review in December 2013, and it will be submitted to USEPA in January 2014.

Groundwater Investigation

The groundwater investigation subtask makes up approximately 15 percent of the RFI phase. As of the end of Period 43, this task is approximately 98 percent complete.

On- and off-post groundwater monitoring was conducted in accordance with regulator-approved DQOs during Period 43. 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 analyte list for each monitoring event was in accordance with the applicable work plans 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 Pb, Cd, Hg, and Cr. On-post drinking water wells were also sampled for four additional metals: Ba, As, Cu, and Zn. 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.

June 2013 Sampling

Fourteen on-post wells were scheduled for sampling in June 2013 and 6 wells were added to collect background data prior to bringing new drinking water well CS-13 online. Off-post wells scheduled for sampling in June 2013 included 9 private and public drinking water wells.

Thirty-seven Westbay zones from four multi-port wells (WB01-WB04) were also scheduled for sampling.

Sampling was conducted June 12-27, 2013. Analytical results from the June 2013 sampling event are included in Attachment 4. The average groundwater elevation in June 2013 increased 33.15 feet from that measured in March 2013. In San Antonio, water restrictions were at Stage 2; as of May 1, 2012. The Trinity Glen Rose Groundwater Conservation District remained under stage 2 severe drought water restrictions, which went into effect June 1, 2011. The average depth to water in the Lower Glen Rose (LGR) screened wells was 260.32 feet below top of casing (BTOC) or 989.43 feet above mean sea level (msl).

The maximum contaminant level (MCL) was exceeded in on-post monitoring wells CS-MW1-LGR and CS-MW36-LGR for PCE and TCE during the June 2013 event. No on-post wells exceeded the MCL for metals in June 2013. Fourteen of the 37 Westbay zones had PCE and/or TCE detections above the MCL; 6 zones were dry. The Westbay wells were also profiled to collect water level data in the area.

A 36-hour pumping test at future production well CS-13 was completed in June 2013. The pumping test confirmed that the well can sustain 110 gallons per minute (gpm) with a net drawdown of 167 feet below grade. Groundwater sampling did not indicate the presence of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), coliforms, or *e. coli*. Metals, cation, and anion concentrations were all below their established regulatory limits.

Analyses indicated that one off-post well, RFR-10, exceeded the MCL for PCE and TCE. Five other wells (I10-4, LS-5, LS-6, LS-7, and RFR-11) had PCE and/or TCE detections above the reporting limit, but below the MCL.

Semi-annual GAC maintenance was performed July 29, 2013. 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 January 2014.

September 2013 Sampling

Thirty-three on-post wells and 56 private and public off-post wells with 7 post-GAC samples were scheduled for sampling in September 2013 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 September 2013 sampling event are included in Attachment 4.

Sampling was conducted September 3-24, 2013. Average groundwater elevations in September 2013 decreased 43.19 feet from the elevations measured in June 2013. The average depth to water in the LGR screened wells was approximately 302 feet below ground surface.

Twenty-six of the 33 on-post wells scheduled for sampling in September 2013 were sampled. Seven wells were not sampled due to water levels falling below the dedicated bladder pumps. All wells were analyzed for selected VOCs (CSSA short list) and metals (Cr, Cd, Hg, and Pb) additional metals (As, Ba, Cu, and Zn) were collected from the drinking water wells. Fifty-two of the 56 wells scheduled for sampling off-post were collected as well as 6 of the 7 post-GAC samples. One well and one post GAC sample were not collected due to a power disconnection at the property and 3 additional wells were not sampled due to the inability to schedule sampling with the well owner. One new well I10-10 was added to the sampling

schedule. Eight Westbay Well zones were scheduled for sampling in September; these wells were also profiled to collect water level data in the area.

The MCLs for PCE, TCE, and/or *cis*-1,2 DCE were exceeded in monitoring wells CS-MW1-LGR, CS-MW16-LGR, CS-MW16-CC, and CS-MW36-LGR in September 2013. One on-post well CS-MW9-LGR reported chromium above the MCL. Five of the eight Westbay well zones, from WB01-WB04 in the vicinity of AOC-65, had detection of PCE and TCE above the MCL in September 2013.

A total of twelve off-post wells reported detections of PCE and/or TCE during the September 2013 event. One well (RFR-10) exceeded the MCL for PCE. This well is equipped with GAC filtration system. Five wells (I10-4, LS-5, LS-6, LS-7, and RFR-11) reported concentrations below the MCL, but above the RL.

GAC-filtered samples were also collected in September 2013. 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 March 2014 event.

December 2013 Sampling

Five on-post wells are scheduled for sampling during the December 2013 event. Off-post wells scheduled for sampling in December 2013 will include 6 private and public drinking water wells. No Westbay well zones, from four multi-port wells (WB01-WB04), are scheduled for sampling in December 2013; however these wells will be profiled to collect water level data in the area. Sampling was conducted December 2-9, 2013. Laboratory results will be received in January 2014 and summarized in the next progress report.

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 September 2013 event. All VOC results for the post-GAC water samples were non-detect. Carbon canister exchange was completed July 29, 2013 for the off-post GAC systems and will be due again in January 2014.

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 43.

Treatability Studies

The Treatability Study subtask makes up approximately 10 percent of the RFI phase. As of the end of Period 43, this task is approximately 98 percent complete.

SWMU B-3 Bioreactor

During Period 43, two extraction wells were returned to service after being taken off-line for maintenance and electrical upgrades in Period 42. Additionally, new injection lines were installed within trenches 3, 4, and 5 and all trenches have been recharged with mulch and gravel. The added mulch and gravel has effectively filled the trenches up to grade.

SWMU B-3 Bioreactor Performance Status Reports were submitted to CSSA, TCEQ, and USEPA during this period. The reporting frequency is on an annual basis and the next performance status report is scheduled for submission early in Period 45. Approximately 89,000,000 gallons of groundwater extracted from CS-MW16-LGR, CS-MW16-CC, CS-B3-EXW01, CS-B3-EXW02, CS-B3-EXW03, CS-B3-EXW04 and CS-B3-EXW05 have been injected into the bioreactor trenches since the start of injection in 2007. An annual underground injection control (UIC) report was submitted to the TCEQ early in Period 43 (July 2013) in accordance with CSSA's Class V Aquifer Remediation Injection Well Permit, TCEQ Authorization No. 5X2600431; WWC12002216. UIC reports are submitted on an annual basis with the next report scheduled for submission early in Period 45.

Groundwater samples were collected from sumps, monitoring wells, Westbay-equipped wells, and the injection discharge. Sampling frequency was based on permit requirements and water availability. In general, injected groundwater samples are collected quarterly and monitoring samples from Westbay-equipped monitoring wells, injection trench sumps, and additional performance samples are collected semi-annually. 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 on an annual basis with the next report due for submission in Period 45. 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.

During Period 43, the bioreactor remained at saturated conditions due to the continued supply of water from wells CS-MW16-CC, CS-MW16-LGR, B3-EXW01, B3-EXW02, B3-EXW03, B3-EXW04 and B3-EXW05 as well as several heavy rainfall events during the period. Approximately 10,000,000 gallons of water were injected into bioreactor trenches 1 and 6 during Period 43.

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.

AOC-65 SVE System/In-Situ Chemical Oxidation

ISCO treatability study activities during Period 43 include regulatory and performance monitoring sampling following the Period 42 injections (May 2013). Groundwater monitoring of off-post wells with GACs during this period included analyses for metals, VOCs, and anions (chloride, sulfate, and bicarbonate). Additional sampling was completed for on-post VEWs, treatability study wells (TSWs), and Westbay wells within AOC-65. Groundwater monitoring associated with the Period 42 ISCO injections occurred 30, 60, and 90 days following the onset of injections. Scheduled quarterly groundwater monitoring efforts began in November, 2013 following the initial three month period of monthly monitoring (30, 60, and 90-day sampling) associated with an ISCO injection.

Meetings

The Task Order 7 Kick-Off Meeting was held on October 9, 2013 and discussions pertaining to the execution and expectations were addressed. Planning for a public meeting in January was initiated.

