TIM → RL33 DO23

(TIM-TAC under RL33 TIM 2)

Camp Stanley Storage Activity Environmental Projects Employing Parsons Engineering Science

Technical Interchange Meeting
General Agenda

Date: October 2, 1997

Time: 0900 hours

Place: Camp Stanley Storage Activity

- 0900 Project Overview and Budgets

  Materials: project status summary, budget tables, SWMU map & status chart

- 1000 Discussion of Laboratory Analytical Qualifiers

  Materials: AFCEE information and discussion

- 1100 Format for Environmental Encyclopedia

  Materials: draft Table of Contents in binder with example tabs

[1200 Break for Lunch]

- 1300 Project Status, AMC Task Order RL17 (SWMU Closures)

  Materials: project status, attachments with task-specific data, SWMU waste issue discussion

- 1400 Project Status, AMC Task Order RL33 (B-20 GIS)

  Materials: project status, chart of SWMUs > RRS 1

- 1500 Project Status, AFCEE Delivery Order 0023 (Groundwater Monitoring and Wells)

  Materials: project status, attachment of data from 1/97 monitoring

Current Environmental Projects
Contractor: Parsons ES

Camp Stanley Storage Activity, Texas

AMC Order RL17. 1995-present.
Solid Waste Management Unit (SWMU) Closures/Integrated Waste Mgt. Plan

1. SWMU Investigations

Investigation of 28 CSSA SWMUs ongoing since 1995. Chemicals of concern are metals, explosives, volatile organic compounds (VOCs), and at some sites, semivolatile organic compounds (SVOCs).

Site Identification

- Records search and personal interviews were conducted to identify sites and possible contaminants.
- Electromagnetic (EM) geophysical surveys were performed to locate subsurface disturbances which could indicate potential SWMU activities.
- Soil gas surveys were performed to locate and identify the extent of potential VOC pathways in the subsurface.

Defining Extent of Sites and Cleanup Criteria

- Mapping and surface sampling conducted to identify site boundaries, contaminant levels and extent. Additional sampling was also performed to identify natural background levels to establish appropriate cleanup criteria.
- Drilling and subsurface sampling were performed to identify the degree and extent of potential contamination beneath suspected and known SWMUs. The data helped identify background levels for establishing cleanup criteria.
- No groundwater found during drilling, therefore no wells necessary to date.

2. Oxidation Pond (O-1) Electrokinetics

In 1996, O-1 was identified as a possible source of tetrachloroethene (PCE) in groundwater at well 16. The site underwent a volatilization study for PCE removal. The current treatability study (electrokinetics) is remediation of metals from soils through use of charged probes. The underlying concept is to create a battery in the soil. The study will also evaluate PCE removal.

- Benchscale (laboratory) study complete in August 1997.
- Treatability (field) study currently underway and will be completed in November 1997.

3. **SWMU B-3 Soil Vapor Extraction (SVE)**

In 1996, B-3 was identified as a possible source of PCE in groundwater at well 16. The site underwent a SVE study, including installation of a system at B-3 is designed to remove chlorinated volatile vapors from subsurface soils.

- Initial 1996 test system was successful in showing chlorinated compounds removal. Metals also identified in soils.
- Treatability (field) system study currently active. SVE system operating at 6 well maximum, 18 wells in place. Currently revising standard exemption to permit 18-well operation maximum.
- Construction of protective housing for system equipment underway.

4. **Integrated Waste Management/Spill Contingency Plan**

- To reduce costs of producing DoD and regulatory requirements for various waste management plans, an integrated waste management was prepared. The document includes:
  1. Hazardous Waste Management Plan,
  2. Installation Spill Contingency Plan, and
  3. Spill Prevention, Control, and Countermeasures Plan.
- The plans should be reviewed by CSSA within 2 years of November 1996.

RL17 Budget - see attached Table 1.

AMC Order RL33. 1996-present.
Site Investigations and Development of Geographic Information System

1. **Geographic Information System (GIS)**

- 25 September 1997 - the most recent GIS and database package delivered to CSSA
- GIS database is 90% complete

2. **UXO Clearance/Site Investigations**

After receiving Consent Order from EPA for B-20 in 1993, investigations at SWMUs with UXO have been on-going. Two main issues at these sites: UXO and soils contamination.

- UXO clearances at SWMUs B-20, B-24, B-28, B-8, and the Demolition Dud Area (DD) are complete.
- Extent of soils contamination has been identified at B-20.
- Investigations to address soils contamination at B-24 and DD are underway.

- Some sampling was completed at B-28 and B-8 in the past. More sampling scheduled there under this project.
- UXO sweep conducted at Bldg. 43, B-10, and B-2.

3. **Waste Disposal**

Stabilization of lead waste for SWMUs B-20, B-21, B-31, B-32, and B-33 is ready to commence. Waste stabilization will greatly reduce waste disposal costs.

4. **Treatability Studies**

- Phytoremediation benchscale (laboratory) test to evaluate remediation effectiveness is ready to begin. Phytoremediation is use of plants which naturally uptake metals through their root systems to remediate soils.
- Soil washing treatability study will also be conducted to compare cost and effectiveness of remediation options.

RL33 Budget - see attached Table 2.

AFCEE Order 0023. 1996-date.
Groundwater Monitoring and Well Installations

1. **Quarterly Sampling and Reporting**

Five quarters of groundwater sampling and report submittal are scheduled to monitor the degree and extent of aqueous VOC contamination. To date, one quarter (January-March) of monitoring and reporting is complete. After evaluation of costs, it was agreed to postpone more monitoring until dedicated pumps are purchased.

- Five low flow/slow purge, dedicated sampling systems are anticipated for mid-Oct 97 delivery. These systems were selected to provide accurate VOC contaminant data with minimum waste generation.
- Installation and the second quarter of monitoring are scheduled for mid-October.

2. **Well 16 Water Level Measurement and Weather Station**

- Water level and meteorological conditions are continuously monitored at well 16 to determine the temporal impact of local precipitation upon contamination levels at, and adjacent to, well 16. Data is included in quarterly monitoring reports.
- Problems with the weather station are currently in discussion with CSSA.

3. **Water Well Upgrades**

CSSA water supply wells 1 and 11 have been upgraded; well 9 is tentatively scheduled for Nov 97, depending on CSSA schedule. Actions include downhole camera survey, well treatment using carbon dioxide, and the replacement of submersible pumps, pump piping, and pump wiring as needed. The upgrades are intended to improve raw water quality, enhance production, and act as preventative maintenance.

- The upgrade of wells 1 and 11 has been completed. Additional surface casing has been installed at well 1.
- Well 9 is scheduled for upgrade in mid-November.

4. Monitor Well Installations

Three new monitor wells will be installed to better determine the extent of VOC contaminants around the well 16, B-3 and O-1 area.

- Discussion of well locations will be initiated after results from the second quarter of monitoring are evaluated.
- Installation is tentatively planned for spring 1997.

5. Waste Characterizations

This task includes yearly Notice of Registration (NOR) preparation and waste stream characterizations. TNRCC recently conducted an audit of waste management procedures at CSSA, and sent a letter requiring responses for several issues. CSSA and TNRCC have come to agreement on all but one point - that of when SWMU activities generate wastes. This issue is still under discussion.

D.O. 0023 Budget - see attached Table 3.

New AMC Order. To be initiated 01 Oct 97. RL 53

- Work will include investigations/closures at 5 SWMUs including sampling analysis, GIS flyover and database updates. Project management will include monthly reporting and technical interchange meetings.
- Budget is approximately $199K.

