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RELEASE DETERMINATION REPORT AND SITE CLOSURE REQUEST FOR FORMER  
UNDERGROUND STORAGE TANK LOCATION OFFSITE WEAPONS STORAGE AREA NAS  
FORT WORTH TX  
3/14/2001  
THE ENVIRONMENTAL COMPANY

693 0  
File: 17G  
D.E.



NAVAL AIR STATION  
FORT WORTH JRB  
CARSWELL FIELD  
TEXAS

ADMINISTRATIVE RECORD  
COVER SHEET

AR File Number 693

**Release Determination Report and Site Closure  
Request for Former Underground Storage  
Tank Location UST-8505  
Offsite Weapons Storage Area  
NAS Fort Worth JRB Carswell Field, Texas**

Contract No. F41624-95-8002  
Delivery Order 0009

March 14, 2001

Air Force Center for Environmental Excellence  
3207 North Road  
Brooks AFB, TX 78235-5353





710 NW Juniper Street • Suite 208  
 Issaquah, Washington 98027  
 (425) 557-7899 • Fax (425) 557-7878  
 Internet: www.tecinc.com

March 15, 2001

Charles C. Pringle  
 HQ AFCEE/ERB  
 3207 North Road, B532  
 Brooks AFB, TX 78235-5363



RE: Release Determination Report and Site Closure Request for Former UST  
 Location UST-8505, Offsite Weapons Storage Area NAS Fort Worth JRB,  
 Carswell Field, Texas; TNRCC Waste Registration No. 650004 and Hazardous  
 Waste Permit No. HW-50289

141024-95-D-8008/19

Dear Mr. Pringle:

Enclosed please find three copies of the Release Determination Report package for UST-8505, with the Site Closure Request Form and Closure Report as attachments. We sent one copy each to Dennis Rogers at TNRCC Central and to TNRCC Region 4. Dennis Rogers received the copy with the originally-signed forms.

If you have any questions, please call me at (425) 557-7899.

Sincerely,

THE ENVIRONMENTAL COMPANY, INC.

Dawn M. Nelson  
 Project Manager

Enclosure



# Air Force Base Conversion Agency

## Division C Regional Operating Location

### Bergstrom AFB, TX

March 15, 2001

Mr Dennis Rogers  
 Texas Natural Resource Conservation Commission  
 Petroleum Storage Tank Division – RPR Section  
 P.O. Box 13087  
 Austin, TX 78711-3087

**Subject: Release Determination Report and Site Closure Request for Former UST Location UST-8505 at Offsite Weapons Storage Area, NAS Fort Worth Carswell Field; TNRCC Waste Registration No. 650004 and Hazardous Waste Permit No. HW-50289**

Responsible Party:	U.S. Air Force Base Conversion Agency
Facility Name:	Carswell Offsite Weapons Storage Area UST-8505
Facility Address:	1100 White Settlement Road
Facility City, State:	Fort Worth, Texas
Facility County:	Tarrant
Facility ID No:	N/A
TNRCC Region:	4
Case Priority:	4.2

Dear Mr. Rogers

Please find enclosed two copies of the completed Release Determination Report Form with required attachments for underground storage tank (UST) location UST-8505, located at the Offsite Weapons Storage Area (WSA), Naval Air Station (NAS) Fort Worth JRB, Carswell Field, TX. The form and attachments have been provided to you at the request of Mr. Charles C. Pringle of the Air Force Center for Environmental Excellence. One copy has original signatures, as required, from the certified Corrective Action Project Manager and Responsible Party. Each package contains the following materials:

- TNRCC PSTD Correspondence Identification Form,
- TNRCC PSTD Release Determination Report Form,
- Attachment A TNRCC PSTD LPST Site Closure Request Form, and
- Attachment B Closure Report for Underground Storage Tank Location UST-8505.

The purpose of this letter is to briefly summarize the release determination and closure activities conducted at the UST-8505 location, which formerly contained a 5,000-gallon diesel fuel tank. Investigation of environmental media potentially impact by UST-8505 was conducted as part of the Offsite (WSA) Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI). A final RFI report was issued to Texas Natural Resources Conservation Commission (TNRCC) Petroleum Storage

Tank Division (PSTD) in June 1999. The closure report in Attachment B of the Release Determination Report form excerpts the RFI report to document the RFI activities associated with UST-8505. Details contained in this letter summary are documented in the closure report in Attachment B.

UST-8505 was located directly adjacent to the west side of Building (Bldg.) 8505, which housed an auxiliary power plant and a vehicle fueling station. UST-8505 served the power plant. The tank was removed on an unknown date prior to the RFI. Soil removal activities conducted at UST-8505 location in July and December 1999 confirmed the absence of the tank. According to TNRCC records, the tank was not registered and no records are available that document the tank removal.

In September 1997, four subsurface soil samples from three boreholes (UST-006, UST-007, and UST-008) were collected from the tank hold location. Samples were collected from 6 to 8 feet bgs at UST-006 and from 0 to 2 feet bgs at UST-007 and UST-008. Samples were analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX); PAHs; and TPH in accordance with TNRCC PSTD guidance RG-175. In addition, groundwater samples were collected from three wells screened in the Paluxy Aquifer and analyzed for inorganics, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and explosive compounds.

Polycyclic aromatic hydrocarbons (PAHs) were detected in the soil samples, with benz(a)pyrene being the only analyte with concentrations exceeding TNRCC Category I Plan A Target Concentrations. All other analytes were either not detected or were below TNRCC action levels. No organic compounds were detected in the groundwater samples.

Based on these results and in conjunction with remedial efforts at other Offsite WSA locations under the TNRCC Industrial Solid Waste Program, soil with PAH concentrations above the action levels were excavated and transported to an approved disposal facility. The soil removal was completed in a two phased approach in which soil was removed until PAH concentrations were below TNRCC Category I Plan A Target Concentrations. After reach removal phase, confirmation samples were collected and analytical results were compared to these levels. The following list summarizes the chronology of closure field activities at the UST-8505 location.

- July 26 through 30, 1999
  - Phase 1 initial soil removal
  - Phase 1A confirmation sampling
- December 6 through 8, 1999
  - Phase 2 soil removal
  - Phase 2 confirmation sampling
- February 16, 2000
  - Final sample location and area boundary survey
- March 3, 2000
  - Site restoration

A total of 160 cubic yards of soil were removed during Phase 1, with the excavated area encompassing 465 square feet. Confirmation sampling (nine samples) following this removal indicated that PAH concentrations remained above the TNRCC Plan A Target Concentrations on the north, east, and south tank pit walls. A second removal effort (Phase 2) resulted in confirmation samples (five total) having PAH concentrations below the Plan A Target Concentrations. An additional 75 cubic yards were removed during this activity.

Mr. Dennis Rogers  
March 14, 2001  
Page 3

Restoration of the UST-8505 location and demobilization was completed on March 3, 2000. The UST-8505 location was restored by backfilling with onsite soil not impacted by an unpermitted release and fine-graded.

With the findings discussed in this summary and supporting document, the Air Force is pleased to submit the LPST Site Closure Request Form in accordance with the guidelines provided in TNRCC's *Guidance for Risk-Based Assessments at LPST Sites in Texas* (RG-175), dated October 1995. If after reviewing the enclosed material you have any questions, please contact the undersigned at 425-557-7899. Mr. Pringle can be reached at (210) 536-4477.

Sincerely,

THE ENVIRONMENTAL COMPANY, INC.



Dawn M. Nelson  
Project Manager

Enclosures

cc: Charles C. Pringle, AFCEE and AFBCA (3 copies)  
TNRCC Region 4 PSTD (1 copy)

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION  
 PETROLEUM STORAGE TANK  
 CORRESPONDENCE IDENTIFICATION SHEET**

Date: 3/14/01 LPST ID No Not assigned  
 Site Name: Carswell Offsite WSA UST-8505 Facility ID No N/A  
 Site Address: Offsite WSA Building 8505, 1100 White Settlement Road, Fort Worth, TX

This checklist must accompany all correspondence submitted to the RPR Section and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence which you have submitted to the RPR Section. Check all boxes that apply if you are submitting more than one type of correspondence. If you cannot find an appropriate category, please complete the "other" section.

<b>PROPOSALS</b>		
<input type="checkbox"/> Initial Abatement (1)	<input type="checkbox"/> Tank Removal (2)	<input type="checkbox"/> Excavation (3)
<input type="checkbox"/> Waste Treatment (4)	<input type="checkbox"/> Site Assessment (5)	<input type="checkbox"/> Aquifer Testing (6)
<input type="checkbox"/> VES/Sparge Testing (7)	<input type="checkbox"/> Qtrly. GW Monitoring (8)	<input type="checkbox"/> CAP Prep. (9)
<input type="checkbox"/> GW Extrac /Treatment (10)	<input type="checkbox"/> Soil Vapor Extrac. (11)	<input type="checkbox"/> Operation & Main (12)
<input type="checkbox"/> Site Closure (13)	<input type="checkbox"/> Plan A Risk Ass (14)	<input type="checkbox"/> Plan B Risk Ass (15)
<input type="checkbox"/> Semi-annual GW Mon (16)*	<input type="checkbox"/> Annual GW Mon (18)	<input type="checkbox"/> Product Recovery (19)
<input type="checkbox"/> Other proposal _____		

<b>REPORTING FORMS</b>	
<input type="checkbox"/> Assessment Report Form (TNRCC-0562)	<input checked="" type="checkbox"/> Release Report Form (TNRCC-0621)
<input type="checkbox"/> Product Recovery Report Form (TNRCC-0016)	<input type="checkbox"/> Monitoring Event Summary and Status Report (TNRCC-0013)
<input checked="" type="checkbox"/> Site Closure Request Form (TNRCC-0028)	<input type="checkbox"/> Final Site Closure Report Form (TNRCC-0038)
<input type="checkbox"/> Other form _____	

<b>REPORTS</b>		
<input checked="" type="checkbox"/> Tank Closure/Removal	<input type="checkbox"/> Plan A Risk Assessment	<input type="checkbox"/> Annual Groundwater Monitoring
<input type="checkbox"/> O&M/Performance Mon	<input type="checkbox"/> Plan B Risk Assessment	<input type="checkbox"/> CAP Installation/Modification
<input type="checkbox"/> Property Divestiture/Phase I ESA	<input type="checkbox"/> Corrective Action Plan (CAP)	<input type="checkbox"/> Aquifer/Pilot Test Results

<b>MISCELLANEOUS</b>	
<input type="checkbox"/> Off-site access assistance	<input type="checkbox"/> Deadline Extension Request
<input type="checkbox"/> Tank tightness test results	<input type="checkbox"/> Request for State-Lead
<input type="checkbox"/> Request for LPST Waste Code <input type="checkbox"/>	<input type="checkbox"/> Class V Reinjection Request
<input type="checkbox"/> Notice to Owner/Operator for CAS Services	<input type="checkbox"/> Petroleum-Substance Waste Manifest
<input type="checkbox"/> Underground Storage Tank Registration Form <input type="checkbox"/>	<input type="checkbox"/> Aboveground Storage Tank Registration Form
<input type="checkbox"/> Other (anything that does not fit into one of the categories above) _____	

\* The proposal for semi-annual monitoring and annual report (Proposal Activity 17) has been discontinued. For semi-annual monitoring, use Proposal Activity 16

I attest that all work has been conducted in accordance with accepted industry standards/practices and adhered to TNRCC guidance and rules. I certify that I am aware that misrepresentation of any of the above claims is a violation of 30 TAC 33.4453(b)(1)(E) and that this violation may result in the disciplinary actions set forth in 30 TAC 334.453 and or 334.463 and 334.465.

If a proposal is attached for preapproval, has the proposed work, in part or in whole, already been performed or in progress?  Yes  No

If yes, what work? \_\_\_\_\_

Unified Services of Texas, Inc 00278 12/31/01  
 (RCAS Reg No ) (Expiration date)

(Registered Corrective Action Specialist)

Joni Brown for UST, Inc. 3-13-01  
 (Signature) (Date)

(817) 481-9510 (817) 488-1729  
 (Telephone #) (FAX #)

Joni Brown 00636 10/30/01  
 (Project Manager) (CAPM Reg No ) (Expiration date)

Joni Brown 3-13-01  
 (Signature) (Date)

(817) 481-9510 (817) 488-1729  
 (Telephone #) (FAX #)

By signature below, I certify that documents checked above are included.

Mr. Charles C. Pringle, P.E. ILSAF HORACE  
 (Name of Responsible Party Contact) (Company )

Charles C Pringle 03/14/01  
 (Signature) (Date)

(210) 536-4477 (210) 536-3609  
 (Telephone #) (FAX #)

ORIGINAL

# TAB

*RDR Form*

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RELEASE DETERMINATION REPORT FORM

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Owners and operators must report releases by phone to the appropriate TNRCC Region Office within 24 hours of confirmation. The owner and operator should use this form to comply with the reporting requirements in Title 30, Texas Administrative Code §334.77(b). Submit the completed form within 20 days after release confirmation. EXCEPT IN EMERGENCIES, THE TNRCC WILL INITIATE ACTION ON THIS CASE ONLY WHEN THE COMPLETED FORM (pages 6 through 15) IS SUBMITTED WITH ATTACHMENTS TO BOTH THE APPROPRIATE TNRCC REGIONAL OFFICE AND TO THE CENTRAL OFFICE IN AUSTIN (PST Division, MC 137, P O. Box 13087, Austin, Texas 78711-3087) DO NOT MODIFY THIS FORM IN ANY WAY. Complete all applicable blanks. Incomplete forms will be returned without review. All proposals for the next appropriate corrective action activity must be submitted by a CAS and PM in the format outlined in the guidance document entitled *Preapproval for Corrective Action Activities* (RG-111).

SUMMARY

Based on the information obtained during this release determination and by comparing the contaminant levels to the stated action levels, check one of these four items as appropriate.

- This was a suspected release No contamination was detected due to this suspected release
- This site is an LPST site.\*\* Contaminant levels exceed action levels (or one of the other criteria applies)
- This site is not an LPST site Contaminant levels do not exceed action levels (and none of the other criteria applies).
- This site is not an LPST site No contamination was detected (and none of the other criteria applies).

IF THIS SITE IS AN LPST SITE, COMPLETE THE REMAINDER OF THIS FORM (except Section B). If this site is not an LPST site, stop here and complete Sections A, C, and G (and Section B if applicable) of the attached form.

- Check here if this site is an existing LPST case and this Release Determination Report is being submitted only as the tank removal-from-service documentation \*\*The site is defined as UST-8505, which is located at Offsite Weapons Storage Area

Answer the following questions in this Summary Section if this is an LPST case and if the CAS and PM sign the form in Section G. This section is to be completed by a CAS and PM only. If the form is completed by someone other than a CAS and PM, leave the rest of this Summary Section blank and go to Section A.

Is this case eligible for reimbursement of necessary corrective actions?  YES  NO If not, appropriate corrective action in accordance with applicable rules and guidance may continue without specific direction or approval from the PST Division, however, coordination with the PST Division is recommended If the site is eligible for reimbursement, all corrective action activities, with the exception of NAPL recovery and emergency abatement activities, must be preapproved prior to initiation.

The next appropriate step for this site, if it is an LPST site, is (check one only)

- Case closure\*\*If checked, attach *Site Closure Request Form* (TNRCC-0028) Please be sure the site meets all requirements for closure prior to submitting the *Site Closure Request Form* Are there costs associated with case closure?  YES  NO If YES, and if the site is eligible for reimbursement, attach a cost proposal and workplan with the *Site Closure Request Form* \*\*See Attachment B, Closure Report for UST-8505
- Risk-Based Assessment The risk-based assessment is needed only when the existing assessment data is not an adequate basis for site closure. Please critically evaluate the need for additional assessment before selecting this option Refer to pamphlet RG-175 for guidance on conducting the risk-based assessment Attach a detailed workplan and proposal if the site is eligible for reimbursement A proposal must be submitted with this form if the RP is financially able to undertake necessary corrective actions.
- Corrective action other than risk-based assessment Attach a detailed workplan and proposal if the site is eligible for reimbursement and the RP is financially able to undertake necessary corrective actions

Is the responsible party financially able to complete the next appropriate step?  YES  NO If Yes, attach proposal as specified above If No, contact the PST Division at 512/239-2200 to request information on the State-Lead option Financial ability determination

forms must be completed and submitted to document that the RP is financially unable to continue necessary corrective actions.

A. GENERAL INFORMATION

LPST ID No.: Not assigned  
(If known)

TNRCC Region: 4

Priority: 4 2  
(see pages 13-15)

Facility ID No.: N/A Required unless one of the following applies

- Check here if tank registration is not required for this site (per 30 TAC §334 7), and check one of the following as applicable \*\*
    - the tank(s) are partially excluded or exempted from jurisdiction under 30 TAC Chapter 334 Specify type or usage of tank(s): \_\_\_\_\_
    - the tank(s) were permanently removed from the ground before May 8, 1986 (provide date of removal \_\_\_\_\_),
    - the tank(s) remained in the ground but were emptied, cleaned, and filled with inert substance before January 1, 1974 (provide date of activities \_\_\_\_\_),
    - the tank(s) were out of operation, their existence was unknown, and they were permanently removed from service within 60 days of their discovery (provide date of discovery \_\_\_\_\_). Describe method of discovery: \_\_\_\_\_
- \*\* According to TNRCC records, UST-8505 was not registered. No records exist that document tank removal; however, during the soil removal effort conducted at UST-8505 (see Attachment B), it was confirmed that the tank had been previously removed.**

Prior to this investigation, was this site ever an LPST site?  YES or  NO If yes, provide LPST ID number \_\_\_\_\_

Tank Owner: U S Air Force Base Conversion Agency (AFBCA)

Tank Owner Mailing Address: 3711 Outlaw Drive

Tank Owner City: Bergstrom AFB, Austin State: TX Zip: 78719-2557

Tank Owner Contact Person: Charles Pringle Phone: 800-821-4528 Fax no: 210-536-3609

Tank Operator (if different from tank owner) \_\_\_\_\_

Tank Operator Mailing Address \_\_\_\_\_

Tank Operator City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Tank Operator Contact Person \_\_\_\_\_ Phone \_\_\_\_\_ Fax no: \_\_\_\_\_

Land Owner (if different from tank owner and operator) \_\_\_\_\_

Land Owner Mailing Address: \_\_\_\_\_

Land Owner City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Land Owner Contact Person \_\_\_\_\_ Phone \_\_\_\_\_ Fax no \_\_\_\_\_

If this site is an LPST site, which of these parties will oversee the corrective actions at this site?

Tank Owner  Tank Operator  Land Owner

Other (not the contractor or consultant): Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Contact person: \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

A representative of the party overseeing the corrective action must sign this form in Section G Please note that no matter which party conducts corrective action, the tank owner and the tank operator are jointly responsible for the necessary corrective actions

**A. GENERAL INFORMATION**

Facility Name. Carswell Offsite Weapons Storage Area UST-8505

Facility Physical Address: 1100 White Settlement Road

Facility City Fort Worth County: Tarrant County Code (see p. 16):220

INDICATE TYPE OF RELEASE (check one)  Suspected  Confirmed but below action levels (not an LPST site)  
 Confirmed and above action levels (LPST site)  No evidence of contamination (all results below detection limits)  
 Please refer to flowchart and Title 30 Texas Administrative Code, §334 71 - 334 77 for descriptions and procedures for suspected and confirmed releases.

Were copies of this COMPLETED form (excluding pages 1 through 5) AND APPROPRIATE ATTACHMENTS, including a proposal (if RP is financially able), sent to both the TNRCC Central Office and to the Region Office?  YES  NO (IF THE FORM IS NOT COMPLETE, THIS DOCUMENT WILL BE RETURNED WITHOUT REVIEW).

Indicate number of tanks currently and formerly located at this site (attach pages as necessary):

	Type (UST/AST)	Product Type	Size (approx. gal)	Date Removed from Service
Current:	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
	_____	_____	_____	
Former:	<u>UST</u>	<u>diesel</u>	<u>5,000</u>	<u>Unknown, see Attachment B</u>
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

**B. SUSPECTED RELEASE INFORMATION**

Complete only this section and sections E through G as appropriate when the situation of a suspected release has occurred and ~~it was documented that a release had not occurred.~~

Date suspected release discovered: \_\_\_\_\_ Reason release suspected \_\_\_\_\_

Date suspected release reported to TNRCC \_\_\_\_\_ Reported to: \_\_\_\_\_

Possible source(s) of release (check all that apply) Tanks.  USTs  ASTs  Piping  Overfills/spills  Unknown  
 Other: \_\_\_\_\_

Type of substance(s) suspected released. (check all that apply)  Gasoline  Diesel  Used Oil  Aviation Gasoline  
 Jet Fuel (type \_\_\_\_\_)  Alcohol-blended fuel (Type and percentage of alcohol \_\_\_\_\_)  
 Other: (be specific) \_\_\_\_\_

Were UST/AST system tank and/or line tightness tests performed?  YES or  NO (check one) If yes, attach test data and results  
 Did the tests indicate that all tanks and piping were tight?  YES or  NO (check one) If No, specify the portion of the tank system(s) that were found not to be tight \_\_\_\_\_

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Were any repairs conducted on the tank system(s)?  YES or  NO (check one) If yes, describe type(s) and location of repairs

Were tightness tests performed after repairs were conducted?  YES or  NO (check one) If yes, attach test data and results.