Summary of Contacts

Letters summarizing the results of the June and September 2013 off-post groundwater monitoring events were mailed to owners of the off-post wells in Period 43. Groundwater sampling notification letters were sent to the USEPA and TCEQ one month prior to the start of the September 2013 and December 2013 sampling events. Other Order-related correspondence during Period 43 included:

- Submittal of Period 42 Semi-Annual EPA Progress Report (July 10, 2013)
- Submittal of Release Investigation Report for AOC-75 (August 2, 2013)
- Submittal of Release Investigation Report for RMU-4 (October 24, 2013)

PROJECTED WORK FOR THE NEXT PERIOD

SWMU, AOC, and RMU Investigations

A report summarizing investigation results for SWMU B-34 will be submitted upon completion early in Period 44. A summary of the status of investigations and closures of 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 March and June 2014. Quarterly and annual groundwater monitoring reports will be submitted next period. O&M at the residential GAC filtration systems (LS-5, LS-6, LS-7, OFR-3, RFR-10, and RFR-11) will be conducted every three weeks during Period 44. The semi-annual carbon exchange will be performed in January 2014.

SWMU B-3 Bioreactor

Monitoring of the bioreactor at SWMU B-3 will continue during Period 44. 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.

AOC-65 ISCO Treatability Study

CSSA will continue quarterly monitoring of the designated ISCO wells as identified in the *AOC-65 Operation and Monitoring Plan* as part of the performance determination of the ISCO treatability study. Additionally, injection of additional ISCO materials under saturated conditions within AOC-65's upper most vadose zone (i.e., the Upper Glen Rose [UGR] Formation) will be assessed. Saturated conditions are expected within AOC-65 UGR after several days of heavy rainfall events (> 3 inches/day). This will allow delivery of the ISCO material to UGR zones normally impacted during these saturated conditions.

Meetings

Quarterly groundwater meetings will be held prior to quarterly events scheduled in March and June 2014. A public meeting will be held during the second week in January 2014 to inform the public regarding the status of the Order.

**Table 2, Project Task Completion to Date
(Values updated through December 31, 2013)**

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

Project Number	Description of Task	Relation to Order	Percent Complete	Start/End Dates
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 December 31, 2013)**

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%	100%
DO07(Parsons)	Environmental Program Support	RFI	100%	100%
Army Contract TO1 (Parsons)	Program Management	RFI	100%	100%
Army Contract TO2 (Parsons)	O&M, Compliance, & Monitoring	RFI	100%	100%
Army Contract TO3 (Parsons)	Site Investigations and Closures			
	AOC-51	RFI	100%	99.2%
	AOC-74	RFI	100%	100%
	RMU-5	RFI	100%	94.4%
	SWMU B-27	RFI	100%	100%
	AOC-72	RFI	100%	100%
	SWMU B-4	RFI	100%	100%
	SWMU B-13, AOC-75, RMU-4, RMU-3, SWMU B-34	RFI	99%	93%
	Bldg 705	RFI	100%	92%
Army Contract TO4 (Parsons)	Environmental Studies			
	AOC-65	RFI	100%	98%
	AOC-51	RFI	100%	98%
	AOC-65 Water Line Investigation	RFI	100%	98%
Army Contract TO5 (Parsons)	SWMU B-3 EXW-05 Installation	RFI	100%	100%
Army Contract TO6 (Parsons)	Building 95 Controls	RFI/Other	100%	100%
Army Contract TO7 (Parsons)	Environmental Program Support			
	Project Management	RFI	25%	30%
	Environmental SCADA Support	RFI	21%	21%
	SCADA Parts	RFI	59%	59%
	SCADA Instrumentation	RFI	0%	0%
	Data & Information Management	RFI	25%	25%
	MMA Parts	RFI	18%	18%
	Treatability Study	RFI/CMS	18%	18%
	Compliance and Sampling	RFI	0%	0%
	Groundwater Monitoring	RFI	25%	25%

Table 3, Project Team Contact Information

Name	Organization/Role	Street Address	City, State, Zip	Phone No.	Fax No.	E-mail
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
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
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@ecssamma.com
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).	APAR October 2012	Closure				X	February-13	TRRP
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 2005	NA	X				July-05	RRS1
B-13	Trash dump area.	RIR April 2013	Closure		X			July-13	NFA
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
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

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-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	Closure						
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
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

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		
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
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

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		
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	RIR July 2012	Closure		X			October-12	NFA
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
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						

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

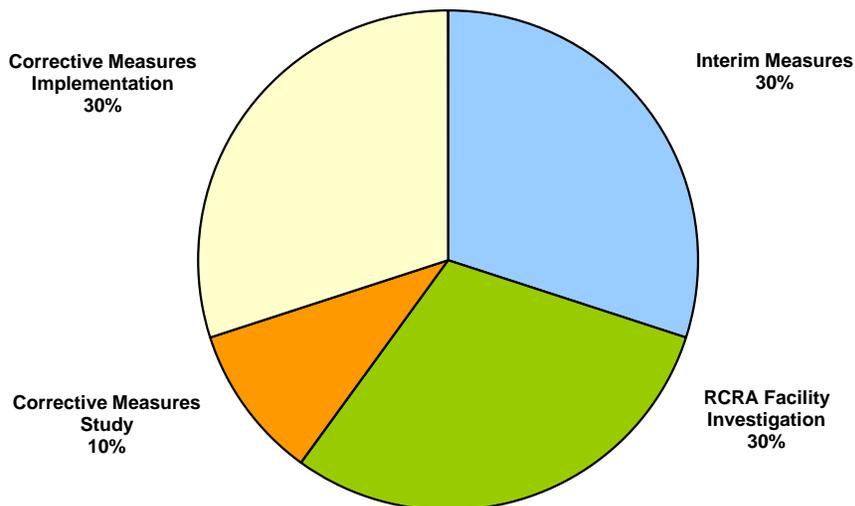
Unit No.	Description	Investigation Report(s)	Recommendations	Requested Action				Closure Approved	Closure Type
				RRS1	NFA	Delisting	TRRP		
AOC-66	Area north of Well 16 in the outer cantonment.	Closure Report June 04	NA	X				February-05	NFA
AOC-67	Concrete pad near Building 90 housed a vat containing 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	NFA
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 11, in northwest corner of CSSA.	RIR September 2008	NA		X			January-09	NFA
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.	RIR July 2013	Closure		x			November-13	NFA
RMU-1	Active firing range in the East Pasture	--	Investigation once range is inactive.						
RMU-2	Rifle range located in the inner cantonment.	RIR November 2011	NA		X			February-12	NFA
RMU-3	Firing range berm.	RIR May 2013	Closure		X			May-13	NFA
RMU-4	Former rifle range in East Pasture.	RIR October 2013	Closure		X				
RMU-5	Former rocket range in North Pasture.	RIR June 2012	Closure		X			September-12	NFA

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%				99%
Interim Measures Work Plan		7%	99%	6.9%	
Interim Measures Implementation Reports		70%	98.2%	68.7%	
		23%	99.7%	22.9%	
RCRA Facility Investigation	30%				97%
Preliminary Report		5%	100%	5%	
RFI Workplan		5%	100%	5%	
Facility Investigation		40%	98%	39%	
Risk Assessment		10%	95%	9%	
Investigation Analysis		10%	98%	10%	
Groundwater Investigation		15%	98%	15%	
Treatability Studies		10%	93%	9%	
Progress Reports		5%	98%	5%	
Corrective Measures Study	10%				30%
Identify and Develop Alternatives		15%	50%	8%	
Evaluate Alternatives		60%	36%	22%	
Reports		25%	5%	1%	
Corrective Measures Implementation	30%				44%
Implementation Program Plan		5%	0%	0%	
Corrective Measure Design		15%	45%	7%	
Corrective Measure Construction		70%	50%	35%	
Reports		10%	25%	3%	
% of Phase Complete					75.11%