DO # RL17 - Camp Stanley Storage Activity (CSSA) TX Closure Investigations
Status Report No. 22 - 26 July 97 through 29 August 97

Budget Status

Task	Budget Total	Cumulative Costs (1) Total	Cumulative % Spent (1) Total	% Complete (2) Labor
1 RFI Scoping	$68,054	$68,052	100%	100%
3 Site Characterization	$350,723	$209,086	60%	58%
5 Treatability Investigation	$143,085	$98,169	69%	65%
5A Treatability Investigation	$164,619	$121,960	74%	85%
8 Groundwater Monitoring Wells	$14,243	$0	0%	100%
9 Sampling and Analysis	$176,458	$152,096	86%	81%
10 Site Work and Utilities	$911	$911	100%	100%
11 Meeting Minutes Preparation	$14,899	$11,718	79%	80%
12 Presentation Materials	$17,037	$13,905	82%	90%
13 Letter Report Preparation	$2,584	$2,184	84%	100%
14 Special Notification	$615	$0	0%	0%
15 Monthly Financial	$27,212	$29,492	108%	95%
16 Contractor Personnel Chart	$0	$0	0%	100%
99 Int Waste Mgmt/Spill Plan	$29,462	$29,429	100%	100%
90 Program Management	$67,707	$54,781	81%	83%
Total Costs without Fee	$1,077,610	$791,785	73%	75%

Notes:
1. Final costs
2. % Complete for ODCs includes only Subcontractor invoices which have been paid by Parsons ES. Incurred, but uninvoiced or unpaid invoices, are not included.

RL33 - Site Investigations, Treatability Studies, and Geographic Information System (GIS) Startup
Camp Stanley Storage Activity, TX
Status Report No. 11 - July 1997 - August 1997

Budget Status

Task	Budget	Cumulative Costs (1)	Cumulative % Spent	% Complete (2)
	Total	Total	Total	Labor
1 Project Management	$ 9,497	$ 3,738	39%	60%
2 Meetings	$ 10,217	$ 2,393	23%	40%
3 Project Plans	$ 9,287	$ 6,990	75%	80%
4 GIS Services	$ 116,530	$ 87,695	75%	75%
5 Site Investigation	$ 899,327	$ 419,721	47%	60%
6 Phytoremediation	$ 31,994	$ 3,651	11%	33%
6A Soil Washing	$ 24,453	$ 2,594	11%	25%
6B Excavation/Disposal	$ 5,945	$ 1,367	23%	30%
6C Treatability Study Report	$ 18,641	$ -	0%	0%
7 IDW Management	$ 8,132	$ 1	0%	0%
90 Program Management	$ 46,425	$ 24,164	52%	45%
Total Costs without Fee	$ 1,180,448	$ 552,314	47%	57%

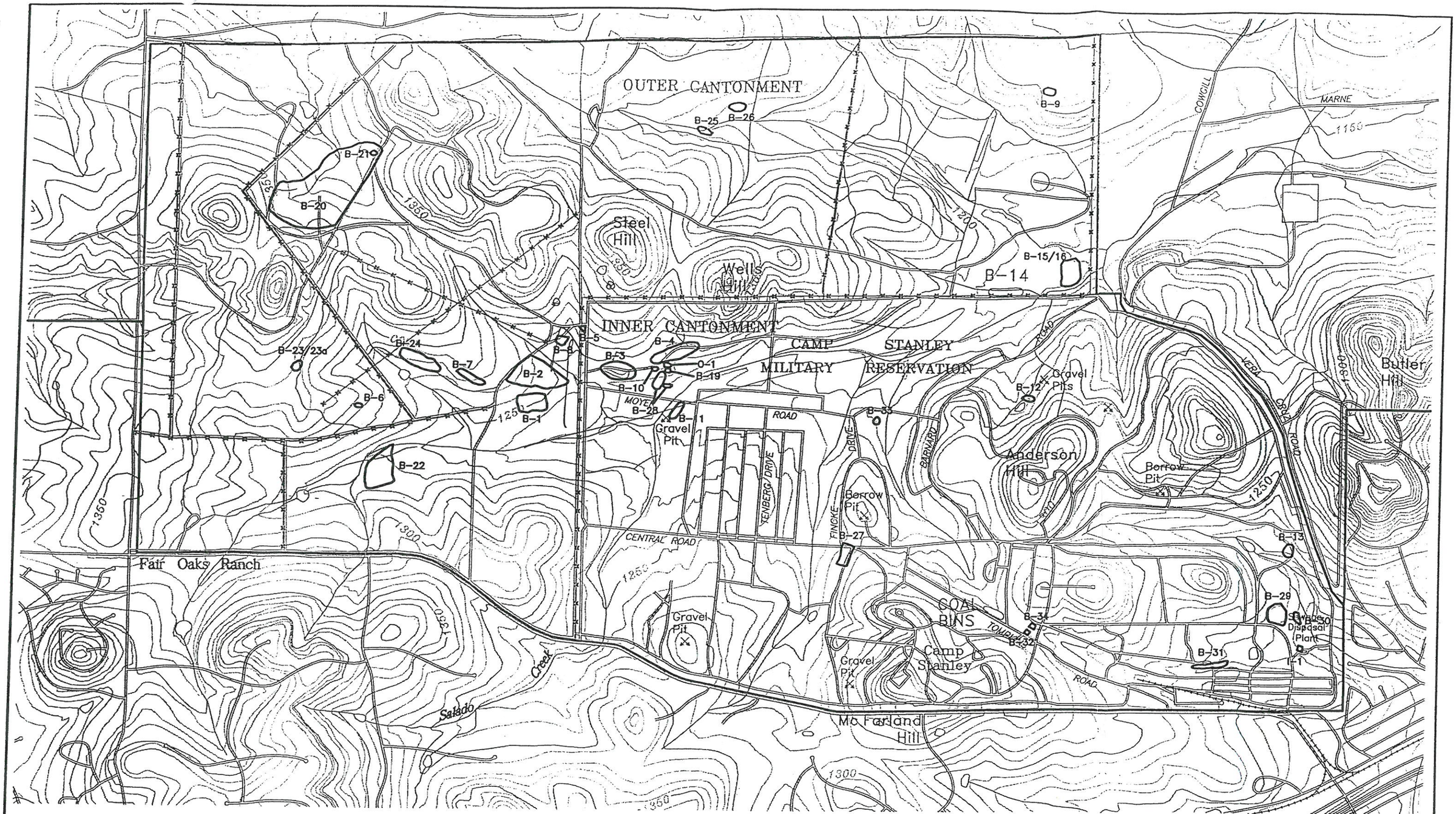
Notes:
(1) Final costs.
(2) % Complete for ODCs includes only Subcontractor invoices which have been paid by Parsons ES. Incurred, but uninvoiced or unpaid invoices, are not included.

DO # 0023 - Environmental Services for Groundwater Evaluation
Camp Stanley Storage Activity, Texas
Status Report No. 13 - 1 through 31 August 97

Budget Status

Task	Budget Total	Cumulative Costs (1) Total	Cumulative % Spent (1) Total	% Complete (2) Labor
1 Delivery Order Management	$86,630	$42,738	49%	50%
2 Plan Addenda	$11,183	$11,182	100%	100%
3 TIMs	$36,382	$6,872	19%	25%
4 Quarterly Monitoring	$201,645	$33,131	16%	21%
5 Well Upgrades	$76,574	$42,012	55%	52%
6 Well Installations	$121,180	$621	1%	0.5%
7 Waste Characterization	$12,894	$997	8%	28%
Total Costs	$546,488	$137,553	25%	27%

Notes:
1. Final costs
2. % Complete for ODCs includes only Subcontractor invoices which have been paid by Parsons ES. Incurred, but uninvoiced or unpaid invoices, are not included.