Did the tests indicate that the repaired items were tight?  YES or  NO If No, specify the portion of the tank system(s) that were found not to be tight

Were any soil confirmation samples collected?  YES or  NO (check one) If yes, were all potential source areas investigated?  YES or  NO If samples were collected, attach descriptions of sample locations, collection methods, and laboratory results.

Were any groundwater confirmation samples collected?  YES or  NO (check one) If yes, were all potential source areas investigated?  YES or  NO If samples were collected, attach descriptions of sample locations, collection methods, aquifer name, and laboratory results. (Groundwater sampling is not required at this point unless there is reasonable suspicion of impact )

**C. CONFIRMED RELEASE INFORMATION**  
Complete this section only if a release was confirmed.

Date release confirmed. September 13, 1997 Date release reported to TNRCC. January, 1998 Reported to: Antonio Pena

Is this the first release from a UST or AST discovered at this site?  YES  NO

Is there any other contamination or potential impacts to human health from any source other than the tank systems at this site?  YES  NO If yes, indicate type and location of contamination:

Reported to TNRCC by: Robert M Duffner Representing: The Environmental Company, Inc.

Method of release discovery

- Samples collected during tank removal-from-service activities
- Samples collected during other tank system construction activities
- Samples collected during release determination investigation
- Impact to utility line
- Impact to surface water
- Impact to water well
- Other: \_\_\_\_\_

Method of release confirmation (check all that apply)

- Soil samples
- Groundwater samples
- Surface water samples
- Documentation of presence of NAPL

Source(s) of release: (check all that apply) Tanks:  USTs  ASTs  Piping  Overfills/spills  Unknown  Other: \_\_\_\_\_

Substance(s) released: (check all that apply)  Gasoline  Diesel  Used Oil  Aviation Gasoline  Alcohol-blended fuel (Type and percentage of alcohol: \_\_\_\_\_)  Jet Fuel (type: \_\_\_\_\_)  Other: (be specific) \_\_\_\_\_

Amount of product released. unknown Chemical Abstract Service registry # \_\_\_\_\_ (for hazardous substances)

Were any soil confirmation samples collected?  YES or  NO (check one) If yes, attach descriptions of sample locations, collection methods and laboratory results See Attachment B Closure Report for UST-8505

Type of native soil (check one)  Clay or silt  Sand, gravel or rock

Were any groundwater confirmation samples collected?  YES or  NO\*\* (check one) If yes, attach descriptions of sample locations, collection methods, aquifer name, and laboratory results \*\* Shallow groundwater was not encountered during drilling and excavation at UST-8505 site. However, groundwater samples were collected from two deep abandoned production wells

during the Offsite WSA RCRA Facility Investigation (depth to groundwater approx. 100 feet bgs) (see Attachment B).

Known Impact(s): (check all that apply)  Soil  GW  Surface Water  Subsurface Utilities - type \_\_\_\_\_  
 Buildings  Water wells  Other sensitive receptors: \_\_\_\_\_

Was the land owner (if different from the tank owner) notified of the contamination?  YES or  NO (check one) If Yes, attach copy of the letter which provided the notification. If No, documentation that notification was provided must be submitted within 30 days from the date the impact is discovered

Possibly Threatened: (check all that apply)  GW  Surface Water  Subsurface Utilities - type \_\_\_\_\_  
 Buildings  Water wells  Other sensitive receptors: \_\_\_\_\_

Was NAPL detected (greater than 0.01 feet)?  YES or  NO (check one) If yes, describe how and where it was detected, the thickness detected, and the recovery actions taken: \_\_\_\_\_  
\_\_\_\_\_

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D. ABATEMENT MEASURES

Were abatement measures initiated to stop the release or to recover the released substance?  YES or  NO (check one) If yes, describe the abatement and/or recovery measures taken and the dates and duration of the activities: Only benzo(a)pyrene exceeded TNRCC action levels. Soils with action level exceedances were excavated and removed in July and December 1999 (see Attachment B, Closure Report for UST-8505)

Were UST/AST system tank and/or line tightness tests performed?  YES or  NO (check one) If yes, attach test results  
Did the tests indicate that all tanks and piping were tight?  YES or  NO If No, specify the portion of the tank system(s) that were found not to be tight N/A

Were any repairs conducted on the tank system(s)?  YES or  NO (check one) If yes, describe type(s) and location of repairs.  
N/A

Were tightness tests performed after repairs were conducted?  YES or  NO (check one) If yes, attach test results  
Did the tests indicate that the repaired items were tight?  YES or  NO If No, specify the portion of the tank system(s) that were found not to be tight: N/A

E. FIRE/OTHER OFFICIALS

Were any other officials notified?  YES  NO (check one) If Yes, indicate.

<u>Name</u>	<u>Representing</u>	<u>Phone number</u>	<u>Date(s) Notified</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Were any directives issued by the fire or other officials?  YES  NO If Yes, describe directives and actions taken in response to the directive \_\_\_\_\_

F. WASTE DISPOSITION

Indicate the status of all wastes and other materials generated:

<u>Type of waste (soil, water, product)</u>	<u>Quantity</u>	<u>Current location</u>	<u>Method and location of disposal or treatment</u>
<u>soil</u>	<u>235 yd<sup>3</sup></u>	<u>landfill</u>	<u>Excavated and transported to waste management landfill in Aledo, TX (see Attachment B)</u>
_____	_____	_____	_____
_____	_____	_____	_____

G. REPORT PREPARATION

A Licensed On-Site Supervisor may complete and sign this form when the supervisor is acting in an approved capacity for tank removal-from-service or tank system repair activities.

Licensed On-Site Supervisor: \_\_\_\_\_ ILP Reg. No. \_\_\_\_\_ Exp. Date: \_\_\_\_\_

Company: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ FAX No.: \_\_\_\_\_

ORIGINAL

Based on the results of the site investigation and the additional information presented herein, I certify that the site investigation activities performed either by me, or under my direct supervision, including subcontracted work, were conducted in accordance with accepted industry standards/practices and further, that all such tasks were conducted in compliance with applicable TNRCC published rules, guidelines and the laws of the State of Texas. I have reviewed the information included within this report, and consider it to be complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

OR

Project Manager: Joni L. Brown PM Reg. No. : 00636 Exp. Date: 10/30/01

Company: Unified Services of Texas, Inc.

Telephone No.: (817)481-9510 FAX No. : (817)488-1729

Based on the results of the site investigation and the additional information presented herein, I certify that the site investigation activities performed either by me, or under my direct supervision, including subcontracted work, were conducted in accordance with accepted industry standards/practices and further, that all such tasks were conducted in compliance with applicable TNRCC published rules, guidelines and the laws of the State of Texas. I have reviewed the information included within this report, and consider it to be complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties.

PM Signature: Joni L. Brown Date: 3-12-01

AND

CAS Representative: Marshall D. Ryan CAS Reg No 000278 Exp Date: 12/31/01

Company: Unified Services of Texas, Inc.

Telephone No.: (817)481-9510 FAX No.: (817)488-1729

By my signature affixed below, I certify that I am the duly authorized representative of the Correction Action Specialist named and that I have personally reviewed the site investigation results and other relevant information presented herein and considered them to be in accordance with accepted standards/practices and in compliance with the applicable TNRCC published rules, guidelines and the laws of the State of Texas. Further, that the information presented herein is considered complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties.

Signature of CAS Representative Marshall D. Ryan for USI Inc Date: 3-12-01

If the CAS or On-Site Supervisor does not complete and sign this form, provide the following information on the person who has prepared the form:

Name: CHARLES C. PRINGLE  
Charles C. Pringle Company: USAF HQAFCEE  
Telephone No.: 210 536 4477 FAX No.: 210 536 3609  
Signature Charles C. Pringle Date: 03/16/01

Name of Tank Owner or Operator contact Mr. Charles C. Pringle, P.E.  
Telephone No.: (210) 536-4477 FAX No : (210) 536-3609

By my signature affixed below, I certify that I have reviewed this report for accuracy and completeness of information regarding points of contact and the facility and storage tank system history and status. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report related to the contact information, and the facility and storage tank system history and status information, I may be subject to administrative, civil, and/or criminal penalties. I attest that I have reviewed this report for accuracy and completeness. I understand that I am responsible for addressing this matter.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

ORIGINAL

# TAB

*Attachment A*

---

# SITE CLOSURE REQUEST FORM

693 17

## I. GENERAL INFORMATION

LPST ID No.: Not Assigned Facility ID No : N/A

Responsible Party: U.S. Air Force Base Conversion Agency (AFBCA)

Responsible Party Address 3711 Outlaw Drive City: Bergstrom AFB, Austin State: TX Zip 78719-2557

Facility Name: Carswell Offsite Weapons Storage Area UST-8505

Facility Street Address: 1100 White Settlement Road

Facility City: Fort Worth

County: Tarrant

What is the current use of site? (indicate all that apply): Site is not currently used.

Residence<sup>1</sup>  School or Day Care center  Commercial/Industrial<sup>1</sup>  Recreational  Agricultural

What is the anticipated future use of the site? (indicate all that apply)

Residence<sup>1</sup>  School or Day Care center  Commercial/Industrial<sup>1</sup>  Recreational  Agricultural

Adjacent property use (indicate all that apply):

Residence<sup>1</sup>  School or Day Care Center  Commercial/Industrial<sup>1</sup>  Recreational  Agricultural

Distance to nearest off-site residence from property line: 400 feet in southern direction.

Distance to nearest school or day care center from property line. 5,000 feet in eastern direction.

## II. CLOSURE SCREENING INFORMATION

Based on the *Limited Site Assessment Report* form or the *Risk-Based Assessment Report Form* (TNRCC-0562), the site is currently a **Priority 4.2** site. If the site priority has changed, list the other priorities that previously pertained to this site: \_\_\_\_\_

Yes  No Have non-aqueous phase liquids (NAPL) ever been present at this site (including tankpit observation wells)? If yes, is NAPL present now (thickness  $\geq 0.1$  feet)?  Yes  No Current thickness: \_\_\_\_\_ ft If NAPL is currently present, stop here and do not submit this form for case closure. Initiate or continue activities necessary for the removal of all recoverable NAPL at the site

Yes  No Were all soils, recovered contaminated groundwater, and any phase-separated hydrocarbons properly disposed of, treated, recycled or reused in accordance with TNRCC requirements? If No, stop here and do not submit this form. Provide a proposal (if the site is eligible for reimbursement) to properly dispose or otherwise manage the wastes/materials or, if the site is not eligible for reimbursement, provide documentation of proper disposition of the wastes.

Yes  No\*\* Do contaminant concentrations show a consistent decreasing or low static trend? If No, is the contaminant plume increasing in size?  Yes  No If Yes, stop here, do not submit this form, and initiate activities to control plume migration

\*\*No contaminants remain onsite. No shallow groundwater encountered during drilling or excavation at UST-8505 site.

<sup>1</sup> See definition in 30 TAC 334.202

III. RELEASE ABATEMENT/REMEDIATION

Date Release Discovered: September 13, 1997

Substance(s) released: (check all that apply)  Gasoline  Alcohol-blended fuel (Type and percentage of alcohol: \_\_\_\_\_)  
 Diesel  Used Oil  Jet Fuel (type: \_\_\_\_\_)  Aviation Gasoline  Other (be specific) \_\_\_\_\_

Source of Release (specify all that apply):

Spills/overfills  Piping leaks  Dispenser leaks  Tank corrosion  Other: Unknown

Yes  No Has a receptor survey been conducted?  
 Yes  No Has a water well inventory been conducted?

Yes  No Have vapor impacts to buildings or utility lines ever been associated with this release? If Yes, specify the measures taken to abate the impact and indicate the latest date that an impact was noted:  
 \_\_\_\_\_  
 \_\_\_\_\_

Yes  No Have subsurface utilities ever been affected with NAPL or vapors by this release? If Yes, indicate the latest date that an impact was noted:  
 \_\_\_\_\_

If not already provided in *Release Determination Report Form* (TNRCC-0621), or if the information has changed since submittal of the *Release Determination Report*, indicate number of tanks currently and formerly located at this site (attach pages as necessary)

Type (UST/AST)      Product Type      Size (approx gal)

Current: \_\_\_\_\_

_____	_____	_____
_____	_____	_____
_____	_____	_____

Date Removed from Service

Former: unknown

<u>UST-8505</u>	<u>diesel</u>	<u>5,000</u>
_____	_____	_____
_____	_____	_____

Yes  No If the tanks were permanently removed from service, were native soil samples collected from beneath the tanks and the entire length of the piping? If No, explain why not:  
Tank removal documentation not available; however, during overexcavation in July & December 1999, samples were collected from these areas.

Yes  No Was a new UST system installed? If Yes, indicate the date, number of tanks and their contents  
 \_\_\_\_\_

Yes  No Are there any open excavations at the site? If Yes, state size, location, purpose, and status for each of the excavations.  
 \_\_\_\_\_

Type(s) of soil remediation and time periods the remediation method was operational (indicate all that apply):

- Excavation July 26, 1999 to July 30, 1999 (dates), and December 6, 1999 to December 8, 1999
- Aboveground Bioremediation/Aeration \_\_\_\_\_ to \_\_\_\_\_ (dates), or
- Thermal Treatment \_\_\_\_\_ to \_\_\_\_\_ (dates), or
- Disposal July 26, 1999 to July 30, 1999 (dates), and December 6, 1999 to December 8, 1999
- Soil Vapor Extraction \_\_\_\_\_ to \_\_\_\_\_ (dates)
- In-Situ Bioremediation \_\_\_\_\_ to \_\_\_\_\_ (dates)
- None

**III. RELEASE ABATEMENT/REMEDATION (Continued)**

Type(s) of groundwater remediation and time periods the remediation method was operational (indicate all that apply)

- Groundwater Pump and Treat \_\_\_\_\_ to \_\_\_\_\_ (dates)  
 Air Sparging/SVE \_\_\_\_\_ to \_\_\_\_\_ (dates)  
 In-Situ Bioremediation \_\_\_\_\_ to \_\_\_\_\_ (dates)  
 Other \_\_\_\_\_ to \_\_\_\_\_ (dates)  
 None

- Yes  No Were copies of all receipts and manifests to document disposition of all wastes submitted to the TNRCC? If No, attach copies to this form. Also attached in Attachment B, Appendix D

Measured total volume of NAPL recovered: \_\_\_\_\_ gallons.

Estimated total volume of soil treated/removed: 235 cubic yards (exclude soil cuttings removed from borings)

Estimated total volume of groundwater treated/removed: \_\_\_\_\_ gallons (if known).

Estimated pounds of hydrocarbons removed or treated from soil (if known): \_\_\_\_\_

Estimated pounds of hydrocarbons removed or treated from groundwater (if known): \_\_\_\_\_

Estimated percent of total contaminants removed or treated (if known): \_\_\_\_\_

## IV. SOIL DATA VALIDATION

Are there now affected surface soils (contamination exceeding health-based target concentrations) present within 2 feet below the ground surface?  Yes  No  Unknown

Type of surface cover over affected surface soil area:

Paved [ Asphalt or  Concrete] Percent of affected soils covered? \_\_\_\_\_  Unpaved  
 Other. \_

Is there public access to the uncovered affected surface soil area?  Yes  No

Total number of borings \_\_\_\_\_ 3 \_\_\_\_\_ (including those completed as monitor wells)

Yes  No Was the vertical and horizontal extent of soil impacts defined (to the more stringent of health-based target or groundwater protective soil concentrations horizontally and to groundwater or nondetect vertically) by the borings?

Yes  No Are shallow (0-15 feet below ground surface) soils affected (contaminant levels exceed health-based target concentrations) on adjacent properties (including right-of-way properties)

Yes  No Were all soil sample collection, handling, transport, and analytical procedures conducted in accordance with TNRCC and EPA requirements? If No, provide justification \_\_\_\_\_

Soil Contaminants	Sample Date	Sample Location	MAXIMUM SOIL CONCENTRATION LEVELS			Target Cleanup Goals** Used Category I Plan A Target Concentrations
			Depth (in feet below ground surface)	Analytical Method	Maximum Concentration* (mg/kg) U=not detected	
Acenaphthene	12/8/99	UST-230, UST-238	6	8310	0.21 U	314
Anthracene	12/8/99	UST-238	6	8310	0.21 U	13
Benz(a)anthracene	12/8/99	UST-230, UST-238	6	8310	0.021 U	0.877
Benzo(a)pyrene	12/8/99	UST-230, UST-238	6	8310	0.021 U	0.0877
Benzo(b)fluoranthene	12/8/99	UST-230, UST-238	6	8310	0.021 U	0.877
Benzo(ghi)perylene	12/8/99	UST-230	6	8310	0.042 U	not available
Benzo(k)fluoranthene	12/8/99	UST-230, UST-238	6	8310	0.021 U	8.77
Chrysene	12/8/99	UST-238	6	8310	0.022 FJ	7.2
Dibenzo(a,h)anthracene	12/8/99	UST-230, UST-238	6	8310	0.021 U	0.0877
Fluoranthene	12/8/99	UST-230	6	8310	0.042 U	247
Fluorene	12/8/99	UST-230	6	8310	0.042 U	247
Indeno(1,2,3-	12/8/99	UST-230	6	8310	0.042 U	0.877

c,d)pyrene						
Phenanthrene	12/8/99	UST-230	6	8310	0.042 U	not available
Pyrene	12/8/99	UST-230	6	8310	0.042 U	99

F – The analyte was positively identified but the associated numeric value is at or below the reporting limit.

J – The positive results reported for this analyte is a quantitative estimate.

U – This analyte was not detected in the sample.

\* Enter maximum soil analytical results for soils remaining beneath the site (take into account all available data, including information obtained during the release determination (tank removal from service, minimal site assessment, etc))

\*\* If Plan A cleanup goals were used, provide the potential groundwater beneficial use category and a justification of how it was determined in Section VI

1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995.

V. GROUNDWATER DATA VALIDATION

Is groundwater at the site impacted?  Yes  No

Did the assessment document that groundwater was not impacted?  Yes  No If No or unsure, provide justification for not determining whether there is a groundwater impact: No shallow groundwater wells installed because groundwater was not encountered during drilling and excavation at UST-8505 site. However, two centrally-located deep (approx. 100 feet bgs) wells sampled in September 1997. Wells were existing (abandoned) production wells in Paluxy aquifer (see Attachment B). Soil data indicated no contamination beyond bedrock. No monitoring wells were installed

Total number of monitoring wells installed. None Number of monitor wells remaining at the site       
 Will any of the remaining wells be used in the future?  Yes  No If Yes, specify exactly which well(s) will be used:     

If No, they must be plugged in accordance with Water Code 32 017 after obtaining approval for site closure **Do not** plug the wells until you receive concurrence on site closure. Costs of well plugging may be allowable for reimbursement if all eligibility requirements are met and if the wells were installed under the direction of the TNRCC specifically to address the confirmed release at the site Provide a proposal with this form (if the site is eligible for reimbursement) for costs of the well plugging

Measured total dissolved solids (TDS) concentration in groundwater      mg/l From which monitor well(s) was/were the sample(s) collected? N/A

Measured groundwater yield at the site: N/A gallons/day (as determined from well adequately screened in the impacted aquifer).  Not determined

Measured groundwater depth at the site ranges between N/A and      feet below the top of well casing.

Time period of groundwater monitoring at the site (dates): N/A

Total number of groundwater monitoring events. N/A

What type of aquifer is impacted? (unconfined, confined, semi-confined): Not impacted.

Distance from maximum plume concentration point to nearest existing downgradient well location (not monitor well)  
 No plume      ft in      direction (Input ">0.5 mile" if there is no well within 0.5 mile downgradient)

Are any water supply wells impacted or immediately threatened?  Yes  No  
 If Yes, specify type of well  Drinking water  Non-drinking water

Are there any existing water wells located within the area of impacted groundwater?  Yes  No  
 If Yes, specify type of well  Drinking water  Non-drinking water No impact to groundwater.