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%					98.2%	
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%	100%	3%	0%		
2013 Groundwater Monitoring		3%	100%	3%	0%		
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. After treatability studies.
Determine appropriate disposition of soil piles		5%	100%	5%	0%		Unfunded CSSA future work.
Treat/dispose of soil piles		20%	100%	20%	0%		Not included as IM in the Order.
AOC 50 Excavation and Disposal		3%	100%	3%	0%		
AOC 65 Excavation and Disposal		8%	100%	8%	0%		
3 Reports	23%					99.7%	
Quarterly Progress Report 1 (August 1999)		0.62%	100%	1%	0%		
Quarterly Progress Report 2 (November 1999)		0.62%	100%	1%	0%		
Quarterly Progress Report 3 (February 2000)		0.62%	100%	1%	0%		
Quarterly Progress Report 4 (May 2000)		0.62%	100%	1%	0%		
Quarterly Progress Report 5 (August 2000)		0.62%	100%	1%	0%		
Quarterly Progress Report 6 (November 2000)		0.62%	100%	1%	0%		
Quarterly Progress Report 7 (February 2001)		0.62%	100%	1%	0%		
Quarterly Progress Report 8 (May 2001)		0.62%	100%	1%	0%		
Quarterly Progress Report 9 (August 2001)		0.62%	100%	1%	0%		
Quarterly Progress Report 10 (November 2001)		0.62%	100%	1%	0%		
Quarterly Progress Report 11 (February 2002)		0.62%	100%	1%	0%		
Quarterly Progress Report 12 (May 2002)		0.62%	100%	1%	0%		
Quarterly Progress Report 13 (August 2002)		0.62%	100%	1%	0%		
Quarterly Progress Report 14 (November 2002)		0.62%	100%	1%	0%		
Quarterly Progress Report 15 (February 2003)		0.62%	100%	1%	0%		
Quarterly Progress Report 16 (May 2003)		0.62%	100%	1%	0%		
Quarterly Progress Report 17 (August 2003)		0.62%	100%	1%	0%		
Quarterly Progress Report 18 (November 2003)		0.62%	100%	1%	0%		
Quarterly Progress Report 19 (February 2004)		0.62%	100%	1%	0%		
Quarterly Progress Report 20 (May 2004)		0.62%	100%	1%	0%		
Quarterly Progress Report 21 (August 2004)		0.62%	100%	1%	0%		
Quarterly Progress Report 22 (November 2004)		0.62%	100%	1%	0%		
Quarterly Progress Report 23 (February 2005)		0.62%	100%	1%	0%		
Quarterly Progress Report 24 (May 2005)		0.62%	100%	1%	0%		
Quarterly Progress Report 25 (August 2005)		0.62%	100%	1%	0%		
Quarterly Progress Report 26 (October 2005)		0.62%	100%	1%	0%		
Quarterly Progress Report 27 (January 2006)		0.62%	100%	1%	0%		
Quarterly Progress Report 28 (April 2006)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 29 (Dec 2006)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 30 (July 2007)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 31 (Dec 2007)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 32 (July 2008)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 33 (Dec 2008)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 34 (July 2009)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 35 (Dec 2009)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 36 (July 2010)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 37 (Dec 2010)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 38 (July 2011)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 39 (Dec 2011)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 40 (July 2012)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 41 (Dec 2012)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 42 (July 2013)		0.62%	100%	1%	0%		
Semi-annual Progress Rpt 43 (Dec 2013)		0.62%	100%	1%	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						98.57%	

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%					98.3%	
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%	100%	1.240%	0%		TRRP closure approved Feb 13
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%		Active range
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%	99%	1.228%	1%		NFA closure approved July 13
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%		Site Specific Closure Report being routed for submission
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%		NFA closure approved Sept 10
AOC 68 Investigation/Report		1.24%	100%	1.240%	0%		NFA 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%		NFA closure approved May 12
AOC 73 Investigation/Report		1.24%	100%	1.240%	0%		NFA closure approved July 09
AOC 74 Investigation/Report		1.24%	100%	1.240%	0%		NFA closure approved May 12
AOC 75 Investigation/Report		1.24%	100%	1.240%	0%		NFA closure approved Nov 13
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%		Active range
B-22 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved Dec 02
B-24 Investigation/Report		1.2%	80%	0.976%	20%		Active range
B-29 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved Feb 08
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%		Active range
AOC 38 Investigation/Report		1.2%	100%	1.220%	0%		Closure approved February 05
AOC 51 Investigation/Report		1.2%	100%	1.220%	0%		NFA Closure approved Oct 12
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%		Active range
RMU-5 Investigation/Report		1.2%	100%	1.220%	0%		NFA Closure approved Sept 12
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 an AOC
RMU-2 Investigation/Report		1.2%	100%	1.220%	0%		NFA closure approved Feb 12
RMU-3 Investigation/Report		1.2%	99%	1.207%	1%		NFA closure approved May 13
RMU-4 Investigation/Report		1.2%	99%	1.207%	1%		Final report submitted to TCEQ
Groundwater Investigation	15%					98%	
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%	100%	3%	0%		
Groundwater Monitoring 2013		3.0%	100%	3%	0%		
Conceptual Site Model (CSM)		20.0%	100%	20%	0%		
CSM Update		5.0%	100%	5%	0%		
LTMO 2005 (optimization study)		10%	100%	10%	0%		Complete
LTMO 2010 (review of optimization)		10%	100%	10%	0%		Complete
Risk Assessment	10%					95%	
Draft Report		20%	100%	20%	0%		
Draft Final Report		4%	100%	4%	0%		
Final Report		1%	10%	0%	90%		
Draft CSM		60%	100%	60%	0%		
Update to CSM		10%	100%	10%	0%		
Final CSM		5%	10%	1%	90%		
Investigation Analysis	10%					98%	
Collect Background Data		10%	100%	10%	0%		
Draft Investigation Analysis		85%	100%	85%	0%		
Final Investigation Analysis		5%	60%	3%	40%		Information included in facility investigation reports; percent complete based on overall percent complete of facility investigation tasks.
Treatability Studies	10%					93%	
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%	100%	10%	0%		
Draft Treatability Study & Technology Evaluation Reports		10%	100%	10%	0%		
Final Treatability Study Report		25%	70%	18%	30%		
Recharge Study		25%	100%	25%	0%		
Progress Reports	5%					97.8%	
Quarter 1 (August 1999)		2.22%	100%	2.22%	0%		
Quarter 2 (November 1999)		2.22%	100%	2.22%	0%		
Quarter 3 (February 2000)		2.22%	100%	2.22%	0%		
Quarter 4 (May 2000)		2.22%	100%	2.22%	0%		
Quarter 5 (August 2000)		2.22%	100%	2.22%	0%		
Quarter 6 (November 2000)		2.22%	100%	2.22%	0%		
Quarter 7 (February 2001)		2.22%	100%	2.22%	0%		
Quarter 8 (May 2001)		2.22%	100%	2.22%	0%		
Quarter 9 (August 2001)		2.22%	100%	2.22%	0%		
Quarter 10 (November 2001)		2.22%	100%	2.22%	0%		
Quarter 11 (February 2002)		2.22%	100%	2.22%	0%		
Quarter 12 (May 2002)		2.22%	100%	2.22%	0%		
Quarter 13 (August 2002)		2.22%	100%	2.22%	0%		
Quarter 14 (November 2002)		2.22%	100%	2.22%	0%		
Quarter 15 (February 2003)		2.22%	100%	2.22%	0%		
Quarter 16 (May 2003)		2.22%	100%	2.22%	0%		
Quarter 17 (August 2003)		2.22%	100%	2.22%	0%		
Quarter 18 (November 2003)		2.22%	100%	2.22%	0%		
Quarter 19 (February 2004)		2.22%	100%	2.22%	0%		
Quarter 20 (May 2004)		2.22%	100%	2.22%	0%		
Quarter 21 (August 2004)		2.22%	100%	2.22%	0%		
Quarter 22 (November 2004)		2.22%	100%	2.22%	0%		
Quarter 23 (February 2005)		2.22%	100%	2.22%	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)		2.22%	100%	2.22%	0%		
Quarter 25 (August 2005)		2.22%	100%	2.22%	0%		
Quarter 26 (November 2005)		2.22%	100%	2.22%	0%		
Quarter 27 (February 2006)		2.22%	100%	2.22%	0%		
Quarter 28 (May 2006)		2.22%	100%	2.22%	0%		
Semi-Annual 29 (December 2006)		2.22%	100%	2.22%	0%		
Semi-Annual 30 (July 2007)		2.22%	100%	2.22%	0%		
Semi-Annual 31 (December 2007)		2.22%	100%	2.22%	0%		
Semi-Annual 32 (July 2008)		2.22%	100%	2.22%	0%		
Semi-Annual 33 (December 2008)		2.22%	100%	2.22%	0%		
Semi-Annual 34 (July 2009)		2.22%	100%	2.22%	0%		
Semi-Annual 35 (December 2009)		2.22%	100%	2.22%	0%		
Semi-Annual 36 (July 2010)		2.22%	100%	2.22%	0%		
Semi-Annual 37 (December 2010)		2.22%	100%	2.22%	0%		
Semi-Annual 38 (July 2011)		2.22%	100%	2.22%	0%		
Semi-Annual 39 (December 2011)		2.22%	100%	2.22%	0%		
Semi-Annual 40 (July 2012)		2.22%	100%	2.22%	0%		
Semi-Annual 40 (July 2012)		2.22%	100%	2.22%	0%		
Semi-Annual 41 (December 2012)		2.22%	100%	2.22%	0%		
Semi-Annual 42 (July 2013)		2.22%	100%	2.22%	0%		
Semi-Annual 43 (December 2013)		2.22%	100%	2.22%	0%		
% of Phase Complete						97.42%	
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 3
Overall (H) Order Percent Complete