1500' 750' 0 1500'

Approximate Scale in Feet

FIGURE 1

SWMU LOCATIONS

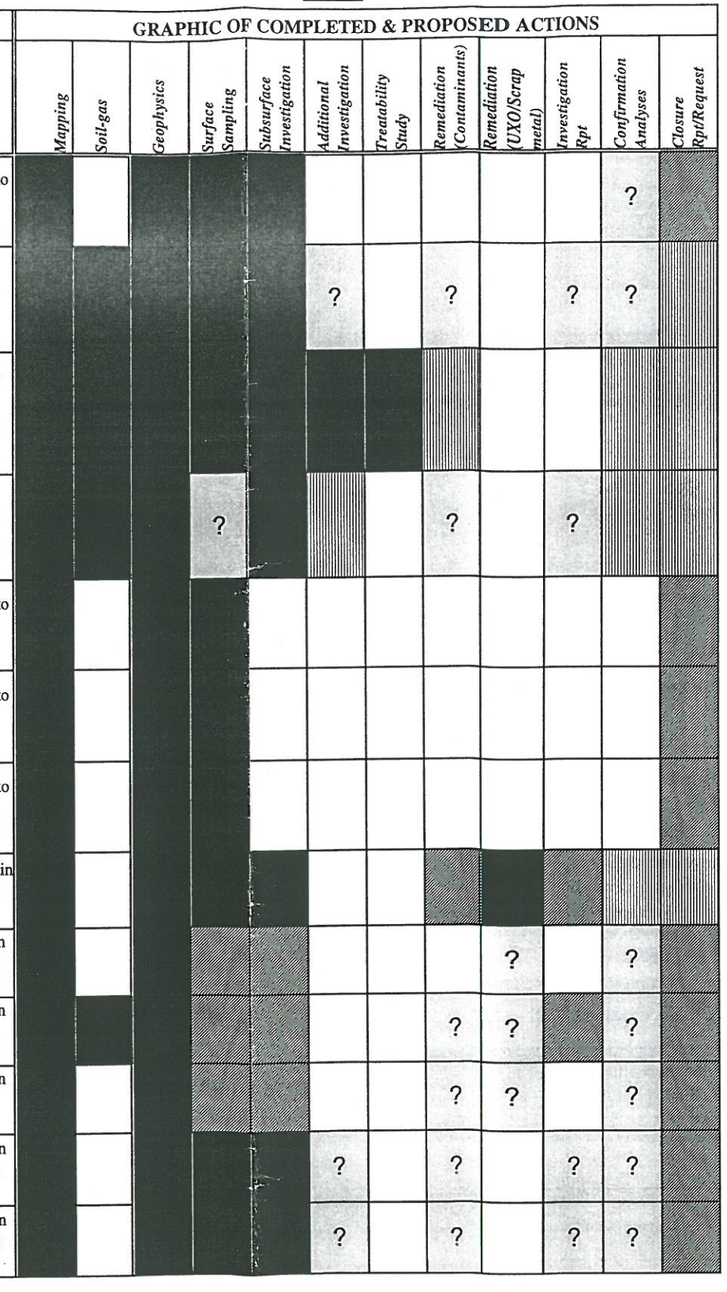
PARSONS ENGINEERING SCIENCE, INC.

EXT-SGS.DWG 10/9/96

Solid Waste Management Unit Status Table
Camp Stanley Storage Activity, Texas

Completed
Necessary, funded, but not completed
Necessary, but not funded
? Possibly necessary

DESCRIPTION OF UNIT AND PROPOSED ACTIONS								
Unit No.	*Description*	*Previous and Current Actions*	*Closure Standard **	*Proposed Additional Investigation*	*Proposed Treatability Study*	*Proposed Remedial Action(s)*	*Proposed Confirmation Action(s)*	*Closure Status ***
B-1	Powder and ammo burn area (1954).	Mapping, soil gas, geophysics, drill/sample	1*	None	None	None	None	Anticipated to be closed (RL17)
B-2	Small arms ammunition burning area (1954)	Mapping, soil gas, geophysics, drill/sample	1 or 2	If metals < bkg, none. If metals > bkg, drill for confirm samples. Verify VOCs at depth.	None	None	None	No work in progress
B-3	Landfill area (garbage disposal and burning trash); filled in 1990-91.	Mapping, soil gas, geophysics, drill/sample, SVE pilot system	1 or 2	VOCs: 3-5 additional wells in limestone. Rainfall effects study. Metals: drill in highest concentration areas (5-8 borings).	VOCs: SVE study to be final in 10/97. Metals: probable need for study of in-situ remediation	VOCs: Begin full-scale SVE remediation. Metals: not yet determined.	VOCs: At-depth sampling/analysis operation. Metals: TBD	Treatability study in progress (RL17)
B-4	Classified burn area (documents and trash).	Mapping, soil gas, geophysics, drill/sample	1 or 2	Additional drilling and sampling	None	None at this time	None at this time	No work in progress
B-5	Possible fired small arms ammo brass area. Not located.	Mapping, geophysics, surface sampling	1	None	None	None	None	Anticipated to be closed (RL17)
B-6	Possible solid waste disposal area. Not located.	Mapping, geophysics, surface sampling	1	None	None	None	None	Anticipated to be closed (RL17)
B-7	Possible fired small arms ammunition brass disposal area	Mapping, geophysics, surface sampling	1	None	None	None	None	Anticipated to be closed (RL17)
B-8	Fired small arms ammo brass disposal area (piles of fire bricks, ammo shells)	Mapping, geophysics, drill/sample	1 *	Surface/subsurface samples to delineate metals contamination	None	If necessary, excavation, disposal of soils, wastes	Surface/subsurface samples	Remediation in progress (RL33)
B-9	Miscellaneous solid waste (metal and weapons) disposal area.	Mapping, geophysics, drill/sample	1	None	None	None	None	Investigation to begin (RL53)
B-10	Ammunition disposal area.	Mapping, soil gas, geophysics	1	None at this time	None at this time	Small site - probable excavation, disposal	Sampling/analysis	Investigation to begin (RL53)
B-11	Miscellaneous solid waste disposal (ammo, scrap metal, const. debris).	Mapping, geophysics	1	None at this time	None at this time	If necessary, excavation, disposal of soils, wastes	Sampling/analysis	Investigation to begin (RL53)
B-12	Landfill	Mapping, geophysics, drill/sample	1 or 2	Surface/subsurface samples to delineate metals contamination	None	Excavation? Electrokinetics?	Sampling/analysis	Investigation in progress (RL17)
B-13	Trash dump area.	Mapping, geophysics, drill/sample	1 or 2	Surface/subsurface samples to delineate metals contamination	None	Excavation? Electrokinetics?	Sampling/analysis	Investigation in progress (RL17)



NA = Not applicable

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Camp Stanley Storage Activity, Texas