Has surface water been affected?  Yes  No

Will the groundwater contaminants likely discharge to a surface water body?  Yes  No Shallow groundwater was not encountered at UST-8505, no groundwater contaminants were not identified in the deep aquifer.

What is the potential impact of affected groundwater discharge on surface water?  
 Current impact  Discharges within 500 ft.  Discharges within 500 to 0.25 miles  
 No potential impact

Yes  No Were groundwater sample collection, handling, transport, and analytical procedures conducted and documented in accordance with TNRCC requirements? If no, provide justification:

**V. GROUNDWATER DATA VALIDATION (Continued)**

- Yes  No Is the extent of groundwater contamination defined (to MCL concentrations)? If No, provide justification for not defining the plume No deep groundwater contamination. Shallow groundwater was not encountered during drilling and excavation at UST-8505 site.
- 
- Yes  No Have groundwater impacts from this release been detected on adjacent properties? If No, is off-site migration probable?  Yes  No Is there documentation that off-site migration has **not** occurred (sample results from off-site sampling point)?  Yes  No
- Yes  No Was the static groundwater level above the top of the well screen in any monitor wells during any of the last 4 monitoring events? If Yes, provide a statement of validity regarding these samples:  
N/A.
- 
- Yes  No Have groundwater samples from all monitor wells met the target cleanup goals for the last four consecutive sampling events? Not applicable.

**MAXIMUM GROUNDWATER CONCENTRATIONS**
**From Deep Groundwater Only (Paluxy Aquifer)\***

Groundwater Contaminants	Sample Date	Sample Location	Laboratory Method	Maximum Concentration* (mg/l) U = not detected	Target Cleanup Goals** <i>Used Plan A 1994 Cleanup Goals Based on Category 1</i>
Benzene	9/9/97	Xu-32-12901/02	8020	0.0004 U	0.0005
Toluene	9/9/97	Xu-32-12901/02	8020	0.0011 U	1
Ethylbenzene	9/9/97	Xu-32-12901/02	8020	0.0006 U	0.7
Total Xylenes	9/9/97	Xu-32-12901/02	8020	0.0005 U	10
Total BTEX					
TPH					
Other PAHs	9/9/97	Xu-32-12901/02	8310	0.01 U	
Other					

NOTE: Data provided in this table are for groundwater samples collected from the deep abandoned production wells in the Paluxy Aquifer (depth to groundwater approx. 100 feet bgs). Shallow groundwater was not encountered during drilling and excavation at UST-8505 site.

\* Enter maximum groundwater analytical results from the most recent 12 months of monitoring.

\*\* 1990 cleanup goals may be used only if all activities necessary to meet those goals were completed by November 8, 1995



## VII. REPORT PREPARATION

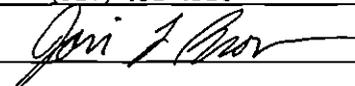
Based on the results of the site investigation and the additional information presented herein, I certify that the site investigation activities performed either by me, or under my direct supervision, including subcontracted work, were conducted in accordance with accepted industry standards/practices and further, that all such tasks were conducted in compliance with applicable TNRCC published rules, guidelines and the laws of the State of Texas. I have reviewed the information included within this report, and consider it to be complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Project Manager: Joni L. Brown CAPM No.: 00636 Expiration date: 10/30/01

Company: Unified Services of Texas, Inc.

Address: 2110 Greenbriar City: Southlake State: TX Zip: 76092

Telephone No.: (817) 481-4510 Fax No.: (817) 488-1729

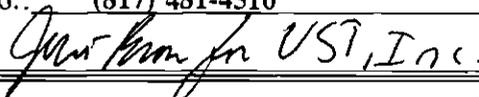
Signature:  Date: 3-13-01

By my signature affixed below, I certify that I am the duly authorized representative of the Correction Action Specialist named and that I have personally reviewed the site investigation results and other relevant information presented herein and considered them to be in accordance with accepted standards/practices and in compliance with the applicable TNRCC published rules, guidelines and the laws of the State of Texas. Further, that the information presented herein is considered complete, accurate and representative of the conditions discovered during the site investigation. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report, I may be subject to administrative, civil, and/or criminal penalties. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Corrective Action Specialist: Unified Services of Texas, Inc. CAS No.: 00278 Expiration date: 12/31/01

Company: Unified Services of Texas, Inc. City: Southlake State: TX Zip: 76092

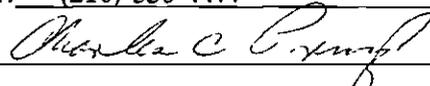
Telephone No.: (817) 481-4510 Fax No.: (817) 488-1729

Signature:  Date: 3-13-01

By my signature affixed below, I certify that I have reviewed this report for accuracy and completeness of information regarding points of contact and the facility and storage tank system history and status. I acknowledge that if I intentionally or knowingly make false statements, representations, or certifications in this report related to the contact information, and the facility and storage tank system history and status information, I may be subject to administrative, civil, and/or criminal penalties. I attest that I have reviewed this report for accuracy and completeness. I understand that I am responsible for addressing this matter. **I certify that the site has met all requirements for closure and that closure is appropriate.**

Name of Responsible Party contact: Mr. Charles C. Pringle, P.E.

Telephone No.: (210) 536-4477 Fax No.: (210) 536-3609

Signature:  Date: 03/14/01

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS FORM IF NOT PREVIOUSLY SUBMITTED:

ORIGINAL

# TAB

*Attachment B*

---

**CLOSURE REPORT FOR  
FORMER UNDERGROUND STORAGE TANK LOCATION  
UST-8505**

**AT**

**OFFSITE WEAPONS STORAGE AREA**

**NAVAL AIR STATION FORT WORTH  
JOINT RESERVE BASE (JRB)  
CARSWELL FIELD, TEXAS**

March 14, 2001

Prepared for

**Air Force Materiel Command**  
Headquarters Human Systems Center PKVCC  
3207 North Road  
Brooks AFB, Texas 78235-5353

Prepared by

**The Environmental Company, Inc.**  
710 NW Juniper Street, Suite 208  
Issaquah, WA 98027

Contract No. F41624-95-D-8002  
Delivery Order 0009

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Closure Report for Former UST Location UST-8505  
Offsite Weapons Storage Area  
NAS Fort Worth JRB Carswell Field  
Contract No F41624-95-D-8002/Delivery Order 0009

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<b>REPORT DOCUMENTATION PAGE</b>			<i>Form Approved</i> OMB No 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC.				
1 AGENCY USE ONLY (Leave blank)	2 REPORT DATE March 2001	3 REPORT TYPE AND DATES COVERED Closure Report - March 2000		
4 TITLE AND SUBTITLE CLOSURE REPORT FOR FORMER UNDERGROUND STORAGE TANK LOCATION UST-8505 NAVAL AIR STATION (NAS) FORT WORTH JOINT RESERVE BASE (JRB) CARSWELL FIELD, TEXAS		5 FUNDING NUMBERS F41624-95-D-8002 Delivery Order 0009		
6 AUTHOR(S) The Environmental Company, Inc.				
7 PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) The Environmental Company, Inc 710 NW Juniper, Suite 208 Issaquah, WA 98027		8 PERFORMING ORGANIZATION REPORT NUMBER NA		
9 SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) HQ AFCEE/ERB Air Force Center for Environmental Excellence Base Closure Division Brooks AFB, TX 78235		10 SPONSORING/MONITORING AGENCY REPORT NUMBER NA		
11 SUPPLEMENTARY NOTES				
12a DISTRIBUTION/AVAILABILITY STATEMENT		12b DISTRIBUTION CODE		
13 ABSTRACT (Maximum 200 words) This Closure Report provides a summary of underground storage tank investigation and remediation activities conducted at the Offsite Weapons Storage Facility (WSA) located at NAS Fort Worth, Texas. Contaminated soils were removed from former underground storage tank location UST-8505. The closure report includes previous RFI investigation results, description of soil removal and confirmation sampling activities, and documentation of attainment of Texas state standards.				
14 SUBJECT TERMS TECHNICAL REPORT			15 NUMBER OF PAGES APPROXIMATELY 150	
			16 PRICE CODE	
17 SECURITY CLASSIFICATION OF REPORT Unclassified	18 SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19 SECURITY CLASSIFICATION Unclassified	20 LIMITATION OF ABSTRACT	

## PREFACE

A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) of the Offsite Weapons Storage Area (WSA) at Naval Air Station (NAS) Fort Worth Joint Reserve Base, Carswell Field, Texas (identified as Project No. 96-8117), was conducted to determine whether hazardous constituents have been released into the environment. A Final RFI report was issued to the Texas Natural Resources Conservation Commission (TNRCC) Petroleum Storage Tank Division (PSTD) in June of 1999. As part of the RFI, an investigation of environmental media potentially impacted by former underground storage tanks used for the storage of diesel fuel was completed.

Closure activities were conducted to reduce contaminated soil levels to below site-specific cleanup levels after completion of the RFI. This report describes the closure methods used, summarizes the sample results, and documents attainment of TNRCC PSTD Category I Plan A Target Concentrations for diesel fuel tank UST-8505. During the RFI, characterization of soils in the vicinity of an additional tank, UST-8514, demonstrated that no releases of constituents occurred from this tank. Therefore, no further action is required at this UST location and data for UST-8514 is not provided in this closure report. A third tank registered with the TNRCC as LPST 91568, was located approximately 35-40 feet south of building 8514 and is the subject of a separate investigation involving the release of an unknown quantity of diesel fuel. LPST 91568 is being addressed in another investigation and will be reported under separate cover.

This report was prepared by The Environmental Company, Inc (TEC) under contract No. F41624-95-D-8002, Delivery Order 0009, prepared for Project No. 96-8117. This report was written under the direction of Mr. Bob Duffner, P.E., TEC Program Manager. The Contracting Officer's Representative for this project is Mr. Charles Pringle, Air Force Center for Environmental Excellence (AFCEE), Environmental Restoration Branch (ERB), Brooks Air Force Base (AFB), Texas.

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## NOTICE

This report has been prepared for the United States Air Force (USAF) by The Environmental Company, Inc. (TEC) for the purpose of aiding in the implementation of a final remedial action plan under the USAF Installation Restoration Program (IRP).

Although the area of study is being investigated in accordance with IRP guidance, the area has not been identified as an IRP site. NAS Fort Worth (formerly Carswell Air Force Base) is undergoing property disposal/reuse pursuant to the Defense Base Closure and Realignment Act of 1990 and Round II of the Base Closure Commission deliberations. The area is being considered for property disposal or reuse, and the Air Force Base Conversion Agency (AFBCA) desires to investigate the area to confirm or deny the presence of contamination.

As the report relates to actual or possible releases of potentially hazardous substances, its release prior to a USAF final decision on remedial action may be in the public's interest. The limited objectives of this report and the ongoing nature of the IRP, in conjunction with the evolving knowledge of site conditions and chemical effects on the environment and health, must be considered when evaluating this report because subsequent facts may become known that may make this report premature or inaccurate.

Acceptance of this report in performance of the contract under which it is prepared does not mean that the USAF adopts the conclusions, recommendations, or other views expressed herein, which are those of the contractor only and do not necessarily reflect the official position of the USAF.

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Closure Report for Former UST Location UST-8505  
Offsite Weapons Storage Area  
NAS Fort Worth JRB Carswell Field  
Contract No F41624-95-D-8002/Delivery Order 0009

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## LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AFCEE	Air Force Center for Environmental Excellence
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, xylene
Bldg	building
cm/sec	centimeters per second
EOD	Explosive Ordnance Disposal
°F	Degrees Fahrenheit
JRB	Joint Reserve Base
mg/kg	milligrams per kilogram
msl	mean sea level
NAS	Naval Air Station
PAHs	polynuclear aromatic hydrocarbons
PCB	polychlorinated biphenyls
PCE	tetrachloroethene
PQL	practical quantitation limit
PST	petroleum storage tank
PSTD	Petroleum Storage Tank Division
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
TEC	The Environmental Company, Inc.

### LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

TNRCC	Texas Natural Resources Conservation Commission
TPH	total petroleum hydrocarbon
TRPH	total recoverable petroleum hydrocarbon
$\mu\text{g/g}$	micrograms per gram
UNITEC	Universal Technologies, Inc.
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
UST	underground storage tank
UST	Unified Services of Texas
UTL	upper tolerance limit
UTL <sub>95,95</sub>	upper tolerance limit with 95 percent coverage
VOC	volatile organic compound
WSA	Weapons Storage Area

## 1.0 INTRODUCTION

The Environmental Company, Inc. was contracted by the United States Air Force Center for Environmental Excellence (AFCEE) to perform a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) for the Offsite Weapons Storage Area (WSA) at Naval Air Station (NAS) Fort Worth Joint Reserve Base (JRB) Carswell Field, Texas. The results of this investigation were provided in an RFI Report (TEC, 1999).

Included in the RFI report was a summary of investigations completed in association with former underground storage tanks (USTs) that contained diesel fuel. There were two diesel fuel storage tanks at the Offsite WSA. These tanks are identified in the Offsite RFI Report (TEC, 1999) as UST-8505 and UST-8514. The investigation and closure activities for UST-8505 are described in this closure report. No release was identified at UST-8514. Therefore, no further action was required for this area in association with the 30 TAC §334 regulations.

In addition to these two former diesel fuel tanks, there were four other tanks at the offsite WSA. Three of the tanks (UST-8500, UST-8503, and UST-8507) contained fuel oil and were investigated for potential releases. They have been closed under the TNRCC Risk Reduction Standards (TEC, 2000). The fourth tank was a 1,000-gallon tank. A diesel fuel leak associated with the tank was reported to TRNCC and subsequently registered as LPST 91568. Investigation and tank closure activities associated with LPST 91568 are not reported in this document, but will be reported under separate cover.

The investigation reporting, removal and confirmation sampling activities, and closure reporting have been performed under Contract No F41624-95-D-8002, Delivery Order 0009, Project Number 96-8117. The Offsite WSA (Facility ID No. 09697) is associated with TNRCC Solid Waste Registration No. 650004 and Hazardous Waste Permit No. HW-50289.

### 1.1 PROJECT BACKGROUND

This section includes a description of the site location, a history of Offsite WSA UST activities, and the environmental setting of the region.

#### 1.1.1 Installation Location

The Offsite WSA was an off-base facility supporting Carswell Air Force Base (AFB), which has since been realigned as NAS Fort Worth JRB. NAS Fort Worth JRB is located in north-central Texas in Tarrant County, approximately 8 miles west of Fort Worth, Texas (see Figure 1-1).

NAS Fort Worth JRB property totals 2,555 acres and consists of a main station and two noncontiguous land parcels. The area surrounding NAS Fort Worth is predominantly suburban and includes the residential areas of Fort Worth, Westworth Village, and White Settlement.

The Offsite WSA is located on a 247-acre offsite parcel under the ownership and control of the Air Force Base Conversion Agency (AFBCA). This parcel is surrounded by an additional 264 acres of easements controlled by the AFBCA. The Offsite WSA is located at approximately 32 degrees north latitude and 97 degrees west longitude, in north-central Texas. It lies approximately 4 miles west of NAS Fort Worth, just north of White Settlement Road (see Figure 1-2). The 70-acre Offsite WSA facility was built in 1956 and is enclosed within a security fence. A 1984 aerial photograph of the site is provided in Figure 1-3, and a detailed map of the site facilities is provided in Figure 1-4. Both of these figures show the fenced area of the Offsite WSA surrounded by the outer ring of USAF property. The Offsite WSA is bordered primarily by rural land, with some ranches and farms located nearby. A residential development is located south of White Settlement Road.

Facilities at the Offsite WSA include two munitions inspection shops, 16 ordnance storage buildings (including 11 bunkers), one entry control building, a less-than-90-day hazardous waste storage area (Solid Waste Management Unit [SWMU 59]), and an emergency power plant. During its operational period, the Offsite WSA also maintained an Explosive Ordnance Disposal (EOD) Range, a small radioactive waste burial site (SWMU 60), a water storage tank, and two nonpotable water wells. The radioactive waste burial site has been closed and remediated since the Offsite WSA operations were terminated, and the EOD Range has been physically cleared of explosives and metals. The locations of Offsite WSA buildings are shown on Figure 1-4.

### **1.1.2 Offsite WSA Underground Storage Tank History**

The Offsite WSA, built in 1956, was officially closed with the rest of Carswell AFB on 30 September 1993. Site activities included the storage and maintenance of munitions, and disposal of ordnance.

In support of the site operations, the USAF, maintained an auxiliary power plant and a vehicle fueling station. The power plant was housed in Building (Bldg.) 8505 and contained four diesel generators (see Figure 1-4). A diesel storage tank (UST-8505) located directly adjacent to the west side of Bldg. 8505 served the plant. The vehicle fueling area (Area A-4) was located south of Bldg. 8514 (see Figure 1-4). The fueling area consisted of one pump and one diesel storage tank (UST-8514). UST-8505 had a tank capacity of 5,000 gallons. UST-8514 tank capacity was 1,000 gallons.

There were three other fuel oil USTs at the Offsite WSA located near Buildings 8500, 8503, and 8507. UST-8500, UST-8503, and UST-8507 fuel oil storage tanks have been closed under the TNRCC Industrial Solid Waste program. Table 1-1 provides a summary of available Offsite WSA UST information. Historic diagrams of the USTs are provided in Appendix A of this report.

Investigation and closure request for LPST 91568 will be submitted to the TNRCC PSTD under separate cover. In addition to these tanks, there is a leaking petroleum storage tank (LPST) at the Offsite WSA registered with TNRCC as LPST 91568. Historical

documents indicate that this tank contained fuel oil; however, a diesel fuel oil release was reported.

All USTs at the Offsite WSA were reportedly removed, however, there is no written documentation of the removal activities (Long, 1996). During the RFI and site closure field investigations, fill material was identified from surface to bedrock at each UST location. Also noted was an increased depth to bedrock at each location. Geologic logs for each borehole installed at UST-8505 during the RFI are provided in Appendix B. The combination of fill and increased depth to bedrock at the immediate tank locations indicates that the tanks were placed directly in pits dug into the bedrock. After tank removal, fill was likely placed in each pit.

### **1.1.3 Environmental Setting**

#### **1.1.3.1 Physical Geography**

The Offsite WSA land area is characterized by broad, gently to moderately sloping terraces of sedimentary rock mantled by a variable thickness of light brown to black loamy soil. The Offsite WSA is situated on a ridge between Live Oak Creek and one of its tributaries to the north. Topography within the fenced area of the Offsite WSA consists of a gently sloping surface with elevations ranging from approximately 770 feet above mean sea level (msl) along the western boundary fence to approximately 730 feet above msl near the east fence (see Figure 1-4). The plateau's gentle slopes end abruptly at the drainages, which feed into Live Oak Creek and its tributaries to the south, east, and north of the Offsite WSA. Gradients become much steeper in these drainages, with up to 30 feet of vertical drop per 100 feet of horizontal distance (see Figure 1-5).

The primary surface water features in the vicinity of the Offsite WSA are Live Oak Creek, located approximately 400 feet south of the Offsite WSA boundary, and an unnamed ephemeral tributary to Live Oak Creek, located immediately north of the fenced Offsite WSA property (see Figure 1-5). A series of drainageways and ditches transmit surface water directly offsite. The Offsite WSA drainageways flow into the major drainages to the south, east, and north. All surface water associated with the site eventually discharges into Live Oak Creek or its northern tributary.

Live Oak Creek flows northeast from the Offsite WSA and enters Lake Worth approximately 3 miles east of the site. Lake Worth and Live Oak Creek primarily are used for recreational purposes and fishing. Lake Worth is a source of drinking water for the City of Fort Worth.

#### **1.1.3.2 Geology and Hydrogeology**

##### **Soils**

The Soil Survey of Tarrant County (Ressel, 1981) shows 10 distinct soil units in and around the Offsite WSA (see Figure 1-7). All of these soils are moderately alkaline, reflecting the limestone bedrock of the region, and most are shallow. RFI drilling confirmed that the soil layer is thin at the Offsite WSA, with depth to bedrock exceeding

6 feet only in scattered locations. Alluvial materials are found only along stream channels of Live Oak Creek and its northern tributary. Additional descriptions of the soils in the Offsite WSA area are provided in the RFI report (TEC, 1999)

### ***Bedrock Geology***

The stratigraphy of the area surrounding the Offsite WSA consists of, from youngest to oldest, the Goodland Limestone, the Walnut Formation, the Paluxy Formation, and the Glen Rose Formation (see Figures 1-6 and 1-8)

Cretaceous bedrock is exposed both in and near the Offsite WSA. Goodland Limestone crops out west of the Offsite WSA property boundary and is the uppermost unit in the background wells installed by Jacobs Engineering. Erosion and the drop in elevation from the area of the background wells to the Offsite WSA have eliminated the Goodland Limestone from the surface at the Offsite WSA. Weathered Walnut Formation crops out over most of the area inside the fenced Offsite WSA (Barnes, 1972). This formation was found to be 25 to 30 feet thick in the two background wells.