Task Name	% of Phase	% of Task	% Complete	% of Activity Complete	% of Task Complete
Identify and Develop Alternatives	15%				50.0%
Update DCC Report		35%	75%	26%	
Establish Corrective Action Objectives		30%	50%	15%	
ID, Screen, Develop CM Alternatives		35%	25%	9%	
Evaluate Alternatives	60%				36.0%
Draft Description of CM Alternative		90%	40%	36%	
Final Description of CM Alternative		10%	0%	0%	
Reports	25%				5.0%
Draft CMS Report		75%	0%	0%	
Final CMS Report		5%	0%	0%	
Quarter 1 Progress Report (Period 43)		5%	100%	5%	
Quarter 2 Progress Report		5%	0%	0%	
Quarter 3 Progress Report		5%	0%	0%	
Quarter 4 Progress Report		5%	0%	0%	
% of Phase Complete					91.0%

Attachment 3
Overall (H) Order Percent Complete

Task Name	% of Phase	% of Task	% Complete	% of Activity Complete	% of Task Complete
Implementation Program Plan	5%				0.0%
Draft Program Management Plan		40%	0%	0%	
Final Program Management Plan		10%	0%	0%	
Draft Update to CRP		40%	0%	0%	
Final Update to CRP		10%	0%	0%	
Corrective Measure Design	15%				45%
Draft CMD Report		90%	50%	45%	
Final CMD Report		10%	0%	0%	
Corrective Measure Construction	70%				50%
Draft Construction QAPP		35%	50%	18%	
Final Construction QAPP		5%	50%	3%	
Implementation of Construction QAPP		60%	50%	30%	
Reports	10%				25%
Progress Report 1 (Period 43)		25%	100%	25%	
Progress Report 2		25%	0%	0%	
Progress Report 3		25%	0%	0%	
Progress Report 4		25%	0%	0%	
% of Phase Complete					120.00%

ATTACHMENT 4

GROUNDWATER RESULTS SUMMARY

Attachment 4
June 2013 Quarterly On-Post Groundwater Monitoring Analytical Results

Well ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Zinc	Mercury
CS-MW1-LGR	6/17/2013	NA	NA	0.0005U	0.0011F	NA	0.0019U	NA	0.0001U
CS-MW1-CC	6/17/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-MW2-CC	6/17/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-MW4-LGR	6/17/2013	NA	NA	0.0005U	0.0023F	NA	0.0019U	NA	0.0001U
CS-MW8-LGR	6/19/2013	NA	NA	0.0005U	0.0012F	NA	0.0019U	NA	0.0001U
CS-MW8-LGR FD	6/19/2013	NA	NA	0.0005U	0.0013F	NA	0.0019U	NA	0.0001U
CS-MW10-LGR	6/18/2013	NA	NA	0.0005U	0.0015F	NA	0.0019U	NA	0.0001U
CS-MW11A-LGR	6/18/2013	NA	NA	0.0005U	0.0015F	NA	0.0019U	NA	0.0001U
CS-MW17-LGR	6/18/2013	NA	NA	0.0005U	0.0012F	NA	0.0019U	NA	0.0001U
CS-MW21-LGR	6/18/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-MW24-LGR	6/25/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-MW35-LGR	6/25/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-MW35-LGR FD	6/25/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-MW36-LGR	6/19/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-4	6/25/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-9	6/25/2013	NA	NA	0.0005U	0.0010U	NA	0.0093F	NA	0.0012
CSSA Drinking Water Well System									
CS-1	6/25/2013	0.0002U	0.0352	0.0005U	0.0010U	0.005F	0.0019U	0.268	0.0001M
CS-10	6/25/2013	0.0002U	0.0378	0.0005U	0.0010U	0.003U	0.0019U	0.050	0.0001U
CS-12	6/25/2013	0.0002U	0.0304	0.0005U	0.0010U	0.015	0.0019U	0.125	0.0001U
CS-12 FD	6/25/2013	0.0002U	0.0308	0.0005U	0.0010U	0.008F	0.0019U	0.104	0.0001U
CS-13	6/17/2013	0.0015F	0.0326	0.0005U	0.0010U	0.003U	NA	0.48	0.0001U

Well ID	Sample Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
CS-MW1-LGR	6/17/2013	0.12U	18.74	0.19F	13.97	30.39	0.08U
CS-MW1-CC	6/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW2-CC	6/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW4-LGR	6/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW8-LGR	6/19/2013	0.12U	0.07U	0.08U	2.48	0.05U	0.08U
CS-MW8-LGR FD	6/19/2013	0.12U	0.07U	0.08U	2.56	0.05U	0.08U
CS-MW10-LGR	6/18/2013	0.12U	0.07U	0.08U	2.08	0.42F	0.08U
CS-MW11A-LGR	6/18/2013	0.12U	0.07U	0.08U	0.81F	0.05U	0.08U
CS-MW17-LGR	6/18/2013	0.12U	0.07U	0.08U	0.48F	0.05U	0.08U
CS-MW21-LGR	6/18/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW24-LGR	6/25/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW35-LGR	6/25/2013	0.12U	0.07U	0.08U	0.79F	0.05U	0.08U
CS-MW35-LGR FD	6/25/2013	0.12U	0.07U	0.08U	0.84F	0.05U	0.08U
CS-MW36-LGR	6/19/2013	0.12U	0.07U	0.08U	7.65	6.3	0.08U
CS-4	6/25/2013	0.12U	0.07U	0.08U	0.64F	0.55F	0.08U
CS-9	6/25/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CSSA Drinking Water Well System							
CS-1	6/25/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-10	6/25/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-12	6/25/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-12 FD	6/25/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-13	6/17/2013	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