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DESCRIPTION OF UNIT AND PROPOSED ACTIONS									GRAPHIC OF COMPLETED & PROPOSED ACTIONS											
Unit No.	*Description*	*Previous and Current Actions*	*Closure Standard **	*Proposed Additional Investigation*	*Proposed Treatability Study*	*Proposed Remedial Action(s)*	*Proposed Confirmation Action(s)*	*Closure Status ***	*Mapping*	*Soil-gas*	*Geophysics*	*Surface Sampling*	*Subsurface Investigation*	*Additional Investigation*	*Treatability Study*	*Remediation (Contaminants)*	*Remediation (UXO/Scrap metal)*	*Investigation Rpt*	*Confirmation Analyses*	*Closure Rpt/Request*
B-14	*Possible fired brass area - not located.*	*Field surveyed - not found*	*NA*	*NA*	*NA*	*NA*	*NA*	*Delist letter submitted to TNRCC 9/96 (RL17)*												
B-15/16	Landfill (target vehicles, weapons mounts)	Mapping, soil gas, geophysics	1 or 2	Surface/subsurface sampling/analysis. Pot.UXO clearance	None anticipated	TBD	TBD	Soil-gas rpt in progress (RL17)				?	?			?	?		?	
B-19	Solid waste disposal area (metals and weapons).	Mapping, soil gas, geophysics, drill/sample	1 *	None	None	None	None	Anticipated to be closed (RL17)												
B-20	Former OB/OD area	Mapping, geophysics, drill/sample, sediment and surface water sampling, UXO clearance, BIPs, excavation, sifting	1 or 2	None at this time	Phytoremediation and soil washing studies underway	UXO BIP, sifting and excavation, phytoremediation or soil washing TBD.	TBD	Remediation in progress (RL33)												
B-21	Ammunition disposal areas	Mapping, soil sampling, excavate lead piles, transport and dispose	1	None	None	Currently be performed	Sampling/analysis	Remediation in progress (RL33)												
B-22	Burn area (artillery shells).	Mapping, geophysics, drill/sample	1	None	None	None	None	Anticipated to be closed (RL17)												
B-23/23A	Disposal trenches (two green canisters, glass ampoules of liquid)	Mapping, soil gas, geophysics, drill/sample	1 or 2	Test ampoules for acetone, VOCs; test soil samples	None	Excavate, dispose of soils and ampoules	Trench confirmation wall and floor soil samples	Soil-gas rpt in progress (RL17)												
B-24	Spent ammo/rockets area	Mapping, geophysics, drill/sample, excavation, sifting, UXO clearance	1 or 2	Actions funded	Use results of O-1 and B-20 studies	Phytoremediation? Excavation? TBD	Sampling/analysis	Remediation in progress (RL33)												
B-25	Possible disposal trench	Mapping, geophysics, drill/sample	1 or 2	If metals, other above std. 1, drill/sample to determine lateral & vertical extent	Use results of O-1 and B-20 studies	Metals: ?? electrokinetics, phytoremediation, soil washing, stabilization.	Surface/subsurface sampling and analysis	Investigation in progress (RL17)						?		?			?	
B-26	Possible disposal trench	Mapping, geophysics, drill/sample	1 or 2	If metals, other above std. 1, drill/sample to determine lateral & vertical extent	Use results of O-1 and B-20 studies	Metals: ?? electrokinetics, phytoremediation, soil washing, stabilization.	Surface/subsurface sampling and analysis	Investigation in progress (RL17)						?		?			?	
B-27	Sanitary landfill.	Mapping, geophysics, drill/sample	1 or 2	If metals, other above std. 1, drill/sample to determine lateral & vertical extent	Use results of O-1 and B-20 studies	Metals: ?? electrokinetics, phytoremediation, soil washing, stabilization.	Surface/subsurface sampling and analysis	Investigation in progress (RL17)						?		?			?	
B-28	Disposal trenches (molten metal, ammo, ammo parts)	Mapping, soil gas, geophysics, drill/sample, sifting	1 or 2	Actions funded	Use results of O-1 and B-20 studies	Phytoremediation? Excavation? TBD	Sampling/analysis	Remediation in progress (RL33)												
B-29	Solid waste disposal area (in old quarry)	Mapping, geophysics, trenching, sifting, drill/sample	1 or 2	If metals, other above std.. 1, drill/sample to determine lateral & vertical extent	None at this time	If necessary, excavation, disposal of soils/wastes	Surface/subsurface sampling and analysis	Investigation in progress (RL17)						?		?				
B-30	Solid waste disposal area	Mapping, soil gas, geophysics, drill/sample	1 or 2	If metals, other above std.. 1, drill/sample to determine lateral & vertical extent	None at this time	If necessary, excavation, disposal of soils/wastes	Sampling/analysis	Investigation in progress (RL17)						?		?				

NA = Not applicable

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DESCRIPTION OF UNIT AND PROPOSED ACTIONS									GRAPHIC OF COMPLETED & PROPOSED ACTIONS											
Unit No.	*Description*	*Previous and Current Actions*	*Closure Standard **	*Proposed Additional Investigation*	*Proposed Treatability Study*	*Proposed Remedial Action(s)*	*Proposed Confirmation Action(s)*	*Closure Status ***	*Mapping*	*Soil-gas*	*Geophysics*	*Surface Sampling*	*Subsurface Investigation*	*Additional Investigation*	*Treatability Study*	*Remediation (Contaminants)*	*Remediation (UXO/Scrap metal)*	*Investigation Rpt*	*Confirmation Analyses*	*Closure Rpt/Request*
B-31	Lead shot/sand pipe bedding	Mapping, geophysics, drill/sample, lead/shot excavation	1 or 2	None	None	TBD	TBD	Remediation in progress (RL33; rpt under RL17)						?						
B-32	Lead shot/sand pipe bedding	Mapping, geophysics, drill/sample, lead/shot excavation	1 or 2	None	None	TBD	TBD	Remediation in progress (RL33; rpt under RL17)						?						
B-33	Lead shot/sand pipe bedding	Mapping, geophysics, drill/sample, lead/shot excavation	1 or 2	None	None	TBD	TBD	Remediation in progress (RL33; rpt under RL17)						?						
B-34	Maintenance pit floor drain and discharge point	Mapping, geophysics, drill/sample	1 or 2	If metals, other above std. 1, drill/sample to determine lateral & vertical extent	None at this time	Metals: electrokinetics, phytoremediation, soil washing, stabilization.	Surface/subsurface sampling and analysis	Investigation in progress (RL17)						?						
Bldg 43	Inactive makeshift ammo demolition facility	Mapping, soil gas, geophysics	1 or 2	Drill borings, collect samples, analyze for metals, explosives. Swab walls for explosives.	None	If metals found at depth, excavate and dispose. If no explosives found on walls, leave bldg.	Sampling/analysis. If excavated, 1-3 samples from each sidewall and floor.	Investigation to begin (RL53)								?			?	
DD	Dud ammunition disposal area	Mapping, geophysics, soil sampling, UXO clearance, trenching, sifting	1 or 2	None	Use results of O-1 and B-20 studies	TBD	TBD	Remediation in progress (RL33)						?						
F-14	*Hazardous waste storage area (<90-day)*	*Mapping, drill/sample*	*1*	*NA*	*NA*	*NA*	*NA*	***Closed - TNRCC approval 4/95***												
I-1	Inactive incinerator (built in 1943), currently used for transformer storage	Mapping, soil gas, geophysics	1 or 2	Surface sampling; drilling and subsurface soil sampling/analysis.	None	TBD	TBD	Investigation to begin (RL53)								?			?	
O-1	Waste liquid/sludge oxidation pond (1975)	Mapping, soil gas, geophysics, drill/sample, electrokinetics pilot test	1 or 2	**VOCs and Metals:** to be determined after electrokinetics study.	**VOCs and Metals:** Electrokinetics study to be final in 10/97. Should determine if both VOCs and metals are affected.	**VOCs and Metals:** If treatability study is judged appropriate, begin full-scale electrokinetics system.	**VOCs and Metals:** At-depth sampling/analysis after operation.	Treatability study in progress (RL17)												
Coal Bins	*Coal bins (no longer in use)*	*Field surveyed - not found*	*N/A*	*NA*	*NA*	*NA*	*NA*	*Delist letter submitted to TNRCC 9/96 (RL17)*												

Majority of sites first listed in Environmental Assessment, conducted under Armstrong order 71 (September 1993).

* Closure standard listed at 1, but may be downgraded to 2 if metals levels are above background.

NA = Not applicable

AMC Contract Number F11623-94-D0024
Delivery Order RL17

Closure of SWMUs and Preparation of Integrated Waste Mgt. Plan

Technical Interchange Meeting 7
Agenda

Date: 2 October 1997
Time: 1000 hrs, 1300 hrs
Place: Camp Stanley Storage Activity, TX

1100 hrs

Discussion of format for Environmental Encyclopedia.

1300 hrs

Work completed to date:

- Project plans (Task 01)
- SWMU field investigations (Task 03)
- Benchscale electrokinetics treatability study at O-1 (Task 05000)
- SVE treatability study at B-3 and draft report (Task 05010)
- No groundwater wells necessary (Task 08)
- Data validation complete except for metals (Task 09). ITIRs completed for Field Effort 1 and SVE study
- Utilities clearance (Task 10)
- Seven of eight TIMs held to date(including 2 October, 1997 TIM)
- SWMU Summary Table (Task 13)
- No special notifications necessary (Task 14)
- Integrated Waste Management/Spill Contingency Plan (Task 99)

SWMU Closure Reports (Task 03)

- Reports will follow format determined for Environmental Encyclopedia.
- Awaiting regulators' approval of revised background metals levels.
- Field Effort 1 reports to be submitted after including revised background.
- Draft soil gas/geophysical reports to be prepared after Encyclopedia format is determined.