Outcrops of this formation within the Offsite WSA consist of weathered fossiliferous limestone. Underlying the Walnut Formation is the Paluxy Formation. This formation is not exposed within the fenced Offsite WSA facility, but only in the steeper drainages along Live Oak Creek and its northern tributary, as well as in a quarry south of the Offsite WSA. The more resistant Walnut Formation limestone caps the poorly cemented sandstones of the Paluxy, allowing weathering and erosion to produce steeper slopes in the Paluxy Formation. This formation was found to be 170 to 190 feet thick in the Offsite WSA background wells, which were drilled to the Paluxy/Glen Rose Formation contact (Jacobs, 1997b). In the Offsite WSA area, the Paluxy Formation consists of fine- to coarse-grained sandy material with varying degrees of cementation and varying amounts of shale. The Glen Rose Formation does not crop out in the area surrounding the Offsite WSA, but is an important hydrologic unit.

### ***Local Hydrogeology***

The important hydrogeologic units beneath the Offsite WSA are

- surficial overburden;
- Walnut Formation aquitard,
- Paluxy Aquifer, and
- Glen Rose Formation aquitard (see Figures 1-6 and 1-8).

Previous investigations have identified shallow groundwater at a depth of 5 feet below ground surface (bgs) (Radian, 1989). This water is contained within the surficial overburden at the site. Results of drilling done during the RFI indicate that this water occurs sporadically across the site and contains saturated soil in areas where surface

waters have migrated downward and are moving along the bedrock/soil interface. This shallow subsurface water, like the surface water at the Offsite WSA, is assumed to follow the topography and radiate out from the site to the south, east, and north. This water would then discharge to the numerous ravines around the site perimeter that feed tributaries of Live Oak Creek.

Although the Walnut Formation can contain groundwater in shallow weathered zones, it generally functions as an aquitard. During the Offsite WSA Background Study (Jacobs, 1997b), water was observed in weathered zones of the formation only after heavy rains via surface infiltration. Previous studies of competent Walnut Formation produced a hydraulic conductivity value of  $7.0 \times 10^{-10}$  cm/sec (Jacobs, 1997a). This information indicates that downward flow of groundwater through the Walnut Formation is limited.

The Paluxy Aquifer is the principal source of groundwater in the vicinity of the Offsite WSA. The Paluxy is believed to exist under unconfined or semiconfined conditions, depending on depth of encounter and the local stratigraphic sequence. Most of the water wells in the area are completed in the lower, coarser-grained, and more permeable section of the Paluxy Aquifer. Geotechnical results from samples collected in background well WJEPX925 confirm that the lower portions of the Paluxy Formation are more porous and have a higher conductivity (Jacobs, 1997b). A sample collected from 161 to 162 feet bgs in the well showed an effective porosity of 1.6 percent and an average hydraulic conductivity of  $9.1 \times 10^{-8}$  cm/sec. In contrast, samples collected from 195 to 196 and 249 to 250 feet bgs had effective porosities of 28.66 and 28.91 percent and average hydraulic conductivities of  $2.29 \times 10^{-3}$  and  $3.47 \times 10^{-3}$  cm/sec, respectively. It should also be noted that even the upper portions of the Paluxy Formation have significantly higher hydraulic conductivities than the overlying Walnut Formation.

Most recharge to the Paluxy Aquifer occurs where the formation crops out west and north of the Offsite WSA and in the lake bed of Lake Worth. The amount of recharge via outcrops along Live Oak Creek is unknown.

Two inactive wells located on the Offsite WSA property, are screened in the Paluxy Aquifer (see Figure 1-4). The main water supply well, XU3212-902, and the back-up well, XU3212-901, were installed using cable tool drilling methods (Johnson, 1997). Both holes were drilled to 300 feet bgs, then allowed to collapse to 186.6 and 184 feet bgs, respectively. Steel casing was placed to the final total depth and perforated to produce the well screen. These wells reportedly delivered nonpotable water to the site for toilet flushing and other noncontact uses. As there was no potable water source at the site, bottled water was provided.

Previous studies in the region have determined that groundwater in the Paluxy Aquifer flows to the east (A. T. Kearney, 1989). Measurements made during the Offsite WSA background study (Jacobs, 1997b) and during this RFI confirm a strong eastward flow component in the Paluxy Aquifer. Due to the configuration of the wells at the site, however, the exact direction of groundwater flow could not be determined. Assuming an easterly direction, a hydraulic gradient of 1.85 to 1.96 feet per 100 feet was calculated from measurements made during the RFI.

The Glen Rose Formation lies beneath the Paluxy Formation and is composed of fine-grained limestone, shale, marl, and sandstone beds. This formation is not exposed at the Offsite WSA, but was encountered in the Jacobs Engineering background wells. Although sands in the Glen Rose Formation yield small amounts of water to wells in Fort Worth and western Tarrant County, the formation generally serves as an aquitard, separating the groundwater in the Paluxy Aquifer from groundwater in the deeper Twin Mountains Aquifer

### **1.1.3.3 Climate**

The climate at the Offsite WSA is typified by humid, hot summers and cool, relatively dry winters. The average annual precipitation is 31.5 inches, with the majority falling between April and October. The average annual relative humidity is 63 percent. The average annual air temperature is 66 degrees Fahrenheit (°F). July is the warmest month, with an average monthly air temperature of 86°F, and January is the coldest month, with an average monthly air temperature of 45°F. Temperatures can change rapidly in the region, often 20°F to 30°F in a matter of hours (Ressel, 1981)

Prevailing winds are southerly from March to November and northerly from December to February. The average wind speed is 8 knots. Thunderstorms with wind speeds in excess of 65 knots, as well as hail storms, are common in the region. Climate conditions in the summer make tornado formations possible (Ressel, 1981).

### **1.1.3.4 Demographics**

The Offsite WSA is located in Tarrant County in north-central Texas, adjacent to the westernmost side of the City of Fort Worth city limits. The areas to the south and east of the site are within city limits, while the areas north and west are considered county Fort Worth extraterritorial jurisdiction (City of Fort Worth, 1991) (see Figure 1-2). The closest established city other than Fort Worth is White Settlement, located approximately 3 miles east of the site

Current population and demographic information for the area in the vicinity of the site and surrounding areas is based on the 1990 U.S. Census. The site lies within census tract 484391142 02, which in 1990 had an estimated population of 5,402 persons. The majority of the population were 6 to 65 years of age (U.S. Census Bureau, 1990). Figure 1-9 depicts the census tracts that lie in the vicinity of the site and surrounding area. For purposes of the human health assessment, the 1990 population characteristic of the area within a 2-mile radius was reviewed. This entire area lies within portions of three census tracts, representing a total of 11,771 persons

Trends suggest that the population in the area surrounding the site will increase over the next several years. Census block group data for the area encompassing neighborhoods to the southeast of the site and immediately south of White Settlement Road indicate a 78 percent increase in the number of residents between 1990 (1,314 persons) and 1997 (2,343 persons) (City of Fort Worth, 1997). White Settlement's population increased 14.5 percent between 1980 and 1990 (TNRIS, 1997). The north-central region of Texas,

where the site is located, is currently the most populous part of the state, with 24 percent of the state's population. From 1980 to 1990, the population in the region grew 31 percent. By 2050, the population is projected to increase 119 percent (TWDB, 1997).

### 1.1.3.5 Ecology

The Offsite WSA is located on the border between the Western Cross Timbers and Grand Prairie vegetation zones of north-central Texas (Bailey, 1980). The late seral forest and woodland plant communities that originally dominated these vegetation zones were the Post Oak-Blackjack Oak Series (*Quercus stellata-Quercus marilandica*) and the Pecan-Southern Hackberry Series (*Carva illinoensis-Celtis laevigata*), respectively. The post Oak-Blackjack Oak Series consists of open deciduous woodlands with components of tallgrass grasslands in the understory. The Pecan-Southern Hackberry Series is a deciduous woodland or forest that occupies floodplains. In drier floodplains along smaller streams such as Live Oak Creek, the Plateau Live Oak-Netleaf Hackberry Series (*Quercus fusiformis-Celtis reticulata*) may also be present (Bailey, 1980).

### 1.1.4 Site Descriptions

The Offsite WSA contains a number of sites and/or locations that were previously investigated before the RFI or were investigated during the RFI (see Figure 2-1). These sites and/or locations include:

- the less-than-90-day Waste Accumulation Area (SWMU 59);
- outdoor maintenance and material storage areas;
- an explosive ordnance deposition range;
- former UST areas;
- a former waste dump;
- low-level radiation areas within Bunker 8531;
- a former low-level radioactive waste burial site (SWMU 60), and
- electrical transformers.

Each of these sites and/or locations is described in the RFI Report (TEC, 1999).

With the exception of UST-8505, all locations are evaluated and are being closed as needed under the TNRC Industrial Solid Waste Program.

## 1.2 PREVIOUS INVESTIGATIONS

Prior to the RFI, a number of environmental investigations and studies were conducted to identify sources of possible contamination and to assess the extent and magnitude of contamination and its potential impacts on human health and the environment. A chronological summary of previous investigative activities performed at the Offsite WSA is presented in Table 1-2. These studies are discussed in more detail in the RFI Report (TEC, 1999).

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Closure Report for Former UST Location UST-8505  
Offsite Weapons Storage Area  
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**Table 1-1. Summary of Former Underground Storage Tanks**

<b>Building Number</b>	<b>Tank Contents</b>	<b>Tank Size</b>	<b>Tank Dimensions</b>	<b>Function</b>
8514	Diesel	1,000 gallons	10 feet by 6 feet	Vehicle Fueling
8507	Fuel Oil	1,000 gallons	10.6 feet by 4 feet	Heating
8505	Diesel	5,000 gallons	18 feet by 8 feet	Power
8500	Fuel Oil	750 gallons	8 feet by 4 feet	Heating
8503	Fuel Oil	2,000 gallons	12 feet by 6 feet	Heating

693 53.4

Closure Report for Former UST Location UST-8505  
Offsite Weapons Storage Area  
NAS Fort Worth JRB Carswell Field  
Contract No F41624-95-D-8002/Delivery Order 0009

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**Table 1-2. Chronological Summary of Environmental Reports**

<b>Date</b>	<b>Location/ Site</b>	<b>Report Title</b>	<b>Scope</b>	<b>Contaminants Reported</b>	<b>Action/ Recommendation</b>
1989	WSA in general	Ri/FS Stage II Technical Report (Radian, 1989)	Evaluated previously identified contamination, performed risk screening, and provided recommendations for 13 sites at Carswell AFB including one at Offsite WSA.	TCE and other indicator contaminants found in boreholes drilled in ditch west of Bldg. 8503/Waste Accumulation Area.	Indicated that site posed low risk and recommended determination of TCE extent.
1989	SWMUs 59 and 60	RCRA Facility Assessment PR/VS/ Report (A. T. Kearney, 1989)	Evaluated SWMUs at Carswell AFB (including those at Offsite WSA) and provided preliminary determination of releases.	SWMU 59 - No reference of previous contamination reported. SWMU 60 - No contamination cited, except previously reported radium (8.5 pCi/L) in supply well.	SWMU 59 - RFI recommended. SWMU 60 - No further action recommended.
March 1993	EOD Range	EOD Range Survey (USAF, 1993b)	Surveyed and swept EOD Range for ordnance and ordnance residue.	Ordnance found at range, small arms, and actuators in one pit. Text referenced radioactive burial pit and TCE previously found in soil near Bldg. 8503.	Ordnance clearing recommended.

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Table 1-2. Chronological Summary of Environmental Reports (continued)

Date	Location/ Site	Report Title	Scope	Contaminants Reported	Action/ Recommendation
June 1996	Soil and Debris Dump	Report of Soil Debris Removal Activity at the Offsite Weapons Storage Area (M&E, 1996)	Sampled soil around waste dump to determine potential contaminants and remove debris from waste dump.	No hazardous constituents found in the soil above background levels.	Debris in waste dump treated and transported as non-hazardous waste. Dump clean and closed.
1993	WSA in general	Basewide Environmental Baseline Survey Carswell Air Force Base (USAF, 1993a)	Conducted EBS to document physical condition of WSA. Included asbestos and PCB inventories.	Documented presence of LLRWBS at WSA and TCE previously found in soil near Bldg. 8503.	Most of WSA classified as Category 2, EOD Range as a Category 7, and LLRWBS and Bldg 8503 as Category 6.
February 1995	Munitions bunkers	Weapons Storage Area Site Assessment (USAF, 1995)	Collected three swipe samples from Bunker 8531 for radiological characterization.	Radionuclides were detected in the bunker.	Additional swipe samples needed to determine type of alpha-emitting isotope present.

Table 1-2. Chronological Summary of Environmental Reports (continued)

Date	Location/ Site	Report Title	Scope	Contaminants Reported	Action/ Recommendation
January 1996	Munitions bunkers	Radiological Evaluation of Suspected Hot Spots in Bunker 8531 (USAF, 1996b)	Collected five additional swipe samples from Bunker 8531 to determine quantity of alpha/beta/gamma levels.	Alpha/beta/gamma radiation quantified as well as uranium and plutonium isotopes.	All levels below USNRC release for public use.
April 1996	Munitions bunkers	Final Status Decommissioning Survey of WSA (USAF, 1996c)	Measured background radiation levels in all munitions bunkers on the Offsite WSA	Alpha/beta/gamma radiation measured in low levels in all bunkers.	All levels below USNRC release for public use
April 1996	EOD Range	Certificate of Clearance (USAF 1996b)	Conducted clearance of EOD Range.	Ordinance and associated debris found throughout range.	Swept and cleared area of all metallic items.
June 1996	SWMU 60	Interim Remedial Action Low-level Radioactive Waste Burial Site Report (M&E, 1996)	Closed SWMU 60	Radium reported in soil samples at concentrations below clean-up criteria.	Removed three tubes and sampled soil from within the excavation and from four soil borings.

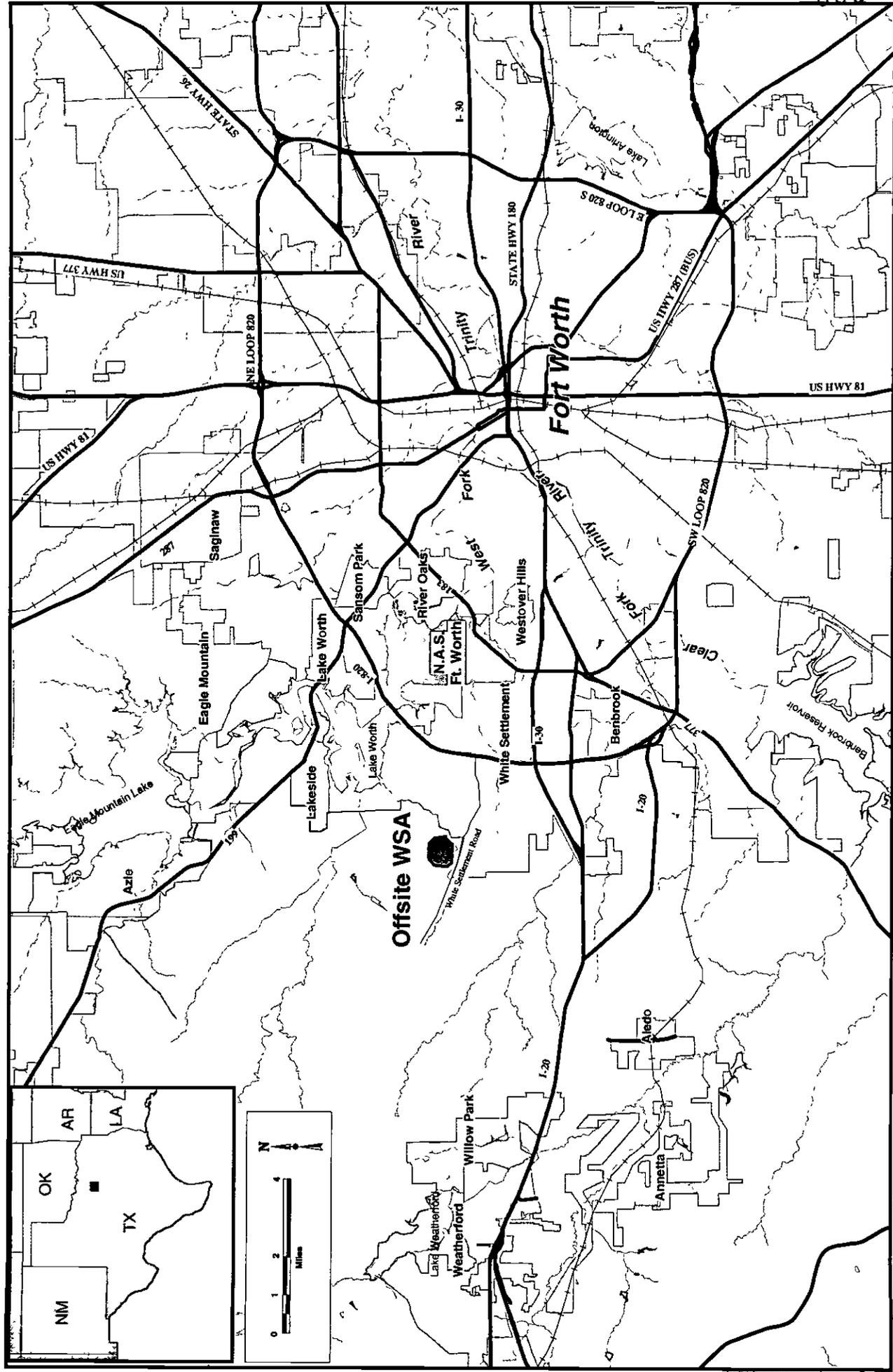
Closure Report for Former UST Location UST-8505  
 Offsite Weapons Storage Area  
 NAS Fort Worth JRB Carswell Field  
 Contract No. F41624-95-D-8002/Delivery Order 0009

Table 1-2. Chronological Summary of Environmental Reports (continued)

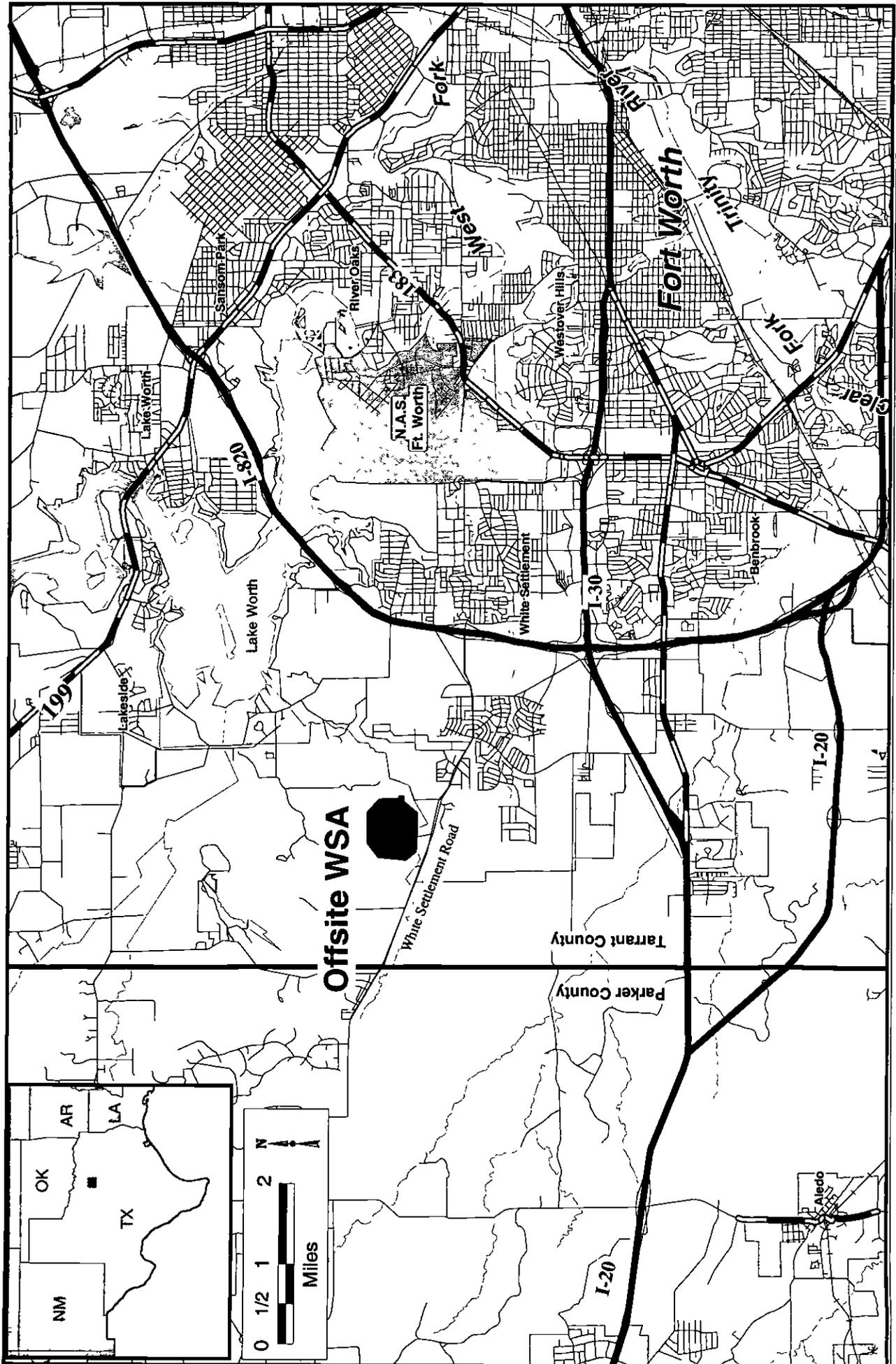
Date	Location/ Site	Report Title	Scope	Contaminants Reported	Action/ Recommendation
July 1997	WSA groundwater in general	Draft RCRA Facility Investigation for Parcel D and Background Study Report (Jacobs, 1997c)	Determined background concentrations of TPH and radium in soils and groundwater.	TPH and radium concentrations onsite determined to be equivalent to those found in background samples.	No further action required.
Date Unknown	USTs	Unknown	Removed five USTs at the offsite WSA	Tanks reported to contain fuel and diesel oil. There is no documentation as to possible contamination associated with tanks.	USTs reportedly were removed from the WSA; however, there is no documentation of removal action.