June 2013 Quarterly On-Post Groundwater Monitoring Analytical Results

SAMPLE ID:		CS-13		CS-MW1-CC		CS-MW2-CC	
DATE SAMPLED:		6/17/2013		6/17/2013		6/17/2013	
Coliforms - A9223	Units	Result	Flag	Result	Flag	Result	Flag
E. Coli	F/NF	NF	U	NF	U	NF	U
Total Coliforms	F/NF	NF	U	NF	U	NF	U
Volatile Organics - SW8260B							
1,1,1,2-Tetrachloroethane	µg/L	0.090	U	NA		NA	
1,1,1-Trichloroethane	µg/L	0.030	U	NA		NA	
1,1,2,2-Tetrachloroethane	µg/L	0.070	U	NA		NA	
1,1,2-Trichloroethane	µg/L	0.060	U	NA		NA	
1,1-Dichloroethane	µg/L	0.070	U	NA		NA	
1,1-Dichloroethene	µg/L	0.12	U	NA		NA	
1,1-Dichloropropene	µg/L	0.10	U	NA		NA	
1,2,3-Trichlorobenzene	µg/L	0.24	U	NA		NA	
1,2,3-Trichloropropane	µg/L	0.17	U	NA		NA	
1,2,4-Trichlorobenzene	µg/L	0.16	U	NA		NA	
1,2,4-Trimethylbenzene	µg/L	0.040	U	NA		NA	
1,2-Dibromo-3-chloropropane	µg/L	0.76	U	NA		NA	
1,2-Dibromoethane (EDB)	µg/L	0.060	U	NA		NA	
1,2-Dichlorobenzene	µg/L	0.020	U	NA		NA	
1,2-Dichloroethane	µg/L	0.050	U	NA		NA	
1,2-Dichloropropane	µg/L	0.060	U	NA		NA	
1,3,5-Trimethylbenzene (Mesitylene)	µg/L	0.040	U	NA		NA	
1,3-Dichlorobenzene	µg/L	0.030	U	NA		NA	
1,3-Dichloropropane	µg/L	0.050	U	NA		NA	
1,4-Dichlorobenzene	µg/L	0.070	U	NA		NA	
1-Chlorohexane	µg/L	0.040	U	NA		NA	
2,2-Dichloropropane	µg/L	0.10	U	NA		NA	
2-Chlorotoluene	µg/L	0.040	U	NA		NA	
4-Chlorotoluene	µg/L	0.040	U	NA		NA	
Benzene	µg/L	0.070	U	NA		NA	
Bromobenzene	µg/L	0.060	U	NA		NA	
Bromochloromethane	µg/L	0.11	U	NA		NA	
Bromodichloromethane	µg/L	0.060	U	NA		NA	
Bromoform	µg/L	0.13	U	NA		NA	
Bromomethane	µg/L	0.080	U	NA		NA	
Carbon tetrachloride	µg/L	0.060	U	NA		NA	
Chlorobenzene	µg/L	0.040	U	NA		NA	
Chloroethane	µg/L	0.070	U	NA		NA	
Chloroform	µg/L	0.060	U	NA		NA	
Chloromethane	µg/L	0.16	U	NA		NA	
cis-1,2-Dichloroethene	µg/L	0.070	U	NA		NA	
cis-1,3-Dichloropropene	µg/L	0.030	U	NA		NA	
Dibromochloromethane	µg/L	0.060	U	NA		NA	
Dibromomethane	µg/L	0.060	U	NA		NA	
Dichlorodifluoromethane	µg/L	0.11	U	NA		NA	
Ethylbenzene	µg/L	0.050	U	NA		NA	
Hexachlorobutadiene	µg/L	0.17	U	NA		NA	
Isopropylbenzene	µg/L	0.040	U	NA		NA	
m,p-Xylene	µg/L	0.070	U	NA		NA	
Methylene chloride	µg/L	0.35	U	NA		NA	
Naphthalene	µg/L	0.070	U	NA		NA	

Attachment 4

June 2013 Quarterly On-Post Groundwater Monitoring Analytical Results

SAMPLE ID:		CS-13		CS-MW1-CC	CS-MW2-CC
DATE SAMPLED:		6/17/2013		6/17/2013	6/17/2013
n-Butylbenzene	µg/L	0.17	U	NA	NA
n-Propylbenzene	µg/L	0.030	U	NA	NA
o-Xylene	µg/L	0.060	U	NA	NA
p-Cymene (p-Isopropyltoluene)	µg/L	0.050	U	NA	NA
sec-Butylbenzene	µg/L	0.050	U	NA	NA
Styrene	µg/L	0.080	U	NA	NA
tert-Butylbenzene	µg/L	0.040	U	NA	NA
Tetrachloroethene (PCE)	µg/L	0.060	U	NA	NA
Toluene	µg/L	0.060	U	NA	NA
trans-1,2-Dichloroethene	µg/L	0.080	U	NA	NA
trans-1,3-Dichloropropene	µg/L	0.040	U	NA	NA
Trichloroethene (TCE)	µg/L	0.050	U	NA	NA
Trichlorofluoromethane	µg/L	0.070	U	NA	NA
Vinyl chloride	µg/L	0.080	U	NA	NA
Semi-Volatile Organics - SW8270C					
1,2,4-Trichlorobenzene	µg/L	1.5	U	NA	NA
1,2-Dichlorobenzene	µg/L	1.6	U	NA	NA
1,3-Dichlorobenzene	µg/L	1.2	U	NA	NA
1,4-Dichlorobenzene	µg/L	1.6	U	NA	NA
2,4,5-Trichlorophenol	µg/L	1.9	U	NA	NA
2,4,6-Trichlorophenol	µg/L	1.8	U	NA	NA
2,4-Dichlorophenol	µg/L	1.6	U	NA	NA
2,4-Dimethylphenol	µg/L	1.2	U	NA	NA
2,4-Dinitrophenol	µg/L	1.6	U	NA	NA
2,4-Dinitrotoluene	µg/L	1.7	U	NA	NA
2,6-Dinitrotoluene	µg/L	2.1	U	NA	NA
2-Chloronaphthalene	µg/L	2.0	U	NA	NA
2-Chlorophenol	µg/L	1.1	U	NA	NA
2-Methyl-4,6-dinitrophenol	µg/L	2.0	U	NA	NA
2-Methylnaphthalene	µg/L	1.1	U	NA	NA
2-Methylphenol	µg/L	1.4	U	NA	NA
2-Nitroaniline	µg/L	2.0	U	NA	NA
2-Nitrophenol	µg/L	1.9	U	NA	NA
3,3'-Dichlorobenzidine	µg/L	2.6	U	NA	NA
3-Nitroaniline	µg/L	2.4	U	NA	NA
4-Bromophenyl phenyl ether	µg/L	2.0	U	NA	NA
4-Chloro-3-methyl phenol	µg/L	1.4	U	NA	NA
4-Chloroaniline	µg/L	3.0	U	NA	NA
4-Chlorophenyl phenyl ether	µg/L	1.9	U	NA	NA
4-Methylphenol (p-cresol)	µg/L	1.1	U	NA	NA
4-Nitroaniline	µg/L	2.4	U	NA	NA
4-Nitrophenol	µg/L	1.1	U	NA	NA
Acenaphthene	µg/L	1.8	U	NA	NA
Acenaphthylene	µg/L	1.4	U	NA	NA
Anthracene	µg/L	2.2	U	NA	NA
Benzo(a)anthracene	µg/L	1.7	U	NA	NA
Benzo(a)pyrene	µg/L	1.9	U	NA	NA
Benzo(b)fluoranthene	µg/L	3.1	U	NA	NA
Benzo(g,h,i)perylene	µg/L	2.5	U	NA	NA
Benzoic acid	µg/L	2.4	U	NA	NA