Electrokinetics Treatability Study at O-1 (Task 05)

- Benchscale Test Operation and Results (June-August 1997).
  - Problems identified for field test system were 1) buffering capacity of the soils, - and 2) soil swelling.
  - Results of benchscale indicate 94% chromium removal efficiency.
  - Analytical results of baseline field conditions provided in Attachment A,

- Field Test (September - November 1997)
  - Initial samples for contaminant profiling collected 26 Sept.
  - Profiling will continue every 2 weeks for metals and PCE.
  - See Attachment A for profiling locations.

SVE Operation at SWMU B-3 (Task 05010)

- Successful pilot test through Spring 1997.
- Draft report in review; final scheduled for October 1997.
- See Attachment B for TCE concentration contour map (draft).

SWMU Waste Characterization Issue

- August 1997 TNRCC audit indicated that soil excavated at SWMUs constitutes a waste, and as such, must be removed from any SWMU within 90 days.
- See Attachment C for summary of issue and TNRCC position.
- Issue is pertinent to all SWMU actions at CSSA regardless of task order. CSSA is currently looking into options for resolution of issue.

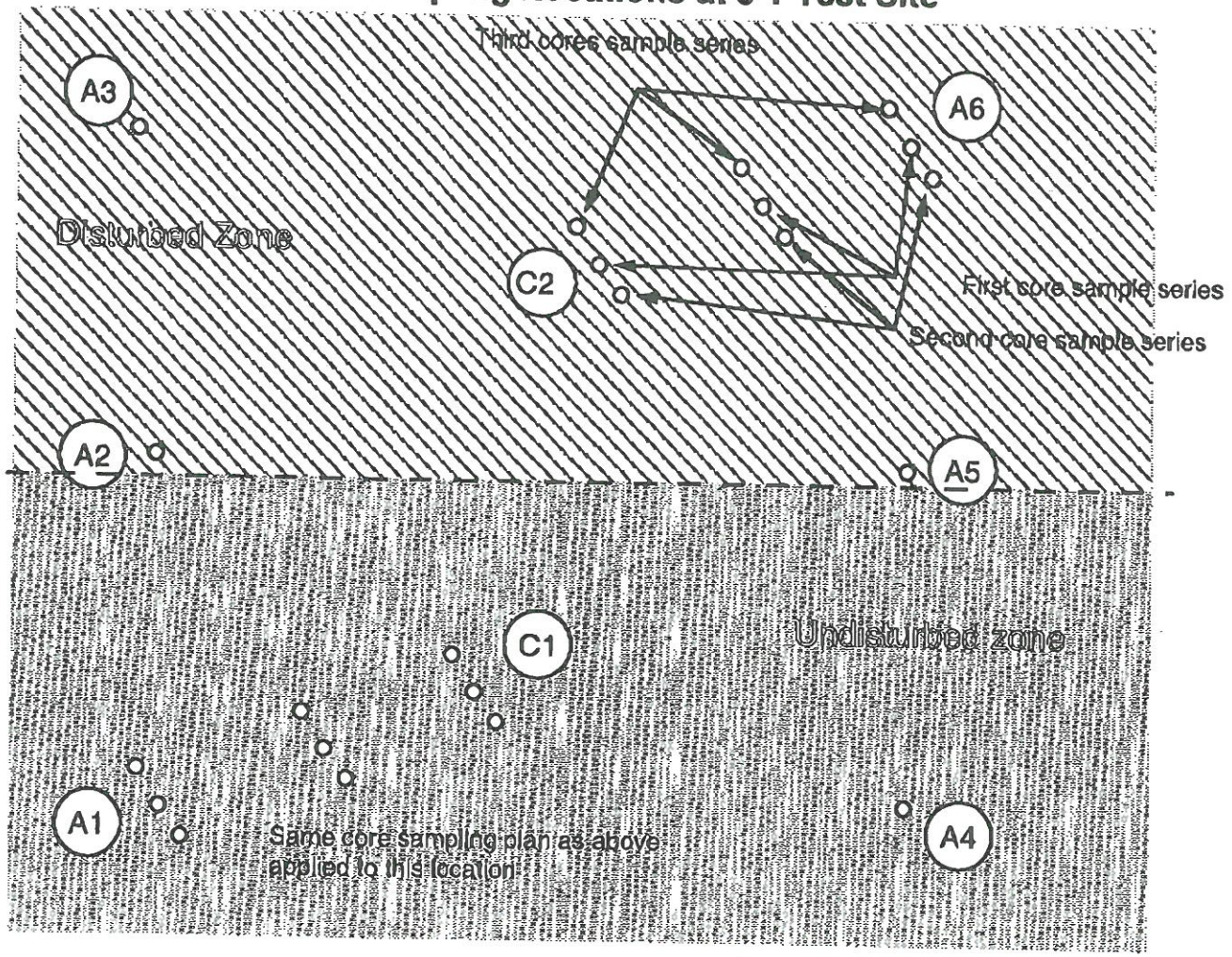
Attachment A

Figures - O-1 Electrokinetic Study Baseline Conditions

Baseline Soil Conditions for
Anticipated Electrokinetic Field Study

SAMPLE ID	Cr	Cd	PCE
Ox1-97-SSA1(0-1)	431.69	0.82	6.39
Ox1-97-SSA1(1-2)	313.92	0.78	2.06
Ox1-97-SSA1(2-3)	201.79	0.51	3.29
Ox1-97-SSA2(0-1)	594.03	1.35	1.40
Ox1-97-SSA2(1-2)	309.03	0.34	1.18
Ox1-97-SSA2(2-3)	117.55	0.2	2.86
Ox1-97-SSA3(0-1)	233.27	0.64	0.0036
Ox1-97-SSA3(1-2)	159.59	0.54	0.0054
Ox1-97-SSA3(2-3)	229.05	0.56	0.0996
Ox1-97-SSA4(0-1)	394.22	1.07	0.0502
Ox1-97-SSA4(1-2)	438.67	0.9	1.50
Ox1-97-SSA4(2-3)	380.59	0.95	1.49
Ox1-97-SSA4(0-4)	311.36	0.79	0.3006
Ox1-97-SSA1(MS)	552.00	0.92	
Ox1-97-SSA1(MSD)	523.00	0.83	
TBI			0.47
EBI			0.47
Ox1-97-SSA5(0-1)	200.71	0.47	2.78
Ox1-97-SSA5(1-2)	583.50	1.24	1.61
Ox1-97-SSA5(2-3)	293.78	1.2	1.01
Ox1-97-SSA6(0-1)	190.53	0.64	0.0597
Ox1-97-SSA6(1-2)	178.27	0.46	0.0406
Ox1-97-SSA6(2-3)	115.61	0.35	0.0084
Ox1-97-SSC1(0-1)	268.63	0.13	2.64
Ox1-97-SSC1(1-2)	227.51	0.6	2.65
Ox1-97-SSC1(2-3)	116.56	0.03	0.8090
Ox1-97-SSC2(0-1)	193.52	0.67	0.0765
Ox1-97-SSC2(1-2)	164.73	0.68	3.64
Ox1-97-SSC2(2-3)	271.19	0.71	1.36
Ox1-97-SSC2(0-4)	152.87	0.55	0.1876
Ox1-97-SSA6(MS)	260.40	0.76	0.107
Ox1-97-SSA6(MSD)	252.28	0.89	0.110

Core Sampling Locations at 0-1 Test Site



Core samples will be collected in 1" x 2' butyrate coring sleeves. The core will be divided in half and homogenized. The top 1/2 of the core will represent the top 1 foot. The bottom 1/2 of the core will represent the 1' to 2' zone. A second core from the same hole will extend down from the 2' level to bedrock. Samples will be designated accordingly (i.e., 2' to 3' and 3' to 4').