Creation Date 12/01/1997  
 Rev Date 05/17/1999  
 Project Manager B Duffner  
 Prepared By W Mitchell  
 Project No P-3109

Figure 1-1 -- Location Map



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Creation Date 12/01/1997  
 Rev Date 05/17/1999  
 Project Manager B. Duffner  
 Prepared By W. Mitchell  
 Project No P-3109

Figure 1-2 -- Vicinity Map

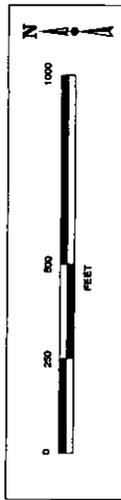
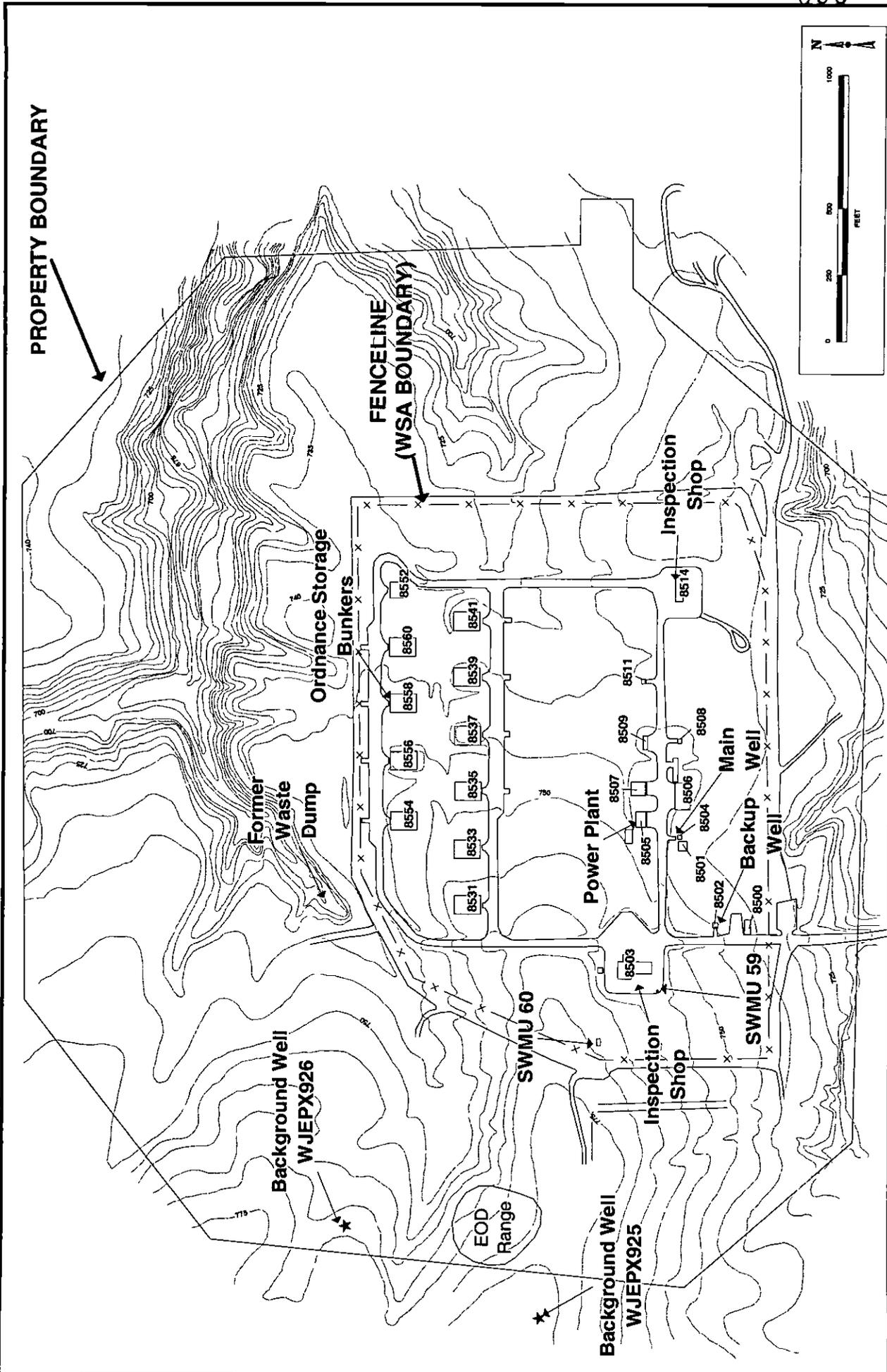


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Creation Date 12/01/1997  
 Rev Date 07/15/1999  
 Project Manager B Duffner  
 Prepared By W Mitchell  
 Project No P-3109

Figure 1-3 -- Aerial Photo Overlay

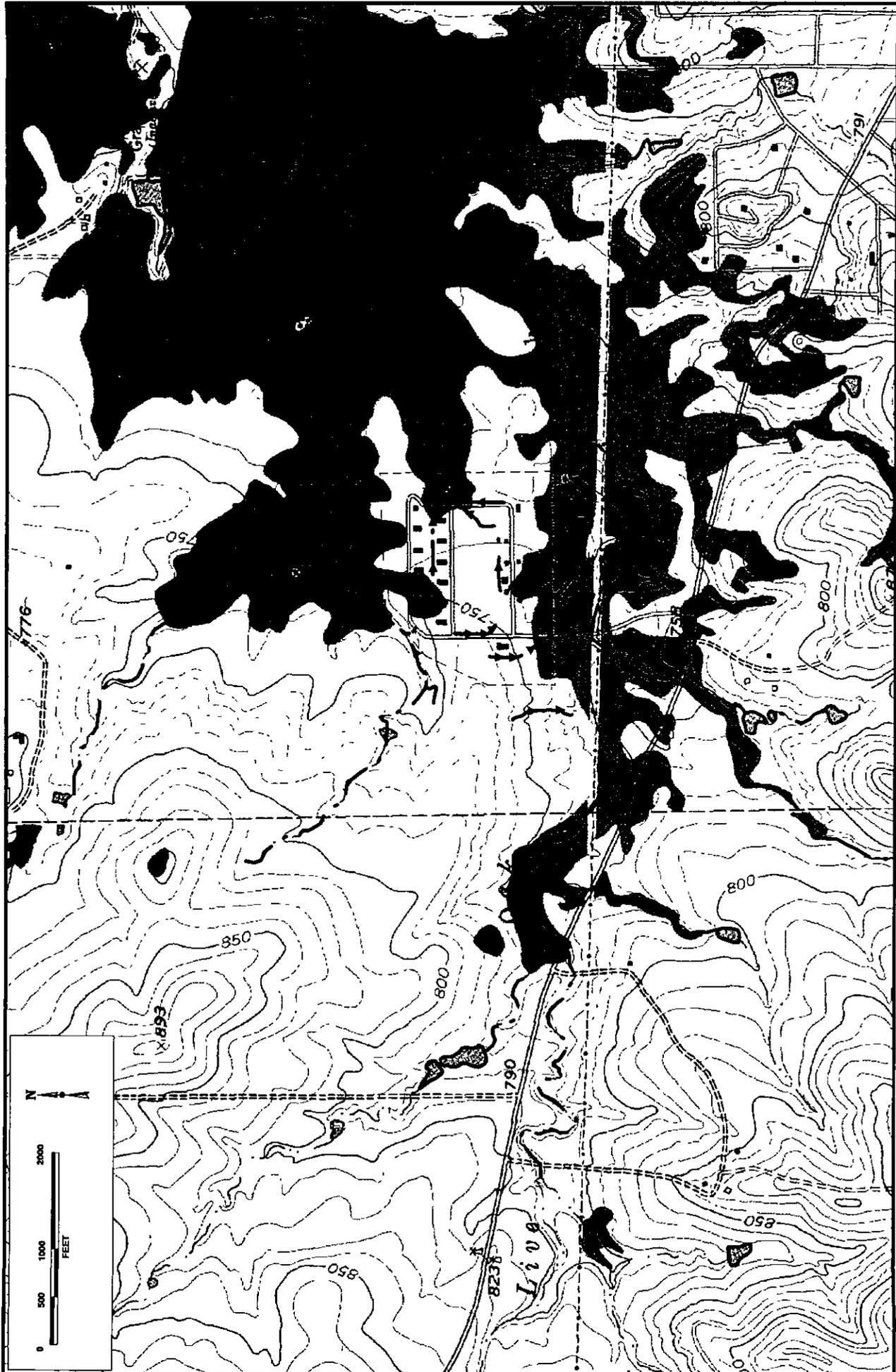


Creation Date 12/01/1987  
 Rev Date 05/17/1999  
 Project Manager B. Duffner  
 Prepared By W. Mitchell  
 Project No P-3109

Figure 1-4 -- Site Map



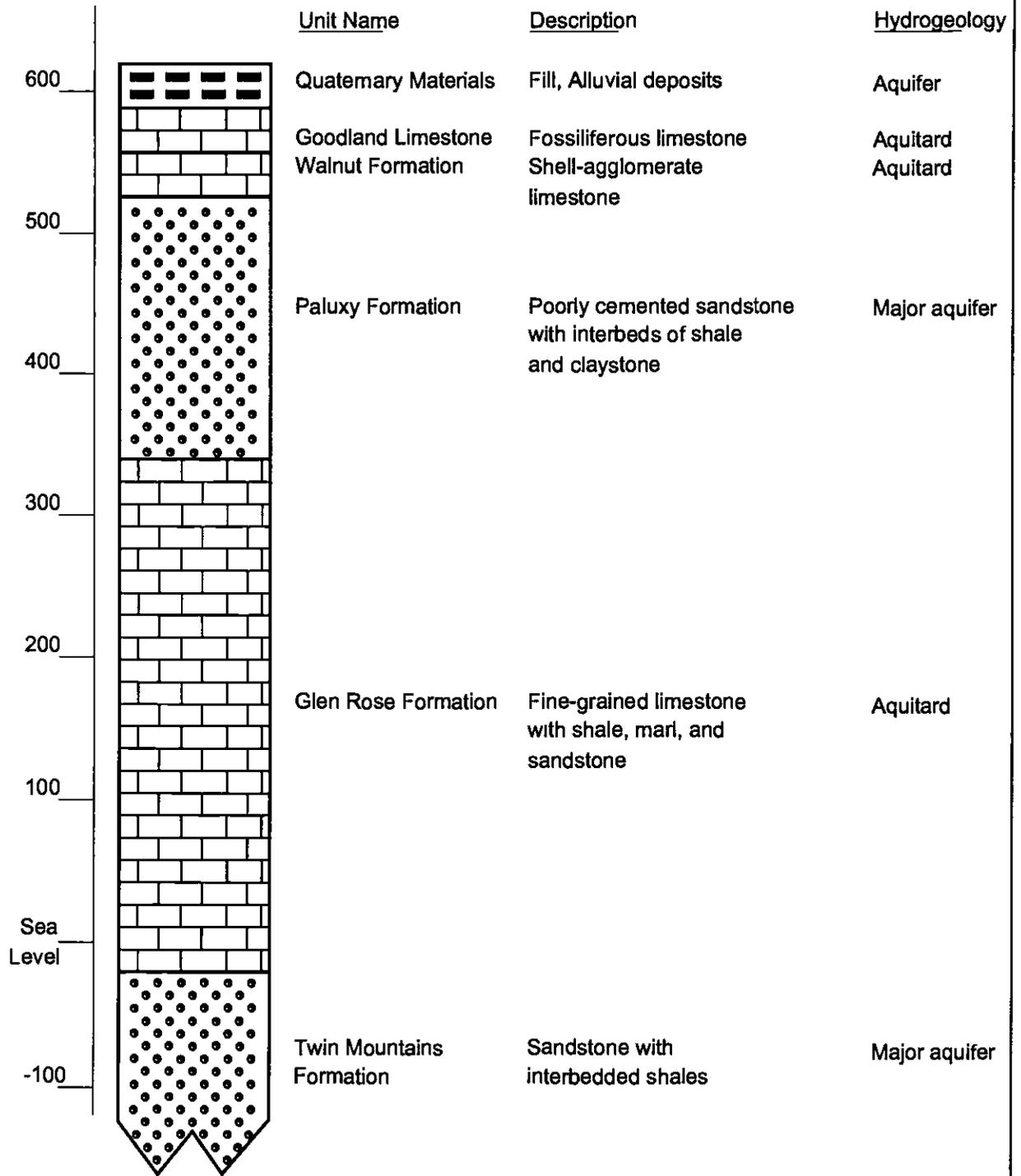
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Creation Date 11/01/1997  
 Rev Date 07/15/1999  
 Project Manager B. Duffner  
 Prepared By W. Mitchell  
 Project No P-3109

Figure 1-5 -- Drainages Near the Offsite Weapons Storage Area

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Drawing Name: Figure 1-6 Generalized Stratigraphic Column, Version 2/94

Figure 1-6 -- Generalized Regional Stratigraphic Column

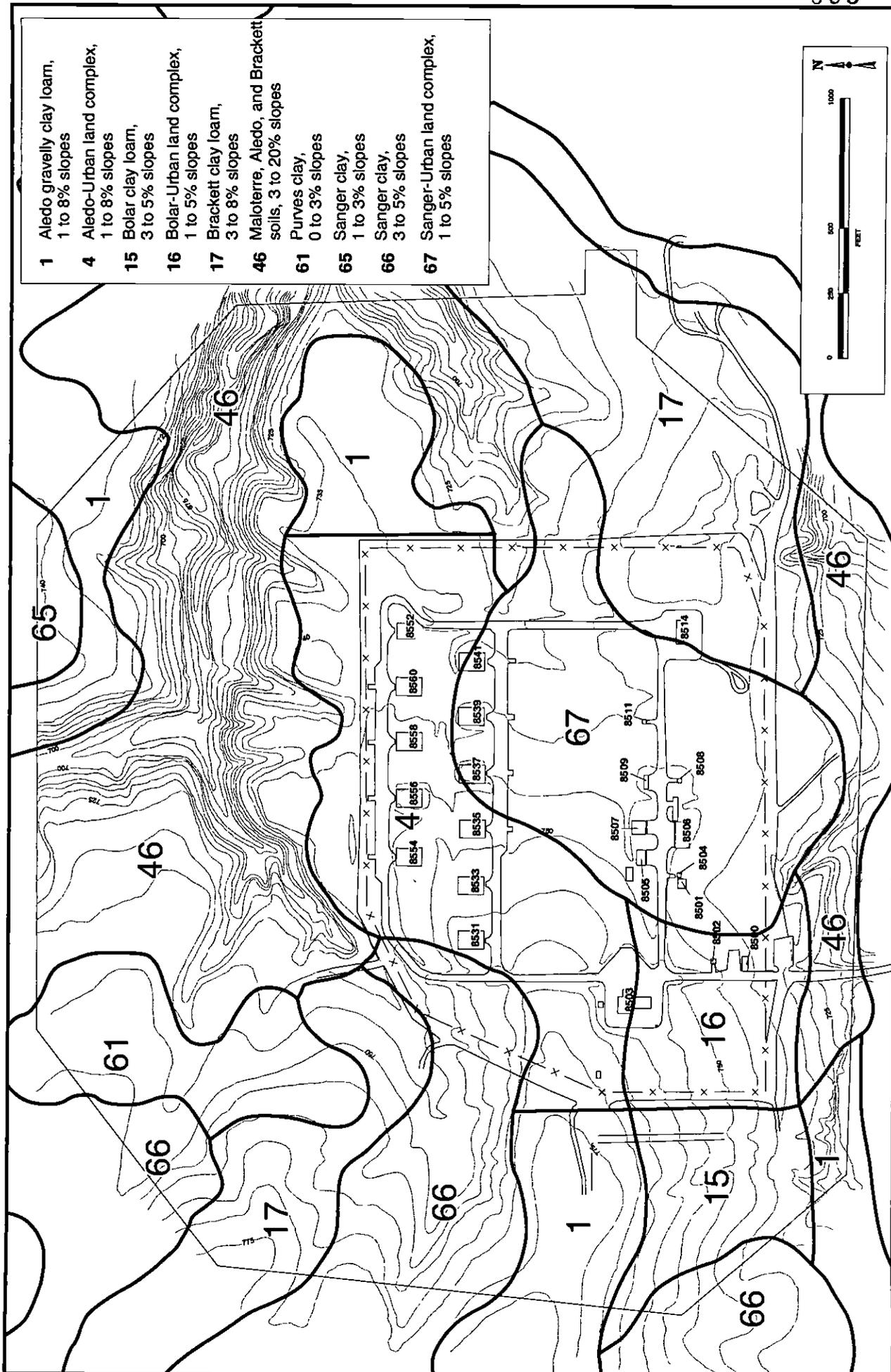
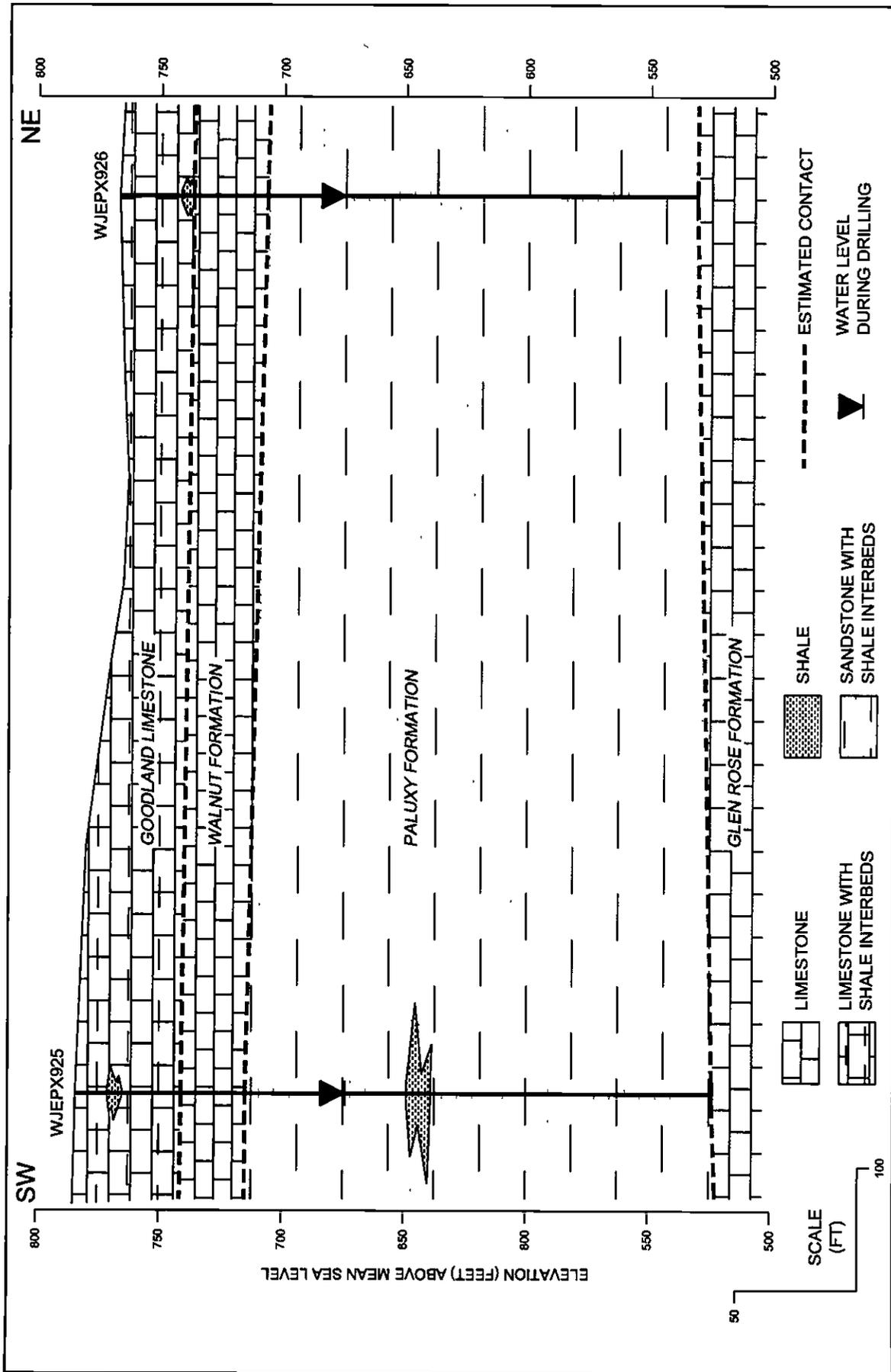