Attachment 4

June 2013 Quarterly On-Post Groundwater Monitoring Analytical Results

SAMPLE ID:		CS-13		CS-MW1-CC	CS-MW2-CC
DATE SAMPLED:		6/17/2013		6/17/2013	6/17/2013
Benzyl alcohol	µg/L	1.2	U	NA	NA
Benzyl butyl phthalate	µg/L	1.7	U	NA	NA
bis(2-Chloroethoxy)methane	µg/L	1.3	U	NA	NA
bis(2-Chloroethyl)ether	µg/L	1.4	U	NA	NA
bis(2-Chloroisopropyl)ether	µg/L	1.1	U	NA	NA
bis(2-Ethylhexyl) phthalate	µg/L	1.7	U	NA	NA
Chrysene	µg/L	1.6	U	NA	NA
Dibenzo(a,h)anthracene	µg/L	2.5	U	NA	NA
Dibenzofuran	µg/L	1.6	U	NA	NA
Diethyl phthalate	µg/L	1.8	U	NA	NA
Dimethyl phthalate	µg/L	1.9	U	NA	NA
Di-n-butyl phthalate	µg/L	2.2	U	NA	NA
Di-n-octyl phthalate	µg/L	1.8	U	NA	NA
Fluoranthene	µg/L	2.3	U	NA	NA
Fluorene	µg/L	1.8	U	NA	NA
Hexachlorobenzene	µg/L	1.8	U	NA	NA
Hexachlorobutadiene	µg/L	1.7	U	NA	NA
Hexachlorocyclopentadiene	µg/L	1.1	U	NA	NA
Hexachloroethane	µg/L	1.5	U	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2.4	U	NA	NA
Isophorone	µg/L	1.3	U	NA	NA
Naphthalene	µg/L	1.9	U	NA	NA
Nitrobenzene	µg/L	1.6	U	NA	NA
n-Nitrosodi-n-propylamine	µg/L	1.9	U	NA	NA
n-Nitrosodiphenylamine	µg/L	5.2	U	NA	NA
Pentachlorophenol	µg/L	2.7	U	NA	NA
Phenanthrene	µg/L	2.0	U	NA	NA
Phenol	µg/L	0.79	U	NA	NA
Pyrene	µg/L	1.5	U	NA	NA
Metals -SW6010B					
Aluminum	mg/L	0.03	F	NA	NA
Antimony	mg/L	0.0018	U	NA	NA
Arsenic	mg/L	0.0015	F	NA	NA
Barium	mg/L	0.0326		NA	NA
Beryllium	mg/L	0.00020	U	NA	NA
Cadmium	mg/L	0.00050	U	NA	NA
Chromium	mg/L	0.0010	U	NA	NA
Copper	mg/L	0.0030	U	NA	NA
Iron	mg/L	0.08	F	NA	NA
Manganese	mg/L	0.005		NA	NA
Mercury	mg/L	0.00010	U	NA	NA
Selenium	mg/L	0.0032	U	NA	NA
Silver	mg/L	0.0010	U	NA	NA
Thallium	mg/L	0.0010	U	NA	NA
Zinc	mg/L	0.48		NA	NA
Anions - SW9056					
Chloride	mg/L	18.23		NA	NA
Fluoride	mg/L	1.2		NA	NA
Nitrate as N	mg/L	0.030	U	NA	NA
Nitrite as N	mg/L	0.040	U	NA	NA

Attachment 4

June 2013 Quarterly On-Post Groundwater Monitoring Analytical Results

SAMPLE ID:		CS-13	CS-MW1-CC	CS-MW2-CC
DATE SAMPLED:		6/17/2013	6/17/2013	6/17/2013
Sulfate	mg/L	84.18	NA	NA
TDS - E160.1				
Total Dissolved Solids	mg/L	386	NA	NA
Gross Alpha/Beta - E900				
Alpha, Gross	PCI/L	2.81 ± 0.89 LT	NA	NA
Beta, Gross	PCI/L	5.8 ± 1.3	NA	NA
Radium-228 - E904.0				
Radium-228	PCI/L	0.14 ± 0.20 U	NA	NA

Abbreviations/Notes:

NA - Not analyzed for this parameter

NF - Not Found

F - Found

µg/L - micrograms per liter

mg/L - milligrams per liter

PCI/L - picocuries per liter

Data Qualifiers/Flags:

No Flag & **Bold** = Confirmed identification

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
June 2013 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	6/26/2013	0.12U	0.07U	0.08U	3.88	1.6	0.08U
LS-5	6/19/2013	0.12U	0.07U	0.08U	0.84F	2.34	0.08U
LS-5-A2	6/19/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
LS-6	6/19/2013	0.12U	0.07U	0.08U	0.68F	2.97	0.08U
LS-6-A2	6/19/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
LS-7	6/19/2013	0.12U	0.07U	0.08U	1.68	0.24F	0.08U
LS-7-A2	6/19/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-10	6/19/2013	0.12U	0.28F	0.08U	12.82	8.73	0.08U
RFR-10-A2	6/19/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-10-B2	6/19/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-11	6/19/2013	0.12U	0.07U	0.08U	0.64F	2.32	0.08U
RFR-11-A2	6/19/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-BARNOWL	6/26/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-HH2	6/26/2013	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.

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
June 2013 Westbay Analytical Results

Well ID	Date Sampled	1,1-DCE	cis-1,2-DCE	TCE	PCE	trans-1,2-DCE	Vinyl Chloride
CS-WB01-LGR-01	6/13/2013	<0.12	<0.07	0.28F	2.79	<0.08	<0.08
CS-WB01-LGR-02	6/13/2013	<0.12	<0.07	2.76	9.29	<0.08	<0.08
CS-WB01-LGR-03	6/13/2013	<0.12	<0.07	9.77	2.54	<0.08	<0.08
CS-WB01-LGR-04	6/13/2013	<0.12	0.11F	0.13F	<0.06	<0.08	<0.08
CS-WB01-LGR-05	6/13/2013	<0.12	<0.07	<0.05	0.33F	<0.08	<0.08
CS-WB01-LGR-06	6/13/2013	<0.12	0.55F	0.82F	0.29F	<0.08	<0.08
CS-WB01-LGR-07	6/13/2013	<0.12	0.21F	11.51	11.25	<0.08	<0.08
CS-WB01-LGR-08	6/13/2013	<0.12	1.59	9.45	5.57	<0.08	<0.08
CS-WB01-LGR-09	6/13/2013	<0.12	0.53F	12.24	8.57	<0.08	<0.08
CS-WB02-LGR-01	6/12/2013	<0.12	<0.07	0.36F	2.38	<0.08	<0.08
CS-WB02-LGR-03	6/12/2013	<0.12	<0.07	1.91	4.73	<0.08	<0.08
CS-WB02-LGR-04	6/12/2013	<0.12	<0.07	8.79	4.18	<0.08	<0.08
CS-WB02-LGR-05	6/12/2013	<0.12	<0.07	2.66	2.58	<0.08	<0.08
CS-WB02-LGR-06	6/12/2013	<0.12	0.23F	3.37	3.04	0.21F	<0.08
CS-WB02-LGR-07	6/12/2013	<0.12	0.32F	0.72F	2.13	<0.08	<0.08
CS-WB02-LGR-08	6/12/2013	<0.12	1.96	0.73F	4.05	0.54F	<0.08
CS-WB02-LGR-09	6/12/2013	<0.12	0.32F	11.04	105.84*	<0.08	<0.08
CS-WB03-UGR-01	6/12/2013	<3.00**	<1.75**	70.67**	8678.10***	<2.00**	<2.00**
CS-WB03-LGR-03	6/12/2013	<0.12	0.15F	7.21	13.32	<0.08	<0.08
CS-WB03-LGR-04	6/12/2013	<0.12	<0.07	5.86	11.96	<0.08	<0.08
CS-WB03-LGR-05	6/12/2013	<0.12	<0.07	5.35	13.88	<0.08	<0.08
CS-WB03-LGR-06	6/12/2013	<0.12	0.75F	1.16	1.62	<0.08	<0.08
CS-WB03-LGR-07	6/12/2013	<0.12	9.77	1.89	0.48F	<0.08	<0.08
CS-WB03-LGR-08	6/12/2013	<0.12	4.46	0.96F	0.21F	<0.08	0.42F
CS-WB03-LGR-09	6/12/2013	<0.12	8.93	2.07	1.59	<0.08	<0.08
CS-WB04-LGR-06	6/20/2013	<0.12	3.54	12.62	39.18	0.40F	<0.08
CS-WB04-LGR-07	6/20/2013	<0.12	2.51	7.02	19.07	0.23F	<0.08
CS-WB04-LGR-08	6/20/2013	<0.12	<0.07	0.98F	0.39F	<0.08	<0.08
CS-WB04-LGR-09	6/20/2013	<0.12	<0.07	5.86	6.05	<0.08	<0.08
CS-WB04-LGR-10	6/20/2013	<0.12	<0.07	0.73F	1.37F	<0.08	<0.08
CS-WB04-LGR-11	6/20/2013	<0.12	<0.07	<0.05	0.24F	<0.08	<0.08

Data Qualifiers:

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

* The analyte was run at a dilution of 5.

** The analyte was run at a dilution of 25.

*** The analyte was run at a dilution of 200.

All values are reported in µg/L.