Sampling to be performed at 2-wk intervals to track process performance.

Single core samples to be taken at A2, A3, A4 and A5 as initial samples. Later sampling at these 4 sites will be determined by data from the A1-C1 and A6-C2 core series.

N

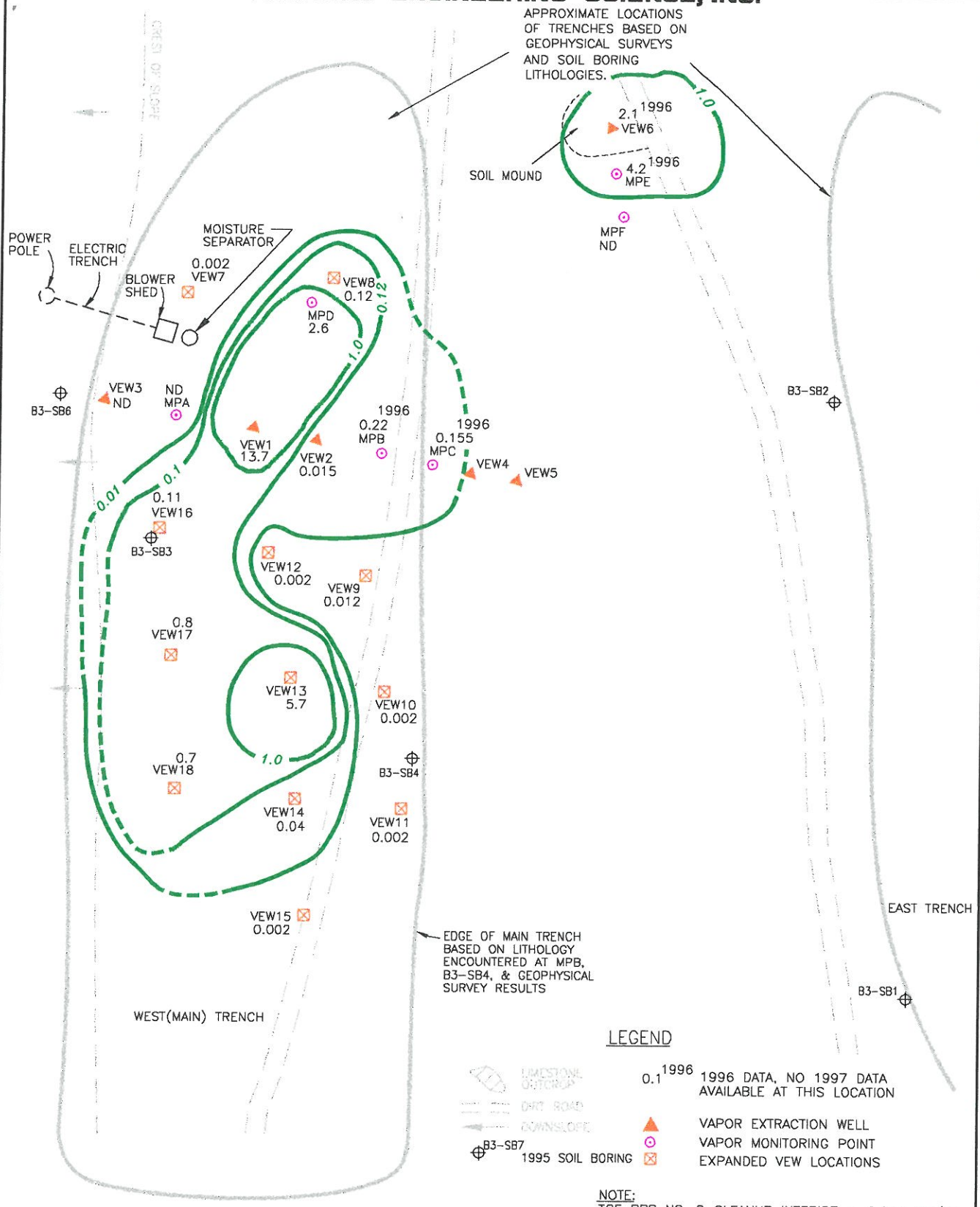
TRAILER

Lynntech, Inc.
Sept. 1997

Attachment B

Figures - SVE Pilot Test at B-3

PARSONS ENGINEERING SCIENCE, INC.



NOTE:
TCE RRS NO. 2 CLEANUP INTERIOR = 0.500 mg/kg

FIGURE 4.2

CONTOUR MAP OF TCE CONCENTRATIONS IN SOIL, 1997 DATA SWMU B-3

JULY 1997

CAMP STANLEY STORAGE ACTIVITY

B3-TCE

Attachment C

Discussion of TNRCC Audit and Waste Characterization Issue

WASTE DISPOSAL ISSUES

TNRCC'S CONCERNS

1. The concerns of the San Antonio Region are that since the material stockpiled (on plastic or otherwise) is intended for disposal, then they are solid waste and, therefore, CSSA needs to perform a hazardous waste determination on those materials. If the waste is determined to exhibit a characteristic of a hazardous waste, then CSSA needs to manage those materials in compliance with accumulation time requirements.

2. With regard to the expressed intention of the facility operators to dispose of the scrap metal and soils observed stockpiled at B-20 as a non-hazardous waste following on-site stabilization of metals, the San Antonio Region notes that the treatment of a hazardous waste for purposes of meeting land disposal restriction requirements would require the facility operators to submit a waste analysis plan at least 30 days prior to the commencement of the treatment activity as required under 40 Code of Federal Regulations §268.7(a)(4) (relating to Land Disposal Restrictions - Waste analysis and recordkeeping).

3. In a subsequent conversations with Mr. Kurt Coulter (TNRCC Austin), he indicated that a standard operating procedure be developed for the intended stabilization efforts, and upon commencement of management of the materials in containers for the stabilization effort that the accumulation time start.

CSSA'S POSITION

1. CSSA is currently proceeding with investigation/closure efforts for a number of Solid Waste Management Units (SWMUs) under 30 TAC §335 Subchapter S (§ 335.554) which allows decontamination of contaminated media within a SWMU. CSSA maintains that the soils undergoing investigations and decontamination within the SWMU are not generated wastes and therefore not subject to the notification and accumulation time requirements for wastes.

ACTIONS TAKEN TO DATE

1. An informal meeting on Friday 26 September 1997 with Mr. Malcome Ferris of the San Antonio Regional office was held to discuss his concerns. He reiterated that excavation with a SWMU would constitute a waste being managed and as such CSSA needs to manage those materials in compliance with accumulation time requirements.

2. With CSSA's approval the certifying engineer, J. David Highland, initiated actions with the TNRCC legal staff to discuss SWMU closure actions in relation to Mr. Ferris and Mr. Coulter's comments.

AMC Contract Number F11623-94-D0024
Delivery Order RL33

Site Investigations, Treatability Studies, and Geographic Information System

Technical Interchange Meeting 2
Agenda

Date: 2 October 1997
Time: 1000 hrs, 1400 hrs
Place: Camp Stanley Storage Activity, TX

1100 hrs

- Discussion of format for Environmental Encyclopedia

1400 hrs

- Site status to date

  B-20/B-21
  - UXO clearance complete.
  - Disposal of shot containing lead pending.
  - Phytoremediation treatability study ready to begin.
  - Soil washing treatability study to be arranged.

  B-24
  - UXO clearance of trenches complete.
  - Soil sampling (surface and subsurface) to be completed this fall.
  - Silt fences to be set up.

  B-28
  - UXO clearance complete.
  - Sampling of sifted soil to be completed this fall.