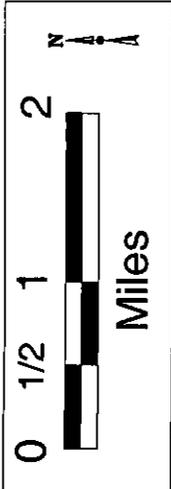
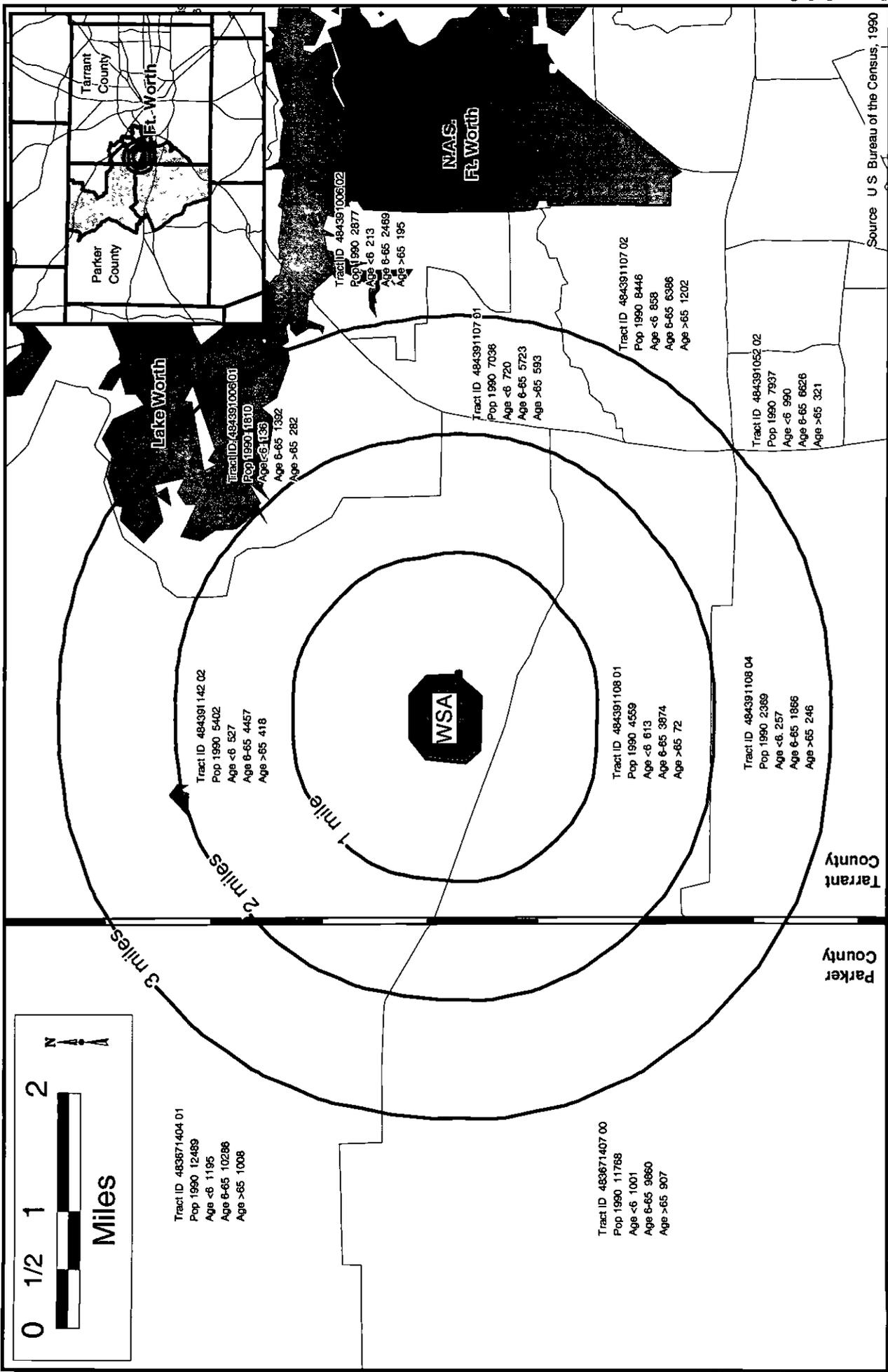
Figure 1-7 -- Local Soil Types

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Date March 1999  
 Project Manager: B. Duffner  
 Prepared By: L. Myers / A. Long  
 Project No: 3109

Figure 1-8 -- Geologic Cross - Section Through Background Monitoring Wells



Creation Date 12/01/1997  
 Rev Date 07/18/1999  
 Project Manager B. Duffner  
 Prepared By W. Mitchell  
 Project No P-3109

**Figure 1-9 -- Census Demographics**

ENVIRONMENTAL COMPANY, INC. WSA TRACTS FIG 1-9

## 2.0 RFI INVESTIGATION ACTIVITIES

The following section provides a summary of the RFI investigation activities completed in association with UST-8505 (see Figure 2-1 and Figure 2-2). Background samples were also collected in support of the overall RFI (see Figure 2-3). A complete description is provided in the RFI Report (TEC, 1999)

### 2.1 UNDERGROUND STORAGE TANK UST-8505

The objective for the former UST investigation was to determine whether potential tank and piping leaks have contaminated subsurface soils and groundwater.

#### *Field Activities*

In September 1997, borehole subsurface samples were collected at the former UST in order to identify leaks associated with both the tank and piping. A total of four subsurface soil samples from three soil borings were installed at the UST on the basis of the tank location and the presence of pipe joints.

Samples at the UST site were collected to define the vertical extent of contamination as shown in Figure 2-1. Because all potential contaminant sources were below the ground surface at these locations, soil samples from 0 to 0.5 feet were deemed unnecessary. Subsurface samples for volatile organic headspace screening and lithologic descriptions were collected continuously through each borehole. Collection of up to three analytical subsurface samples from each borehole was planned. However, due to the shallow depth to bedrock at these sites, no more than two samples could be collected from any borehole. At all locations samples were collected directly above bedrock, as there were indications that contamination may have migrated to the fill material/bedrock interface in some locations. Additional samples were collected from the borehole interval with the highest headspace reading.

Samples were analyzed for compounds indicative of contamination from gasoline, diesel, and fuel oils. Analyses included benzene, toluene, ethyl-benzene, and xylene (BTEX), total petroleum hydrocarbons (TPH), and polynuclear aromatic hydrocarbons (PAHs), in accordance with TNRCC Petroleum Storage Tank (PST) guidance RG-175 (TNRCC, 1995). A list of project-specific analytical methods used and associated analytes is provided in Appendix E.

### 2.2 GROUNDWATER

Groundwater sources include the Paluxy Formation. The upper portion of the Paluxy Aquifer is below the Walnut Formation at a depth of at least 30 feet bgs. This aquifer is a domestic and agricultural source of water for local residences. Groundwater in the Paluxy Aquifer flows to the east. Potential groundwater contamination was addressed by sampling Paluxy Formation monitoring wells at the site. These wells are shown in Figure 2-5.

### ***Field Activities***

Two water supply wells currently exist on site. These wells were the primary and back-up water supply for the Offsite WSA and are reportedly screened to depths of 184 and 186 feet bgs within the deeper Paluxy Aquifer (Johnson, 1997). As part of a completed background study, these wells were prepared for environmental sampling by removing existing hardware (Jacobs, 1997b). The primary well is located east of and downgradient from Bldg. 8503, the Waste Accumulation Area, and the EOD area. The backup well is located southeast of these same potential contaminant sources and may be downgradient from them. The background study efforts also included installation of two Paluxy Aquifer monitoring wells, both of which are located upgradient from the site, on the hills to the west and northwest of the EOD Range.

During the RFI field investigation, field measurements and samples were collected from three wells screened in the Paluxy Aquifer. These wells included the primary water supply well (XU-32-12-902), the backup well (XU-32-12-901), and the southernmost background well (WJEPX925).

Prior to sampling, an electronic interface probe was used to determine the static groundwater level (i.e., depth to groundwater) in each well. No floating product was detected in any of the wells. All groundwater samples were collected using low-flow (minimal drawdown) techniques. Samples were collected from the two on-site water supply wells using a Grundfos pump and portable electric generator. Water level measurements were taken with an interface probe in both wells prior to the start of pumping. The pump was lowered to a depth of 120 feet in each well. Pumping was maintained at low rates, between 0.6 and 0.7 gallons per minute, to ensure minimal drawdown in the wells, and water level readings were taken during the pumping to measure the amount of drawdown. During the pumping, a Horiba® Water Checker U-10 was used to measure six parameters on the purge water: temperature, pH, electrical conductivity, turbidity, dissolved oxygen content, and salinity. When the first four of these parameters had stabilized according to specifications listed in the Field Sampling Plan (FSP) (TEC, 1996a), the groundwater samples were collected. Purging efforts and static water level measurements were recorded in forms provided in the RFI Report (TEC, 1999).

An additional sample was collected from a background well installed by Jacobs Engineering in 1996. This well had a bladder pump installed at a depth of 120 feet. Purging was conducted by connecting a Well Wizard to the down-hole pump, then setting the equipment to pump water at a rate of approximately 0.06 gallons per minute. As with the on-site wells, purging was conducted until temperature, pH, electrical conductivity, and turbidity had stabilized to levels specified in the FSP.

One groundwater sample was collected from each well, and a duplicate sample from the main supply well, using methods described in the FSP. Because the Paluxy Aquifer could potentially have been impacted by multiple contamination sources, all groundwater samples were analyzed for inorganics, volatile organic compounds (VOCs), semivolatile

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organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and explosive compounds.

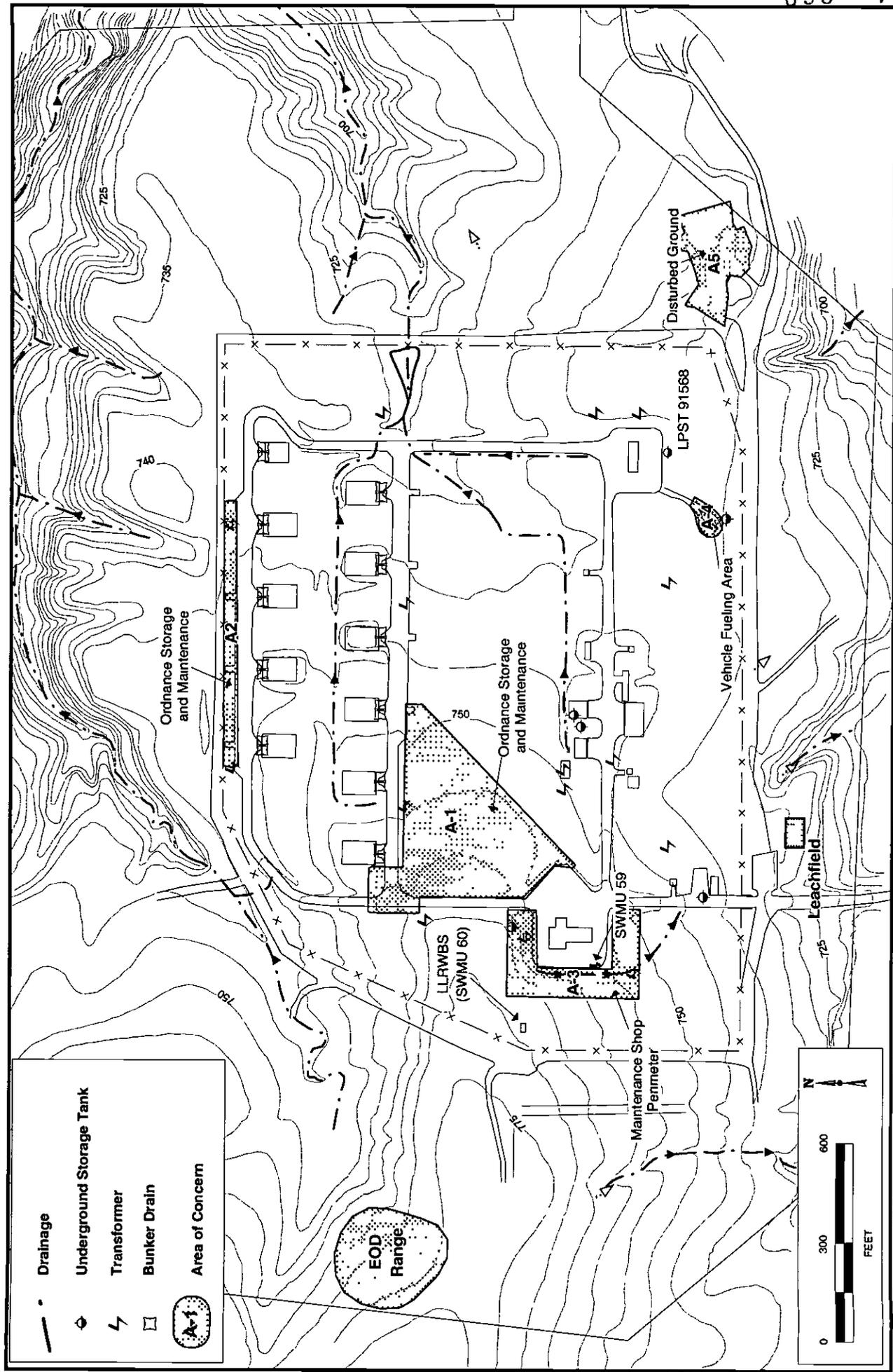
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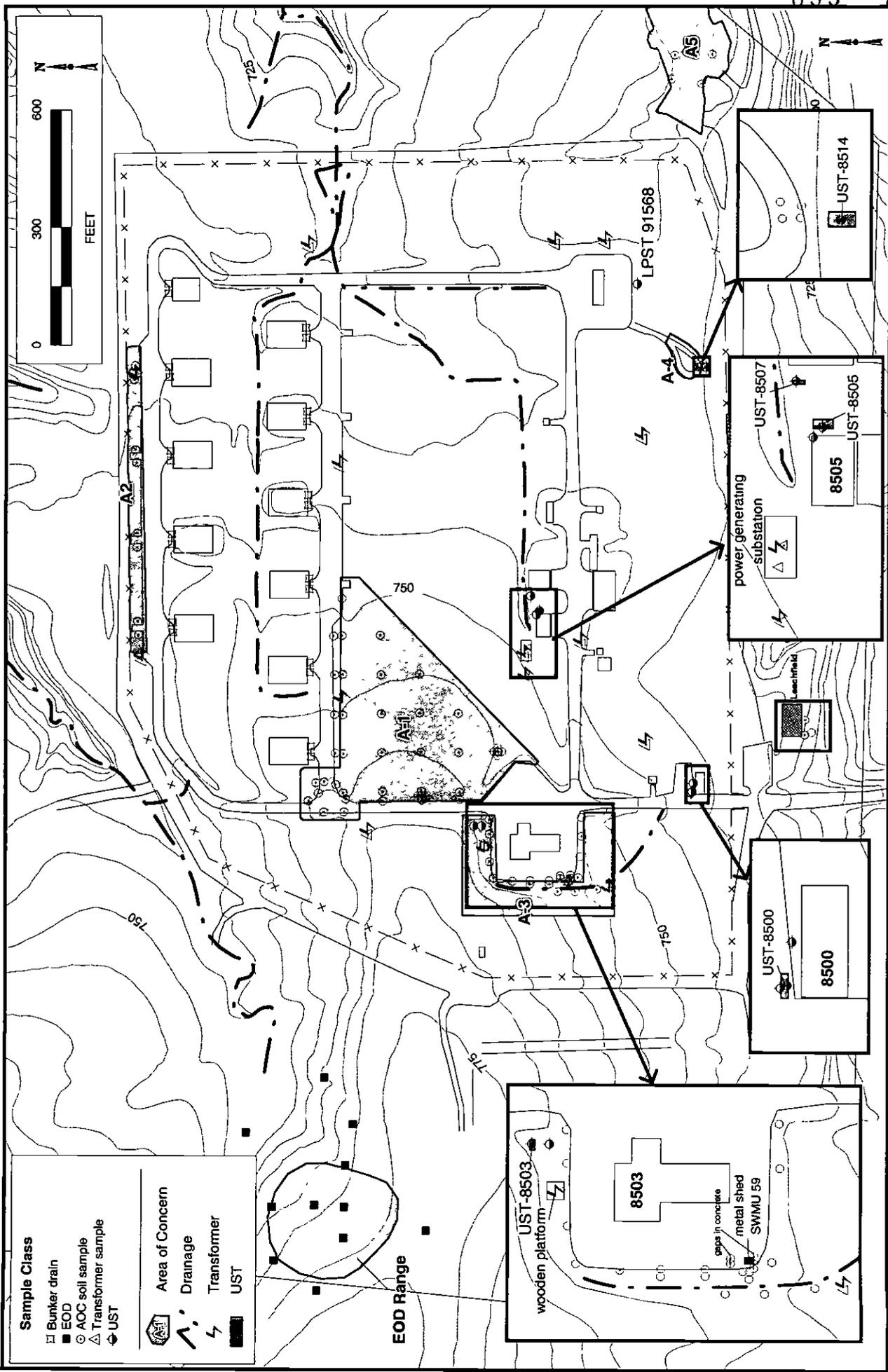
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Creation Date 12/01/1997  
Rev Date 07/16/1999  
Project Manager B Durrner  
Prepared By W Mitchell  
Project No P-3109

Figure 2-1 -- Field Investigation Areas





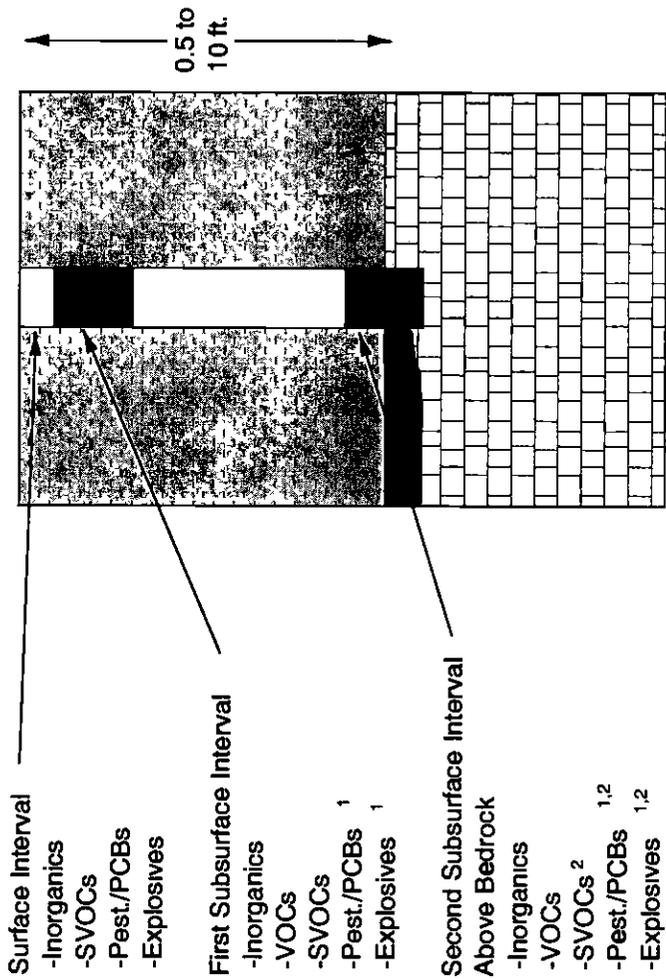
Creation Date 12/01/1997  
 Rev Date 09/26/2000  
 Project Manager B. Duffner  
 Prepared By D. Bedarf  
 Project No P-3109