Abbreviations/Notes:

TCE Trichloroethene
PCE Tetrachloroethene
DCE Dichloroethene

BOLD	≥ MDL
BOLD	≥ RL
BOLD	≥ MCL

Attachment 4
September 2013 Quarterly On-Post Groundwater Monitoring Analytical Results

Well ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Zinc	Mercury
CS-MW1-LGR	9/4/2013	NA	NA	0.0005U	0.0045F	NA	0.0019U	NA	0.0001U
CS-MW2-LGR	9/4/2013	NA	NA	0.0005U	0.0011F	NA	0.0019U	NA	0.0001U
CS-MW3-LGR	9/4/2013	NA	NA	0.0005U	0.0035F	NA	0.0019U	NA	0.0001U
CS-MW5-LGR	9/4/2013	NA	NA	0.0005U	0.0042F	NA	0.0019U	NA	0.0001U
CS-MW6-LGR	9/17/2013	NA	NA	0.0005U	0.0023F	NA	0.0019U	NA	0.0001U
CS-MW7-LGR	9/19/2013	NA	NA	0.0005U	0.0016F	NA	0.0019U	NA	0.0001U
CS-MW8-LGR	9/17/2013	NA	NA	0.0005U	0.0014F	NA	0.0019U	NA	0.0001U
CS-MW9-LGR	9/19/2013	NA	NA	0.0005U	0.2369	NA	0.0019U	NA	0.0001U
CS-MW11A-LGR	9/5/2013	NA	NA	0.0005U	0.0022F	NA	0.0019U	NA	0.0001U
CS-MW12-LGR	9/19/2013	NA	NA	0.0005U	0.0020F	NA	0.0019U	NA	0.0001U
CS-MW16-LGR	9/5/2013	NA	NA	0.0005U	0.0011F	NA	0.0019U	NA	0.0001U
CS-MW16-CC	9/5/2013	NA	NA	0.0005U	0.0014F	NA	0.0019U	NA	0.0001U
CS-MW19-LGR	9/5/2013	NA	NA	0.0005U	0.0027F	NA	0.0019U	NA	0.0001U
CS-MW20-LGR	9/16/2013	NA	NA	0.0005U	0.0011F	NA	0.0019U	NA	0.0001U
CS-MW21-LGR	9/16/2013	NA	NA	0.0005U	0.0019F	NA	0.0019U	NA	0.0001U
CS-MW21-LGR FD	9/16/2013	NA	NA	0.0005U	0.0019F	NA	0.0019U	NA	0.0001U
CS-MW22-LGR	9/16/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-MW23-LGR	9/16/2013	NA	NA	0.0005U	0.0015F	NA	0.0019U	NA	0.0001U
CS-MW24-LGR	9/4/2013	NA	NA	0.0005U	0.0011F	NA	0.0019U	NA	0.0001U
CS-MW25-LGR	9/4/2013	NA	NA	0.0005U	0.0098F	NA	0.0019U	NA	0.0001U
CS-MW35-LGR	9/5/2013	NA	NA	0.0005U	0.0025F	NA	0.0019U	NA	0.0001U
CS-MW36-LGR	9/17/2013	NA	NA	0.0005U	0.0010U	NA	0.0019U	NA	0.0001U
CS-2	9/5/2013	NA	NA	0.0005U	0.0011F	NA	0.0019U	NA	0.0001U
CS-2 FD	9/5/2013	NA	NA	0.0005U	0.0011F	NA	0.0019U	NA	0.0001U
CS-9	9/23/2013	NA	NA	0.0005U	0.0022F	NA	0.0124F	NA	0.0018
CSSA Drinking Water Well System									
CS-1	9/23/2013	0.0002U	0.0314	0.0005U	0.0010U	0.004F	0.0019U	0.407	0.0001U
CS-10	9/23/2013	0.0002U	0.0403	0.0005U	0.0010U	0.005F	0.0019U	0.049F	0.0001U
CS-10 FD	9/23/2013	0.0002U	0.0397	0.0005U	0.0010U	0.008F	0.0019U	0.067	0.0001U
CS-12	9/23/2013	0.0002U	0.0305	0.0005U	0.0010U	0.036	0.0019U	0.124	0.0001U

Well ID	Sample Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride
CS-MW1-LGR	9/4/2013	0.12U	14.37	0.29F	11.92	17.69	0.08U
CS-MW2-LGR	9/4/2013	0.12U	0.51F	0.08U	0.06U	0.05U	0.08U
CS-MW3-LGR	9/4/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW5-LGR	9/4/2013	0.12U	0.76F	0.08U	0.96F	1.03	0.08U
CS-MW6-LGR	9/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW7-LGR	9/19/2013	0.12U	0.07U	0.08U	0.68F	0.05U	0.08U
CS-MW8-LGR	9/17/2013	0.12U	0.07U	0.08U	1.4	0.05U	0.08U
CS-MW9-LGR	9/19/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW11A-LGR	9/5/2013	0.12U	0.07U	0.08U	0.97F	0.05U	0.08U
CS-MW12-LGR	9/19/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW16-LGR	9/5/2013	0.12U	84.59	0.08U	83.04	98.38	0.08U
CS-MW16-CC	9/5/2013	0.13F	16.27	6.75	0.40F	8.89	0.08U
CS-MW19-LGR	9/5/2013	0.12U	0.07U	0.08U	0.52F	0.05U	0.08U
CS-MW20-LGR	9/16/2013	0.12U	0.07U	0.08U	1.19F	0.05U	0.08U
CS-MW21-LGR	9/16/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW21-LGR FD	9/16/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW22-LGR	9/16/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW23-LGR	9/16/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW24-LGR	9/4/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW25-LGR	9/4/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-MW35-LGR	9/5/2013	0.12U	0.07U	0.08U	0.69F	0.05U	0.08U
CS-MW36-LGR	9/17/2013	0.12U	0.78F	0.08U	16.44	29.2	0.08U
CS-2	9/5/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-2 FD	9/5/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-9	9/23/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CSSA Drinking Water Well System							
CS-1	9/23/2013	0.12U	0.07U	0.08U	0.06U	0.32F	0.08U
CS-10	9/23/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-10 FD	9/23/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
CS-12	9/23/2013	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
September 2013 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
BSR-03	9/13/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
BSR-04	9/12/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
FO-8	9/9/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
FO-17	9/9/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
FO-22	9/9/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
FO-J1	9/13/2013	0.12U	0.07U	0.08U	0.24F	0.05U	0.08U
HS-1	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
HS-2	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
HS-3	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
I10-2	9/9/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
I10-4	9/9/2013	0.12U	0.07U	0.08U	3.36	1.7	0.08U
I10-5	9/9/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
I10-7	9/9/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
I10-8	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
I10-8 FD	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
I10-10	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-5	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-6	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-6 FD	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-7	9/10/2013	0.12U	0.07U	0.08U	0.32F	0.05U	0.08U
JW-8	9/11/2013	0.12U	0.07U	0.08U	0.26F	0.05U	0.08U
JW-9	9/13/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-13	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-15	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-27	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-28	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-29	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-30	9/12/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
JW-31	9/12/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
LS-1	9/11/2013	0.12U	0.07U	0.08U	0.72F	0.05U	0.08U
LS-4	9/11/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
LS-5	9/17/2013	0.12U	0.07U	0.08U	0.95F	2.67	0.08U
LS-5 FD	9/17/2013	0.12U	0.07U	0.08U	1.01F	2.7	0.08U
LS-5-A2	9/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
LS-6	9/17/2013	0.12U	0.07U	0.08U	0.68F	2.12	0.08U
LS-6-A2	9/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
LS-7	9/17/2013	0.12U	0.07U	0.08U	1.87	0.19F	0.08U
LS-7-A2	9/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-BARNOWL	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-CE1	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-CE2	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-HH1	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-HH2	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-HH2 FD	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-HH3	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-DAIRYWELL	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OW-MT2	9/10/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OFR-1	9/13/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U

Attachment 4
September 2013 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
OFR-1 FD	9/13/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
OFR-4	9/13/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-3	9/12/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-4	9/12/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-5	9/12/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-5 FD	9/12/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-8	9/12/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-10	9/17/2013	0.12U	0.07U	0.08U	7.41	2.26	0.08U
RFR-10-A2	9/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-10-B2	9/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-11	9/17/2013	0.12U	0.07U	0.08U	0.65F	2.12	0.08U
RFR-11-A2	9/17/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-12	9/9/2013	0.12U	0.07U	0.08U	0.06U	0.52F	0.08U
RFR-13	9/13/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
RFR-14	9/12/2013	0.12U	0.07U	0.08U	0.06U	0.05U	0.08U
SLD-01	9/11/2013	0.12U	0.07U	0.08U	0.24F	0.05U	0.08U
SLD-02	9/11/2013	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.