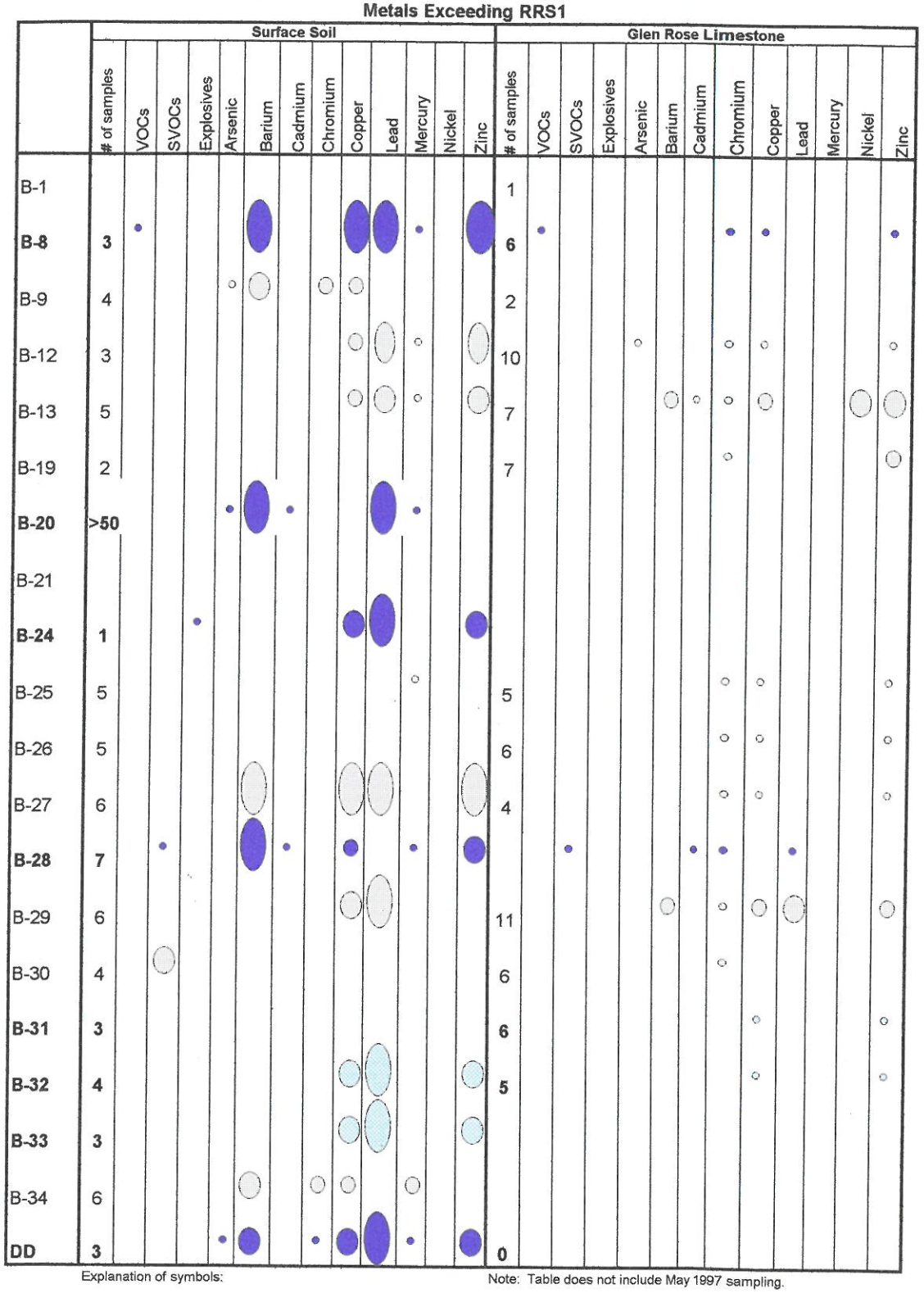
  DD Area
  - UXO clearance complete.
  - Soil sampling to be completed this fall.

  Analytical data indicate that soils at B-20, B-24, and DD exceed both RRS1 & RRS2. Likely that soils at B-28 also exceed both RRS1 & RRS2.

  B-31, B-32, B-33
  - Disposal of shot containing lead pending.

- Waste Disposal
- Phytoremediation Bench-Scale Treatability Study
- Schedule for additional field work (waste disposal, drilling)
- SWMU Investigation Reports

Metals Exceeding RRS1



Explanation of symbols:

- Concentration less than 25 mg/kg
- Concentration between 25 and 50 mg/kg
- Concentration beween 50 and 500 mg/kg
- Concentration between 500 and 1000 mg/kg
- Concentration greater than 1000 mg/kg

Note: Table does not include May 1997 sampling.

J:\728487\datasumm\Excrrs1

AFCEE Contract Number F41624-94-D-8136/Delivery Order 0023
Groundwater Evaluation, Monitoring and Well Installation

Technical Interchange Meeting 3
Agenda

Date: October 2, 1997

Time: 1500 hours

Place: Camp Stanley Storage Activity

PROJECT STATUS TO DATE

D.O. Management (Task 01)

- Monthly reporting ongoing
- Purchased five QED sampling systems, anticipate equipment delivery by 13 October, 1997

Technical Interchange Meeting (Task 03)

- Three of eight TIMs held to date (including TIM No. 3)

Groundwater Sampling and Analysis (Task 04)

- Deliverables submitted since last TIM
  - Final Meeting Minutes for TIM 2, 12 March 1997
  - Final January 1997 Quarterly Groundwater Monitoring Report and Informal Technical Information Report, 20 May, 1997
  - Draft TIM No. 3 agenda and presentation, 26 September 1997
- Following evaluation of the portable QED slow purge/low flow sampling system in January-March 1997 CSSA, AFCEE, and Parsons ES agreed to purchase five dedicated sampling systems. Purchase of the QED systems was delayed until a revised SOW was established and ACO approval was received.
- A potentiometric map of CSSA groundwater elevations for January 1997 and graphs of contaminant concentrations over time for wells D and 16 are provided in attachment A.

Well Upgrade (Task 05)

- Well upgrade work was completed on CSSA wells 1 and 11, 7-20 May, 1997. A downhole camera survey was performed on both wells to identify well condition.

- CSSA well 1's upgrade consisted of an 8" surface casing sleeve, new pump, 3" pump piping, wiring, and ECO_2 proprietary treatment to enhance well yield.
- CSSA well 11's upgrade consisted of a new pump, 3" pump piping, wiring, and ECO_2 proprietary treatment to enhance well yield.

Well Installation and Development (Task 06)

- To be scheduled after 2-3 quarters of monitoring are completed.

Waste Management (Task 07)