Figure 2-2 -- Surface and Subsurface Soil Sample Locations

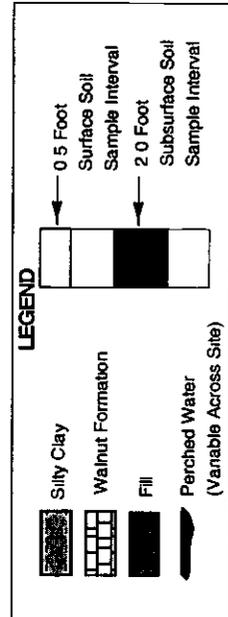
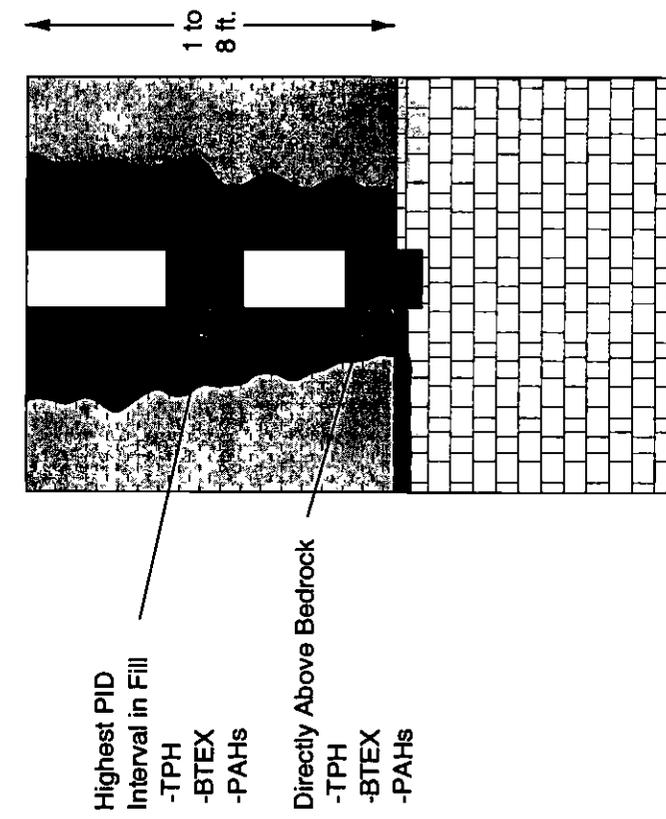
Additional drawing project 3109 marked samples detailed (Fig. 2-2) not



**Maintenance, EOD, and Other Locations**



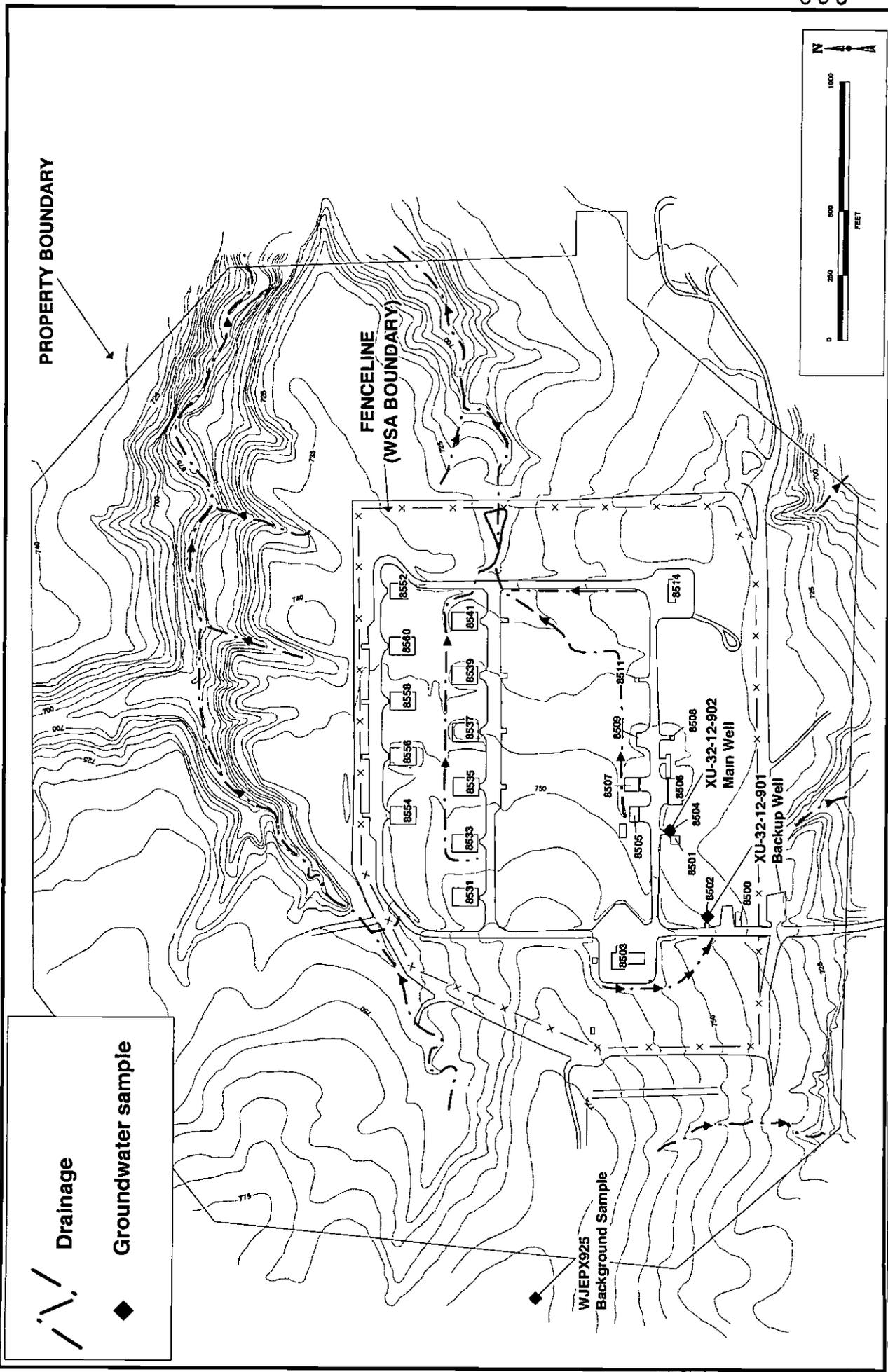
**Fueling and UST Locations**



Note: 1 Collected at 10% of locations.  
2 Analyzed only if detected in first subsurface soil interval sample

**FIGURE 2-4 -- Typical Soil Sample Collection Scenarios**

Date March 1999  
Project Manager B. Duffner  
Prepared By D. Hult  
Project No P3109



Creation Date 04/07/1998  
 Rev Date 07/16/1999  
 Project Manager B. Duffner  
 Prepared By W. Mitchell  
 Project No P-3109

**Figure 2-5 -- Groundwater Sample Locations**

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### 3.0 SUMMARY OF RFI RESULTS

#### 3.1 BACKGROUND DETERMINATION

Thirty samples were collected as part of the RFI to establish site-specific background conditions with respect to inorganic analyte concentrations in surface soil, subsurface soil, sediment, surface water, and groundwater. Background concentrations for inorganics were established using the Tolerance Interval method (USEPA, 1989c, 1992a) and were expressed in terms of the 95 percent upper tolerance limit with 95 percent coverage ( $UTL_{95,95}$ ). The  $UTL_{95,95}$  were not established for organic compounds. Background for organic compounds was assumed to be undetected. Site background concentrations were reported in Section 3.1 of the RFI Report (TEC, 1999). Site background concentrations for soil, sediment, and groundwater are summarized in this report in Table 3-1. Although background samples were not used in the justification for PST UST site closure, this data is provided in this report for completeness. Individual sample results are provided in the RFI Report (TEC, 1999).

#### 3.2 FIELD QUALITY ASSURANCE SAMPLES

Field quality control (QC) samples included field duplicates, equipment blanks, trip blanks, and ambient blanks. These QC samples were collected throughout the RFI field effort and were representative of the entire field effort, including the PST UST field investigation effort.

##### *Equipment Blanks*

Equipment blanks were collected to assess the effectiveness of equipment decontamination procedures and the cleanliness of the sample containers. Equipment blanks in support of environmental media (soil and groundwater) investigations were collected at a rate of one per day during site characterization activities for the project.

A total of 22 environmental media equipment blanks (EB-001 through EB-020, EB-100, and EB-102) were collected during the field sampling events. A summary of the results for the equipment blank samples associated with the UST-8505, groundwater, and background sampling is provided in Table 3-2. Three samples (EB-017, EB-018, and EB-020) contained VOCs at concentrations above the detection limit. One sample, EB-017, was collected in association with the groundwater field samples. Four VOCs (benzene, chloroform, methylene chloride, and toluene) were detected at concentrations below the practical quantitation limit (PQL) and slightly above the method detection limit (MDL). During a review of field logs, it was discovered that the sample was collected in the vicinity of an operating gasoline-powered generator. The field groundwater sample results represented by this blank did not contain VOCs and therefore will not be impacted by these results.

Two VOCs (toluene and methylene chloride) were detected in EB-018 and EB-020 above the MDL and below the PQL. Given that these compounds are common laboratory contaminants (USEPA, 1989b), the detections were likely due to laboratory

contamination. The EB-020 data were qualified with a "B", indicating that the VOCs were also detected in the associated laboratory blank.

The metals equipment blank fractions regularly contained aluminum, barium, calcium, magnesium, molybdenum, sodium, and zinc. Antimony, copper, iron, and manganese were found infrequently in the equipment blank fractions. The equipment blank results were taken into consideration during the data validation and review process.

### ***Trip Blanks***

Trip blanks were used to assess potential cross-contamination of environmental samples during transportation and storage. Trip blanks were submitted at the rate of one per cooler of samples sent to the laboratory for analysis of VOCs.

A total of 19 trip blanks was collected during the field sampling events. A summary of the results for the trip blank samples associated with the UST-8505, groundwater, and background sampling is provided in Table 3-3. TB-021 had detectable levels of tetrachloroethene (PCE) and toluene; however, the data for both of these compounds were qualified with a "B", indicating that these compounds were also detected in the laboratory blanks. These blank results were taken into consideration during the data validation and review process.

### ***Ambient Blanks***

Ambient blanks were used to assess the potential introduction of contaminants from ambient sources (e.g., air, dust, internal combustion motors in operation) to the samples during collection. Four ambient blanks were collected during the field investigation.

The ambient blank results revealed limited contamination. A summary of the results for the ambient blank samples associated with the UST-8505, groundwater, and background sampling is provided in Table 3-4. Three of the four ambient blank samples contained chloroform at a concentration below the PQL and slightly above the MDL. One of the ambient blanks also contained methylene chloride at a concentration slightly above the MDL and below the PQL. The ambient blank collected during the mid-May sampling effort contained PCE and toluene, both of which were also reported in associated laboratory blanks. These blank results were taken into consideration during the data validation and review process. Data qualifiers associated with the definitive data are defined in Table 3-7.

## **3.3 FORMER UST LOCATION UST-8505**

The removed UST near Bldg. 8505 had not been registered with TNRCC when the RFI took place. PAH contamination at this tank was reported in surface and subsurface soil samples collected to characterize both the removed tank and the connecting pipes. The results of the RFI indicated that the PAH contamination exceeds background and is attributable to an unpermitted release (see Table 3-5 and Figure 3-1). The extent was determined during a subsequent removal action (see Sections 4.0 and 5.0).

### 3.4 GROUNDWATER

Groundwater samples were collected from three Paluxy Formation wells at the site (see Figure 3-2). These wells included two of the previously existing onsite water supply wells and one upgradient monitoring well (WJEPX925) installed during a previous investigation. No SVOCs, VOCs, pesticide/PCBs, or explosive compounds were detected in the onsite wells (see Table 3-6). Twelve inorganic analytes were detected in groundwater, seven of which were at concentrations above those reported for the background sample. These seven analytes include iron, magnesium, manganese, potassium, sodium, copper, and zinc. Iron, magnesium, manganese, and potassium were no more than twice the background. Sodium, copper, and zinc were approximately three, four, and seven times the background, respectively. However, these exceedances are attributed to the onsite well steel casing material or natural variability in groundwater quality. Therefore, the RFI results indicate no groundwater contaminants at concentrations greater than background that are attributable to the site.

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Table 3-1 Summary of Soil and Groundwater Background Concentration

Analyte	Analyte	Subsurface Soil (0.5-4 5 ft) (mg/kg)			Groundwater (mg/L)	
		Distribution <sup>a</sup>	Conc. Range	UTL <sub>95,95</sub> <sup>b</sup>	Outlier? <sup>c</sup>	(UTL <sub>95,95</sub> <sup>d</sup> )
Aluminum	Aluminum	N	3,110-21,000	29,386	No	0.6800
Antimony	Antimony	NI	0.84U-0.92U	0.92 <sup>e</sup>	No	0.0075 <sup>g</sup>
Arsenic	Arsenic	N	3.0-11.0	11.8	Yes	0.007 <sup>g</sup>
Barium	Barium	LN	14.9-142	516	No	0.11
Beryllium	Beryllium	N	0.15-0.97	1.4	No	0.001 <sup>g</sup>
Cadmium	Cadmium	LN	0.17-0.31	0.47	No	0.0007 <sup>g</sup>
Calcium	Calcium	N	53,100-315,000	442,567	No	76.20
Chromium	Chromium	N	2.1-9.8	14.6	No	0.0035 <sup>g</sup>
Cobalt	Cobalt	LN	0.92-12.8	34.8	Yes	0.002 <sup>g</sup>
Copper	Copper	LN	3.1-9.0	14.2	No	0.0035 <sup>g</sup>
Iron	Iron	N	4,580-15,400	21,542	No	0.48
Lead	Lead	N	2.4-11.8	18.0	No	0.0035 <sup>g</sup>
Magnesium	Magnesium	LN	1,690-3,320	4,541	No	11.30
Manganese	Manganese	LN	128-776	1,140	Yes	0.02
Mercury	Mercury	NI	0.042U-0.046U	0.046 <sup>h</sup>	N/A	0.00024 <sup>g</sup>
Molybdenum	Molybdenum	N	0.33U-2.0	5.4 <sup>g</sup>	No	0.0046
Nickel	Nickel	LN	4.6-15.2	21.9	Yes	0.005 <sup>g</sup>
Potassium	Potassium	N	574-2,270	3,279	No	2.40
Selenium	Selenium	NI	0.68U-1.1	1.1 <sup>g</sup>	N/A	0.01 <sup>g</sup>
Silver	Silver	NI	0.47U-0.51U	0.52 <sup>g</sup>	N/A	0.0045 <sup>g</sup>
Sodium	Sodium	LN	818-2,990	4,585	No	11.20
Thallium	Thallium	NI	0.89U-1.3	1.3 <sup>h</sup>	N/A	0.0085 <sup>g</sup>
Vanadium	Vanadium	LN	11.2-36.2	86.9	No	0.0025 <sup>g</sup>
Zinc	Zinc	LN	9.9-22.4	38.5	No	0.0047

LN - data lognormally distributed

N - data normally distributed

N/A - not applicable because frequency of nondetects is greater than 50 percent

NI - data distribution not identifiable, UTL<sub>95,95</sub> is the maximum detected concentration for compounds detected at least once and the maximum detection limit for compounds not detected

U - undetected, value is the detection limit

UTL - upper tolerance limit

<sup>a</sup>Distribution tested using probability plot and Shapiro-Wilk Test of Normality (EPA 1989c, EPA 1992b, Manugistics 1997)

<sup>b</sup>Represents a 95 percent confidence level that the UTL will contain at least 95 percent of the distribution of observations from the background data (calculated using Statgraphics Plus® software [Manugistics 1997])

<sup>c</sup>The maximum detected concentration is a statistical outlier, tested using the T statistic (EPA 1989c)

<sup>d</sup>Distribution was not identifiable even with outliers excluded (the two highest values were determined to be outliers)

<sup>e</sup>Maximum detection limit

<sup>f</sup>The magnesium UTL<sub>95,95</sub> of 8,312 mg/kg is based on surface soil background as discussed in Section 3.1.2 of the RFI Report (TEC, 1999). Value in parentheses represents UTL for drainage way surface sediment

<sup>g</sup>Frequency of nondetects is 27 percent, therefore, UTL<sub>95,95</sub> was calculated using Cohen's adjustment for nondetects (EPA 1989c, 1992b)

<sup>h</sup>Frequency of nondetects is > 50 percent, therefore, UTL<sub>95,95</sub> is the maximum detected concentration

<sup>i</sup>Represents the one data point collected for background groundwater

Table 3-2. Summary of Equipment Blanks Results

Parameters <sup>ab</sup>	Sample Number:	EB-008 <sup>c</sup>	EB-012 <sup>c</sup>	EB-015 <sup>d</sup>	EB-016 <sup>c</sup>	EB-017 <sup>e</sup>	EB-018 <sup>c</sup>	EB-019 <sup>e</sup>	EB-020 <sup>c</sup>
<b>Inorganics-(mg/L)</b>									
Aluminum		0.13	0.064	0.058	0.098	0.066	0.07	0.065	0.068 U
Antimony		0.0075 U	0.0075 U	0.0075 U	0.037	0.0075 U	0.0075 U	0.0075 U	0.0051 U
Barium		0.0023 F	0.0022 F	0.0021 F	0.0034 F	0.0019 F	0.0024 F	0.0016 F	0.0021 F
Cadmium		0.0007 U	0.0005 U						
Calcium		1.8	0.39	0.48	5.2	0.37	0.64	0.71	2.7
Chromium		0.0035 U	0.002 U						
Copper		0.0036 U	0.0035 U	0.0026 F					
Iron		0.22	0.057	0.045 U	0.04 U				
Lead		0.0036 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.004 U	0.004 U	0.03 U
Magnesium		0.38	0.02 U	0.02 U	1.8	0.02 F	0.063	0.02 U	0.088 U
Manganese		0.0066	0.0015 U	0.0015 U	0.0015 F	0.0018 F	0.0032 F	0.02	0.0027 F
Molybdenum		0.003 U	0.003 U	0.0031 F	0.078	0.003 U	0.003 U	0.003 U	0.0022 U
Potassium		0.3 U	0.1 U						
Sodium		1.5 U	1.5 U	1.5	2	1.5 U	1.5 U	1.5 U	0.81
Vanadium		0.0025 U	0.001 U						
Zinc		0.014 F	0.019 F	0.0057 F	0.028	0.0045 F	0.0032 F	0.2	0.028
<b>Semivolatiles (ug/L)</b>									
Diethyl phthalate		ND	ND	ND	ND	ND	ND	NA	ND
<b>Volatiles-(mg/L)</b>									
Benzene		0.00068 U	0.00068 U	0.00068 U	0.00068 U	0.0002 F	0.2 U	NA	0.2 U
Chloroform		0.00077 U	0.00077 U	0.00077 U	0.00077 U	0.0003	0.1 U	0.1 U	0.1 U
m-Xylene		0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.0008 U	0.4 U	0.4 U	0.4 U
Methylene chloride		0.011 U	0.011 U	0.011 U	0.011 U	0.0002 BF	0.2 F	0.2 F	0.2 BF
Toluene		0.001 U	0.001 U	0.001 U	0.001 U	0.0004 F	0.2 F	0.2 F	0.5 BF
<b>Pesticides/PCB's</b>									
Explosives		ND	ND	ND	ND	ND	ND	NA	ND
PAH (ug/L)		NA	NA	ND	NA	NA	NA	NA	NA
Fluorene		NA	NA	2.1 U	NA	NA	NA	NA	NA
TPH		NA	NA	ND	NA	NA	NA	NA	NA
BTEX		NA	NA	ND	NA	NA	NA	NA	NA
IOC		NA	NA	ND	NA	NA	NA	NA	NA