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
September 2013 Westbay Analytical Results

Well ID	Date Sampled	1,1-DCE	cis-1,2-DCE	TCE	PCE	trans-1,2-DCE	Vinyl Chloride
CS-WB01-LGR-09	9/23/2013	<0.12	0.40F	11.49	6.97	<0.08	<0.08
CS-WB02-LGR-09	9/18/2013	<0.12	0.27F	11.11	259.55*	<0.08	<0.08
CS-WB03-LGR-09	9/18/2013	<0.12	9.56	2.2	1.32F	<0.08	<0.08
CS-WB04-LGR-06	9/23/2013	<0.12	2.72	9.41	27.52	0.25F	<0.08
CS-WB04-LGR-07	9/23/2013	<0.12	2.08	7.02	20.11	0.18F	<0.08
CS-WB04-LGR-09	9/23/2013	<0.12	<0.07	8.31	8.42	<0.08	<0.08
CS-WB04-LGR-10	9/23/2013	<0.12	<0.07	0.58F	1.25F	<0.08	<0.08
CS-WB04-LGR-11	9/23/2013	<0.12	<0.07	<0.05	0.27F	<0.08	<0.08

Data Qualifiers

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

* The analyte was run at a dilution of 5.

All values are reported in µg/L.

TCE Trichloroethene
PCE Tetrachloroethene
DCE Dichloroethene

BOLD	≥ MDL
BOLD	≥ RL
BOLD	≥ MCL

ATTACHMENT 5

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

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 in Progress															
Field Effort Complete - Site Open															
SWMU B-34	Inner Cantonment	none	soil contamination		Field effort complete. Drafting Site Closure Document	XRF sampled 12/1/2010 (40 locations). XRF results contoured 12/27. Tentative Tier 2 PCL for lead developed. Collected additional XRF survey locations 6/13 and 6/14/2011. Collected additional XRF and soil samples 1/16/2012. 3/8 submitted the SIN. 3/12-13 collected surface soil samples to better delineate Affected property boundary. 3/18 collected XRF information around the edge of the parking lot. 6/8 through 9, collected subsurface samples from beneath the road and the parking lot. Excavation complete July 2013. Site Specific Closure Report to be submitted to TCEQ in January 2014.		NA	NA	NA	Originally buried pipe, but soil contamination is problem. Surface and subsurface soil samples collected. No MEC concerns.	APAR	Pb		commercial, no eco, tier 2
RMU-4	East Pasture	small arms munitions, stokes mortars	rifle range		Field effort complete. Awaiting TCEQ approval of 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. 9/28 Field Plans finalized. 10/8/12 Donny mobs to site. 10/9/12 UXO team performing UXO surface clearance of the staging areas. 10/22 UXO investigating identified anomalies and clearing trees from the excavation area. 3/4 excavation work began. 3/1 collected in-situ WC samples on 3/1/2013. 4/18/13 All non-hazardous so started hauling concurrently with excavation on 3/11. Excavation completed on 4/18. Resampled on 4/23 and 4/29. 4000 cy of soil managed at east pasture berm. 160 cy of concrete material recycled at Teslar concrete. RIR submitted to TCEQ on 10/24/13.						RIR	metals		Zig zag trenches in area.
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				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				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				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		
Site Closed															
SWMU B-4 - Extra Trench	Inner Cantonment	various MEC/MD	trench		Compete.	8/3 Final WP/SAP, SWPPP, RFI IM/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 finalized					APAR - Weston				

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-13	Inner Cantonment	small arms munitions	construction debris site		Complete.	6/21/11 XRF Survey performed across site: 9/24/12 Field plans finalized and began excavation. :10/11: collected confirmation samples and WC samples: 10/17 Hit pocket of non-friable asbestos tiling: 10/18 collected WC samples; 10/22 cleared additional vegetation to expand staging area, exploratory excavation performed to help assess landfill extent in se corner of site; 10/24 wc samples collected: 10/31/2012, confirmation samples collected from the northern portion of the excavation area; 11/1/2012, sample from below the asbestos tiling sent for asbestos analysis; 6500 CY excavated to date of 11/2/2012; 11/7 excavation complete. Hauling from 11/12 to 11/27; 11/13 confirmation samples collected from southern section of site; 11/27 Additional WC sample collected for soils bound for east pasture. moved equipment to AOC-75; 11/29 rescraped area around SW09. Collected new sample at same area for confirmation; Final volume to Covell gardens: 4980 CY, 1620 w/ non-friable asbestos tiling (see manifest for more details. Waste characterization samples collecte 12/5. Confirmation samples collected 12/18/2012. 1/7 - hauling on hold due to weather. 1/14 - 1/21- hauling soils to east pasture berm. Complete field effort on 1/21. Additional materials uncovered during the sloping of the area for the construction of the wildlife tank. Approximately 100CYs of metal/asphalt debris transported off-site for disposal as class 2 nonhazardous material. 3/7 collected samples for methcholor hits check and also confirmation samples from the newly wildlife pond reworked area to the sw of the site. RIR submitted on 4/15/2013. TCEQ Approval dated July 9, 2013							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 forMC 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 collecte 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.	

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 SP01 results came back clean. 4/19 2 samples collected from soil piles (SP02 and SP03), 3-day tat. 4/18 sampled asbestos-like material uncovered at trench 2. All trench samples and SP03 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-51	East Pasture		Misc.		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. RIR submitted July 13, 2012. AOC-51 UXO Investigation Tech Memo submitted 9/11/2012 - RIR approved - letter dated 10/15/2012.							RIR			
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			
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			
AOC-58	Inner Cantonment, Salado Creek	bayonetts	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 SP01 results came back clean. 4/19 sample taken of soil pile (SP02) and trench - both trench and pile came back clean. Trench Backfilled. see Salado Creek description under AOC-42.							RIR			
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.	

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.						RIR			
AOC-75	Inner Cantonment	none	surface soil contamination		Compete.	1/10 Samples collected to help w/ horizontal and vertical contamination delineation and waste characterization purposes. 11/5/12 start tree clearing activities. 11/28/12 begin excavation of top layer of soil. 12/3/12 uncover trench (100ftx12ftx4ft) - begin excavation. continue and complete additional trench excavation on 12/4/12. Material includes soil media mixed w/ styrofoam (150 CY) and cabinets (50 CY). 12/5/12 collected WC samples from the newly excavated trench material and the top layer of soil from the site. Complete the excavation of soils on 12/6/12. 4000 CY excavated in all. 1/28 cleared trees in NT area. 1/30/13 - 1/31/13 conducted geophysical survey of NT area. Additional excavation of the area occurred the week of 2/4/13. Exploratory excavations performed in the NT area on 2/26 - nothing found. RIR submitted August 2, 2013. TCEQ approved RIR on November 8, 2013						pending	mercury		
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 - S555, 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. Compete 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			
RMU-3	Inner Cantonment	small arms munitions	rifle range		Complete.	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. 12/5 began removing cacti from the excavation footprint. 12/10 Began excavation of soils from excavation footprint. Excavation completed on 12/18. Waste Characterization and confirmation samples collected on 12/19/2012. 1/22 began hauling soils to east pasture. 1/29 additional XRF done to delineate additional excavations planned. 1/30 mixed PIMS with 100 CYs of soil. 2/4 additional excavation began to remove the road portion of the site and also the areas that need to be dug deeper. Confirmation samples collected from newly excavated areas. 2/6 WC samples collected from remaining stockpiles and also the PIMS treated soils. Last confirmation sample collected on 2/26/13. RIR submitted on 5/9/2013. RIR approved 9/12/13.						RIR	Pb		
RMU-5	North Pasture	Same as 8-20/21	possible rocket range		Complete.	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. TCEQ letter of approval dated 9/20/2012									

ATTACHMENT 5

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