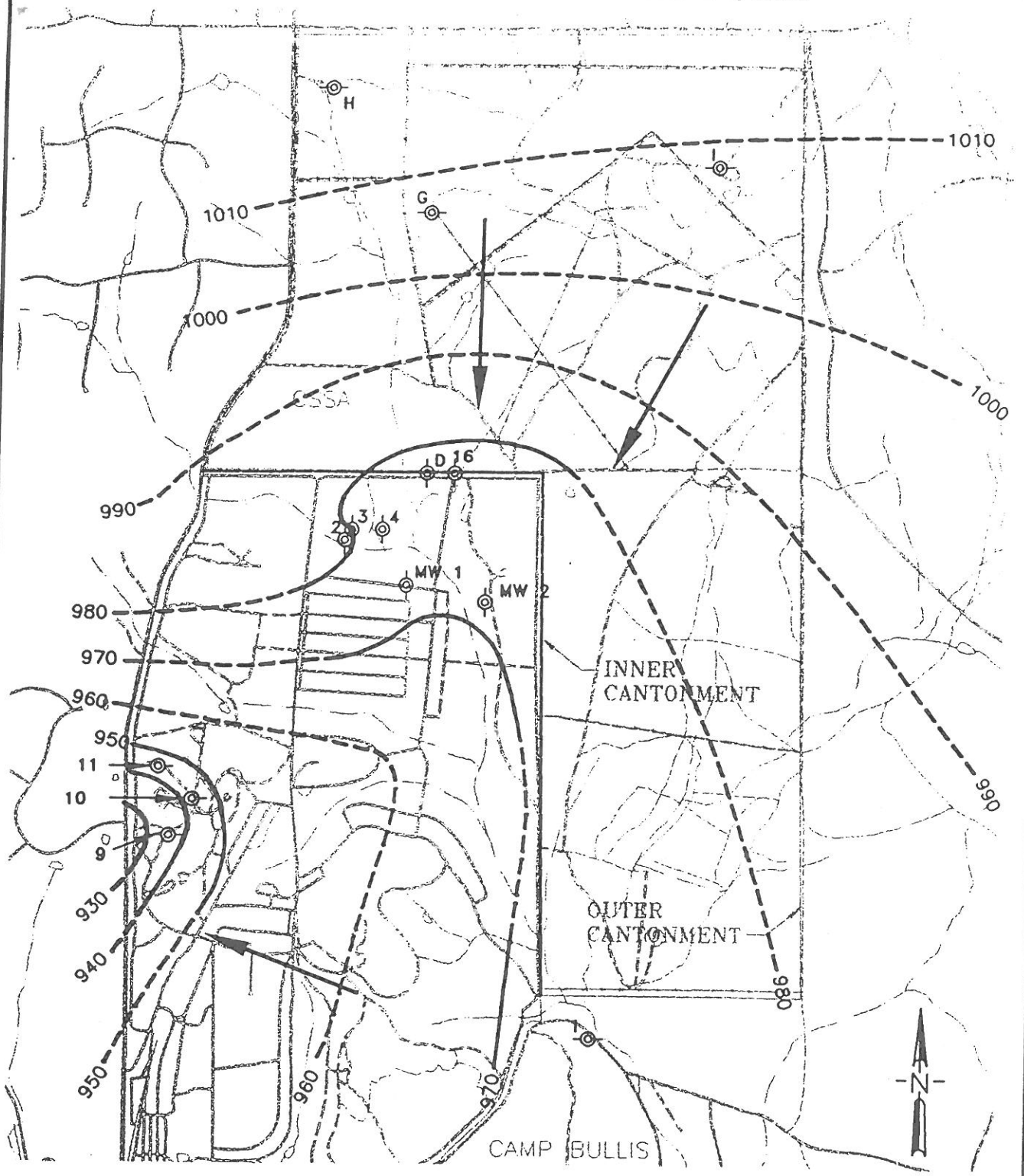
- To be scheduled as needed.
- 1996 NDR completed in January 1997; waste characterization assistance provided in August-September 1997.

PROJECTED ACTIVITIES FOR NEXT PERIOD

- Installation of dedicated QED sampling systems in CSSA wells MW1, MW2, 2, 16, and D as well as second quarter sampling are anticipated for 14-17 October, 1997. Date is tentative pending arrival of QED equipment.
- Upgrade of CSSA water well 9 is tentatively scheduled for mid-November 1997. Draft report will be prepared after upgrade is completed.

Attachment A

Figures



WELL	JAN. 1997 GW ELEVATION (FT-MSL)
1	976.67
2	981.46
3	974.52
4	DRY
9	936.3
10	943.52
11	942.28
16	972.17
D	977.34
G	1009.21
I	1009.79
MW1	971.92
MW2	971.16

LEGEND

= WATER PRODUCTION WELL

= MONITORING WELL

10' CONTOUR LINES DASHED WHERE APPROXIMATE

INFORMATION FROM DRY WELL 4 INCORPORATED INTO POTENTIOMETRIC MAP

FIGURE 1

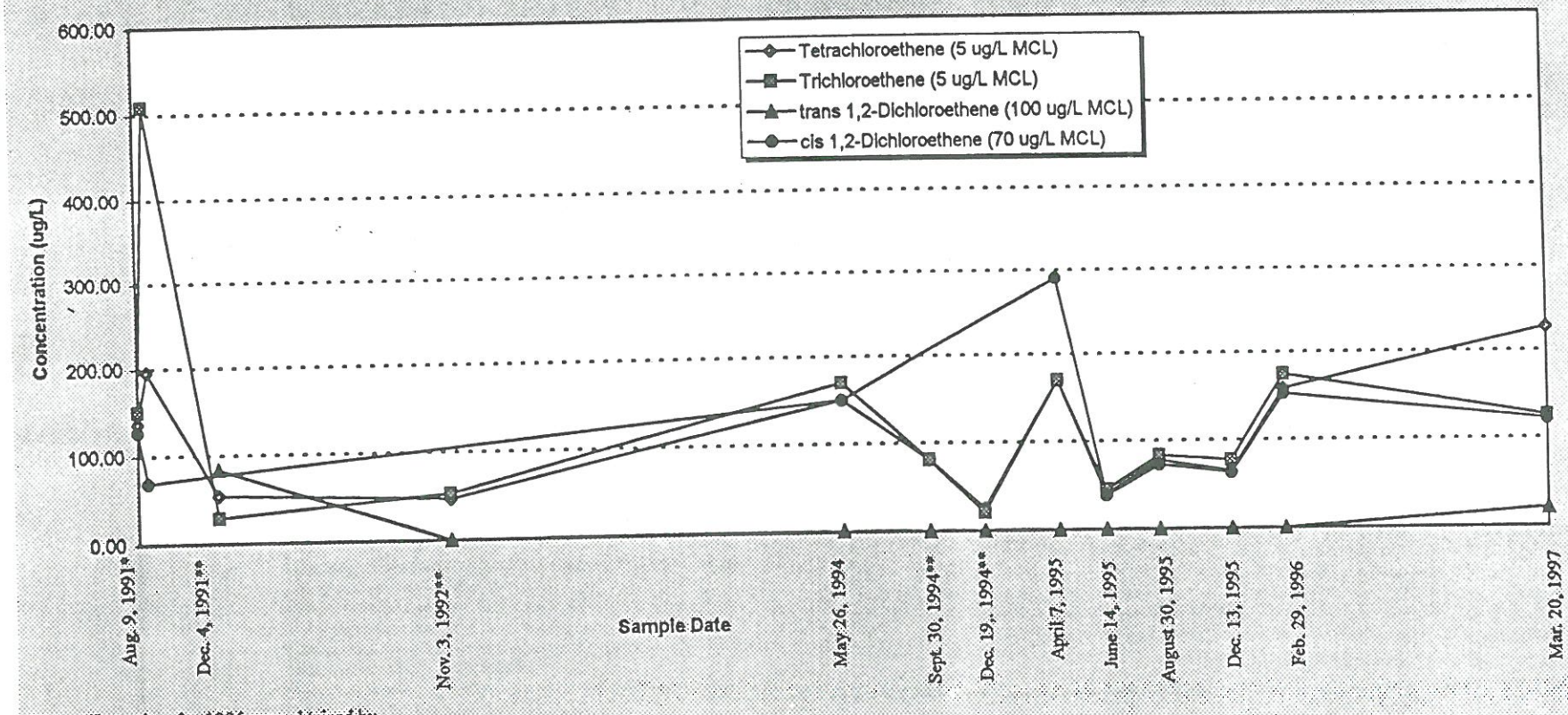
POTENTIOMETRIC MAP (JANUARY, 1997)

FEB., 1997

CAMP STANLEY STORAGE ACTIVITY

1997-POT.DWG 5/19/97

Figure 4
VOC Concentrations Over Time for Well 16, CSSA



Note: All samples after 1996 were obtained by slow purge/low flow technique

* cis- and trans- 1,2-Dichloroethene were reported as one number.

** cis-1,2-Dichloroethene was not a target constituent of SW8010 and was not analyzed for.

MCL = Maximum contaminat level
ug/L = micrograms per liter