NA-Not Analyzed

ND-Not Detected

<sup>a</sup>See Table 3-7 for data qualifier definitions

<sup>b</sup>Parameter list includes only those detected in at least one sample See complete list of analytical parameters in Appendix E

<sup>c</sup>Equipment blank associated with background soil samples

<sup>d</sup>Equipment blank associated with soil samples

<sup>e</sup>Equipment blank associated with groundwater samples

Table 3-3. Summary of Trip Blank Results

Sample Number:	TB-004 <sup>e</sup>	TB-009 <sup>e</sup>	TB-012 <sup>d</sup>	TB-013 <sup>e</sup>	TB-014 <sup>e</sup>	TB-015 <sup>e</sup>	TB-018 <sup>e</sup>	TB-019 <sup>e</sup>	TB-021 <sup>e</sup>
Units:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	ug/L	ug/L	ug/L	ug/L	ug/L
Parameters <sup>a,b</sup>									
<b>Volatiles</b>									
1,2,3-Trichlorobenze	0.00066 U	0.00066 U	0.00066 U	0.00066 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Hexachlorobutadiene	0.00068 U	0.00068 U	0.00068 U	0.00068 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Naphthalene	0.00081 U	0.00081 U	0.00081 U	0.00081 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 BF
Toluene	0.001 U	0.001 U	0.001 U	0.001 U	0.2 U	0.2 U	0.2 U	0.2 U	0.7 BF

NA-Not Analyzed

ND-Not Detected

<sup>a</sup>See Table 3-7 for data qualifier definitions

<sup>b</sup>Parameters listed include only those detected in at least one sample. See complete parameter list in Appendix E

<sup>c</sup>Trip blank associated with background soil samples

<sup>d</sup>Trip blank associated with soil samples

<sup>e</sup>Trip blank associated with groundwater samples

Table 3-4. Summary of Ambient Blank Results

Sample Number:	AB-001 <sup>c</sup>	AB-002 <sup>d,e</sup>	AB-003 <sup>c</sup>	AB-004 <sup>c</sup>
Parameters <sup>a,b</sup>	mg/Kg	ug/L	ug/L	ug/L
<b>Volatiles</b>				
Chloroform	0.00077 U	0.2 F	0.3	0.1 U
Methylene chloride	0.0011 U	0.2 U	0.2 F	0.2 U
Tetrachloroethene (PCE)	0.0011 U	0.2 U	0.2 U	0.2 BF
Toluene	0.001 U	0.2 U	0.2 U	0.5 BF

<sup>a</sup>See Table 3-7 for data qualifier definitions

<sup>b</sup>Parameters listed include only those detected in at least one sample. See complete parameters list in Appendix E

<sup>c</sup>Ambient blank associated with background soil samples

<sup>d</sup>Ambient blank associated with soil samples

<sup>e</sup>Ambient blank associated with groundwater samples

Table 3-5. Summary of Former Underground Storage Tank Area Soil Sample Detected Results

Building:	8505			
Location:	Tank	Pipe		Pipa
	UST-006	UST-007	UST-007-04	UST-008
Sample Number:	UST-006-01	UST-007-01	UST-007-04	UST-008-01
Depth (ft bgs):	6 0 to 8 0	0 0 to 2 0	0 0 to 2 0	0 0 to 2 0
Parameters <sup>a,b</sup>	DUP			
<b>TPH-(ug/g)</b>				
Total Recoverable Petroleum Hydrocarbons	179	12.5 U	17.5	19
<b>BTEX-(mg/kg)</b>				
Toluene	0.0011 U	0.00098 U	0.00089 U	0.00098 U
<b>PAH-(mg/kg)</b>				
Benzo(a)anthracene	0.082	0.190	0.036	0.810
Benzo(a)pyrene	0.280	0.480	0.100	1.800
Benzo(b)fluoranthrene	0.110	0.220	0.043	0.760
Benzo(ghi)perylene	0.130	0.200	0.058	0.710
Benzo(k)fluoranthrene	0.058	0.120	0.025	0.430
Chrysene	0.120 U	0.210	0.110 U	0.820
Dibenzo(a,h)anthracene	0.024 U	0.028	0.022 U	0.110 U
Fluoranthene	0.180	0.540	0.150 U	2.100
Fluorene	0.170 U	0.150 U	0.150 U	0.750 U
Indeno(1,2,3-cd)pyrene	0.099	0.170	0.040	0.600
Phenanthrene	0.520 U	0.470 U	0.460 U	2.300 U
Pyrene	0.220 U	0.380	0.190 U	1.500

<sup>a</sup>See Table 3-7 for data qualifier definitions

<sup>b</sup>Parameters limited to those detected in at least one sample (see Appendix E)

Note: Boxed Values exceed background UTL 95,95

Table 3-6. Summary of Paluxy Aquifer Groundwater Sampling Detected Results

Location: XU-32-12-901 XU-32-12-902  
 Sample Number: XU-32-12-901-01 XU-32-12-902-01 XU-32-12-902-02

Parameters <sup>a,b</sup>	Duplicate		
<b>Inorganics-(mg/L)</b>			
Aluminum	0.07 B	0.07 B	0.078 B
Barium	0.059	0.061	0.061
Calcium	68.8 B	70.1 B	67.8 B
Copper	0.0035 U	0.014	0.012
Iron	0.41	1.2	1.1
Lead	0.0035 U	0.0037 F	0.0035 U
Magnesium	23.3	23.3	23
Manganese	0.022	0.025	0.024
Molybdenum	0.0032 F	0.003 U	0.003 U
Potassium	4.5	4.5	4.6
Sodium	30.7	31.2	31.2
Zinc	0.032	0.03	0.029
<b>Semivolatiles</b>	ND	ND	ND
<b>Volatiles</b>	ND	ND	ND
<b>Pesticides/PCBs</b>	ND	ND	ND
<b>Explosives</b>	ND	ND	ND

NA - Not analyzed

ND - Not detected

<sup>a</sup>See Table 3-7 for data qualifier definitions<sup>b</sup>Parameters limited to those detected in at least one sample (see Appendix E)Note: Boxed values exceed background  $UTL_{66,95}$

**Table 3-7. Qualifier Definitions**

<b>Qualifier</b>	<b>Definition</b>
J	The positive results reported for this analyte is a quantitative estimate.
U	This analytes was not detected in the sample. The associate numeric value is at the maximum detection limit.
F	The analyte was positively identified but the associated numeric value is at or below the reporting limit.
B	The analyte was found in an associated blank, as well as in the sample.
M	A matrix interference was present.
R	The data are unusable due to deficiencies in the ability to analyze the sample and meet quality control criteria.





#### 4.0 CLOSURE ACTIVITIES

This section describes additional remedial activities completed in support of the closure of UST-8505. Closure activities for UST-8505 were completed in conjunction with remedial efforts performed in support of closure of other Offsite WSA locations under the TNRCC Industrial Solid Waste Program.

Closure activities were completed in accordance with several project documents developed by TEC in association with the RFI. These documents included *the Offsite WSA RFI Field Sampling Plan* (TEC, 1996a), *Quality Assurance Project Plan* (TEC, 1996b), and *Final Characterization and Removal Action Work Plan* (TEC, 1998).

Offsite WSA closure activities were completed in a phased approach. Each phase consisted of removing contaminated soil, which involved excavating and transporting the soil to an approved disposal facility. After completion of each soil removal phase, confirmation sampling was performed to determine if remaining soil concentrations were below TNRCC Category I Plan A Target Concentrations for Residential-Ingestion, Inhalation, and Groundwater Protection.

TEC used the following subcontractors to complete the closure activities:

- General Contractor: Unified Services of Texas (UST)  
2110 Greenbriar Drive  
Southlake, Texas 76092
- Contaminated Soil Disposal: Waste Management Industrial Services  
1601 Waste Management Boulevard  
Lewisville, Texas 75067
- Laboratory: Quanterra Environmental Services  
4955 Yarrow Street  
Arvada, Colorado 80002
- Surveyor: Gorrondona and Associates  
6737 Brentwood Star Road  
Suite 224  
Fort Worth, Texas, 76112
- Fencing Contractor: All-Tex Rent-A-Fence  
P.O. Box 938  
Mansfield, Texas 76063
- Laboratory Data Validation: Environmental Data Quality (EDQ)  
967 E. Swedesford Road, Suite 401  
Exton, Pennsylvania 19341

The descriptions of closure activities are provided below. These include a chronology of the field work (Section 4.1), a discussion of the removal activities (Section 4.2), and a summary of confirmation sampling results (Section 4.2).

#### **4.1 CHRONOLOGY OF FIELD WORK**

Offsite WSA closure activities consisted of two soil removal and confirmation sampling phases followed by site surveying and restoration activities. A chronological summary of these site closure field activities is provided below.

- July 26 through 30, 1999
  - Phase 1 initial soil removal
  - Phase 1A confirmation sampling
  - Leachfield demolition
- December 6 through 8, 1999
  - Phase 2 soil removal
  - Phase 2 confirmation sampling
- February 16, 2000
  - Final sample location and area boundary survey
- March 3, 2000
  - Site restoration

#### **4.2 SOIL REMOVAL AND CONFIRMATION SAMPLING METHODS**

##### **4.2.1 Waste Characterization**

Prior to removal activities, a waste profile of the soil to be disposed offsite was completed. The waste determination was made using data generated during the RFI. The soil was determined to be non-hazardous. A copy of the waste profile, along with the disposal facility waste acceptance form, is provided in Appendix C.

##### **4.2.2 Soil Excavation, Transportation, and Disposal**

General excavation, transportation and disposal methods are provided below. Area-specific removal activities are further described in Section 5.0

All soil removal activities were performed under the oversight of AFCEE contractor Universe Technologies, Inc, (UNITEC). Mr. Gary Miller of the USEPA was also present to observe the majority of the work completed during Phase 1. Mr. Alvin Brown of AFCEE was present during the field event to observe the work and sign disposal manifests. During Phase 2, Mr. Tim Sewell of TNRCC observed activities and conducted a site inspection.

Soil removal was performed using a combination of front end-loaders and track-hoe excavators. Soil removed during Phase I consisted primarily of top soil and weathered limestone. Soil was excavated to area-specific depths determined on the basis of RFI sampling results. Following analysis and evaluation of Phase 1A confirmation samples it was determined that additional soil excavation was required both horizontally and vertically within the former UST site.

Because the remaining soils to be removed consisted principally of fractured limestone bedrock, excavation methods were modified during Phase 2. An excavator equipped with a V-shaped excavation bucket (rock bucket) fitted with replaceable teeth was used in addition to the standard bucket excavator and front-end loader equipment used in Phase 1.

During each removal phase, excavated soils were stockpiled within the disturbed areas. The soil was then loaded on trucks that were routed and staged on surfaces outside of the excavation area. Twenty-cubic-yard semi-tractor dump trailers were used to transport the excavated soils. Each load was covered by a tarpaulin to prevent loss of the material during transport. The soils were transported approximately five driving miles to the following facility for disposal:

Westside Recycling and Disposal Facility  
12280 U.S. Highway 80 West  
Aledo, Texas 76008  
TNRCC Permit Number 1019A  
Disposal Profile Number WS-9131

Each soil load was transported and disposed of with an appropriate manifest. Copies of the soil disposal manifests are provided in Appendix D. Table 4-1 presents a summary of the volume of soil removed. Photographs showing the conditions observed in various areas may be found in Appendix F.

TEC personnel continuously monitored the excavation, loading, and shipping operations. Truck volumes were verified by estimating the filled volume of loaded trucks leaving the site, and by verifying the number of full front-end loader buckets used to load the trucks.

Between Phase 1 and site restoration, temporary fences were installed around the perimeter as a safety measure.

### **4.2.3 Confirmation Sampling**

Representative samples of soil remaining after each excavation phase were taken to determine whether the minimum removal objectives were realized. Activity-specific sampling methods, followed by a discussion of the rationale used to select sample location and a summary of the numbers of samples collected, are described below.

#### **4.2.3.1 Sampling Methods**

Surface soil sampling, sample handling, sample custody, and equipment decontamination were performed in general accordance with the methods identified in the Offsite WSA FSP (TEC, 1996a). Because UST-8505 contaminants exceeding Plan A target concentrations were limited to PAHs, samples collected from UST-8505 during the soil removal effort were analyzed for PAHs by Method 8310.

In general, this consisted of collecting soil from 0 to 6 inches bgs with a stainless steel trowel, homogenizing the soil in a stainless steel bowl and transferring the soil to pre-

cleaned sample containers supplied by the contract laboratory. Sampling equipment that came into contact with the sampling areas or sample itself was field-decontaminated as described in the FSP (TEC, 1996a).

After the Phase 1 soil removal, much of the exposed surfaces in the bottom of the UST-8505 tank hold pit consisted of limestone bedrock and concrete. Samples from these materials were collected using an electric Bosch® hammer drill. The drill implements were approximately 18 inches long and were field-decontaminated between uses. The drill chuck assembly was also decontaminated to remove excess lubricant. Two to four drill holes typically were required to produce the sample volume, which was collected and handled as specified in the FSP (TEC, 1996a).

#### **4.2.3.2 Selection of Sampling Locations**

The sample locations were selected based on laboratory data from RFI sampling efforts, previous removal-phase confirmation sample results, and field observations. In general, sampling locations were selected in order to document the complete removal of soil exceeding the Plan A target concentrations.

The former UST site confirmation samples were selected to assess contamination in the fuel line areas above and outside of the tank excavation, as well as any contamination within the excavated tank pit. The fuel line samples were positioned to detect contamination that might have migrated away from the building and tank hole, as well as within the tank line area itself. Four tank hold wall samples were collected to determine horizontal extent. In the UST pit, a concrete slab had been poured directly into the bottom of the pit. The concrete surface of each pit was scraped clean during removal. No concrete samples were collected. There were no signs that any contamination had migrated beyond the concrete base.

#### **4.2.3.3 Sample Summary**

A total of 14 confirmation samples were collected from the UST-8505 pit, including one field duplicate. One equipment blank sample was collected in each phase. There were no PAHs detected in the equipment blank samples. The Phase 1 blank sample was identified as "Equipment Blank". The Phase 2 blank sample was identified as "EB-202" (see Appendix G).

Closure Report for Former UST Location UST-8505  
Offsite Weapons Storage Area  
NAS Fort Worth JRB Carswell Field  
Contract No F41624-95-D-8002/Delivery Order 0009

**Table 4-1. Soil Removal Summary**

<b>Area</b>	<b>Date</b>	<b>Number of Loads</b>	<b>Load Size (cubic yards)</b>	<b>Amount Removed (cubic yards)</b>
UST-8505	7/27/99	8	20	160
	12/8/99	2	15	30
	12/9/99	3	15	45

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Closure Report for Former UST Location UST-8505  
Offsite Weapons Storage Area  
NAS Fort Worth JRB Carswell Field  
Contract No F41624-95-D-8002/Delivery Order 0009

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## **5.0 AREA-SPECIFIC REMOVAL ACTIVITIES AND CONFIRMATION SAMPLING RESULTS**

Removal activities and confirmatory sampling performed in support of site closure are described below. In addition, a description of surveying and site restoration efforts are provided.

### **5.1 REMOVAL ACTIVITIES AND CONFIRMATORY SAMPLING**

#### ***Removal Phase 1***

Due to the presence of PAHs at concentrations greater than Plan A target concentrations excavation was determined to be necessary. Removal activities were initiated on July 27, 1999. A 9-foot-wide, 16-foot-long, and 8-foot-deep tank pit with a concrete base was identified. A total of 160 cubic yards of soil were removed from the UST-8505 tank pit and pipe run area. In the tank pit, soil was excavated to the concrete pad (see Photos UST8505-1 and UST8505-2 in Appendix F). The excavated area encompassed approximately 465 square feet (see Figure 5-1). (Note: The dimensions of the tank pit as shown on Figure 5-1 are based on final Phase 2 excavation limits and are larger than described above).

#### ***Confirmation Sampling Phase 1A***

Confirmation sampling was completed after the soil removal activities. Sample locations were positioned around the tank pit sidewalls and on the north and south sides of the pipe run (see Figure 5-1). Nine confirmation samples were collected, including one duplicate, from eight locations. All soil samples were analyzed for PAHs. PAH concentrations remained elevated above the Plan A target concentrations on the north, east, and south tank pit walls at sample locations UST-217, UST-218, UST-220, and UST-221 (see Table 5-1). Figure 5-1 does not depict the PAH concentrations for these samples (UST-217, UST-218, UST-220, and UST-221) because the contaminated soil from these locations was removed during Phase 2, as discussed below. PAHs along the west wall and pipe run area and locations UST-200, UST-201, UST-219, and UST-222, were below the cleanup levels Plan A target concentrations (see Table 5-1 and Figure 5-1).

#### ***Removal Phase 2***

It was assumed that an additional 6 inches to 1 foot of tank sidewall needed to be removed in order to lower residual PAH concentrations to Plan A target concentrations. Seventy-five cubic yards of soil and limestone bedrock were removed from the north, east, and south side walls. Five confirmation samples (including one duplicate) were collected and submitted for PAH analysis. All sample results were less than the Plan A target concentrations (see Table 5-1). Figure 5-1 shows that all remaining soils have PAH concentrations below the Plan A target concentrations.

## **5.2 CLOSURE SURVEYING**

Gorrondona and Associates initiated surveying in support of site closure on February 15 and February, 16, 2000. TEC personnel were present to coordinate and observe surveying activities. Surveys for UST-8505 included the limits of excavations, in addition to the locations of confirmation sampling points.

## **5.3 RESTORATION AND DEMOBILIZATION**

Restoration and demobilization activities began at the Offsite WSA on March 3, 2000. Unified Services of Texas personnel arrived onsite and began excavating on-site soils from Area A-1 for use as fill material. As indicated in the RFI report (TEC, 1999), these soils were not impacted by an unpermitted release.

An excavator and a front-end loader were used to place and compact the soil at UST-8505. Restoration and demobilization work was completed as the soil borrow and fill areas were fine graded with a skid-steer loader.

Table 5-1. WSA Closure Confirmatory Sample Results for UST-8505

Analyte <sup>a</sup>	Phase 1A				Phase 1A				
	UST-200-01	UST-201-01	UST-217-01	UST-218-01	UST-219-01	UST-220-01	UST-221-01	UST-221-04	UST-222-01
Location:	Pipe Run, South	Pipe Run, North	Tank Pit, South Wall, 3 Feet Above	Tank Pit, North Wall, 3 Feet Above	Tank Pit, West Wall, 3 Feet Above	Tank Pit, East Wall, 3 Feet Above	Tank Pit, East Wall, 1 Feet Above	Duplicate of UST-221-01	Tank Pit, West Wall, 1 Feet
<b>PAHs: ug/kg</b>									
Acenaphthene	40 U <sup>b</sup>	39 U	2000	240	180 F	3500	560	230 U	230 U
Anthracene	2.4 U	2.4 U	150	54	46	260	77	61	23 U
Benzo(a)anthracene	2.6 U	4 F	550	160	63	710	130	66	23 U
Benzo(a)pyrene	4.3 U	7.4 F	460	120	60	520	170	89	23 U
Benzo(b)fluoranthene	4.8 F	14 F	560	130	20 U	590	23 U	100	23 U
Benzo(ghi)perylene	2.5 U	7.6 F	330	76	40	340	84	53	46 U
Benzo(k)fluoranthene	3.5 U	3.4 U	200	40	19 F	200	52	31	23 U
Chrysene	3.8 U	3.7 U	640	170	40 U	730	47 U	92	46 U
Dibenzo(a,h)anthracene	6.7 U	6.5 U	340	80	41	400	120	60	23 U
Fluoranthene	8.4 F	25 F	1600	320	190	1900	430	290	46 U
Fluorene	4.6 U	4.5 U	110	21 F	15 F	350	53	21 F	46 U
Indeno(1,2,3-cd)pyrene	4.3 U	4.2 U	320	74	40 U	340	47 U	40 F	46 U
Phenanthrene	2.3 U	2.2 U	990	140	40 U	1100	270	180	46 U
Pyrene	10 UN	38 F	1500	300	170	1800	310	280	23 F

Note: Analyte concentrations greater than Plan A target concentrations are boxed.

<sup>a</sup>Only analytes that were detected in one sample are represented in this table.

<sup>b</sup>See Table 3-7 for qualifier definitions.

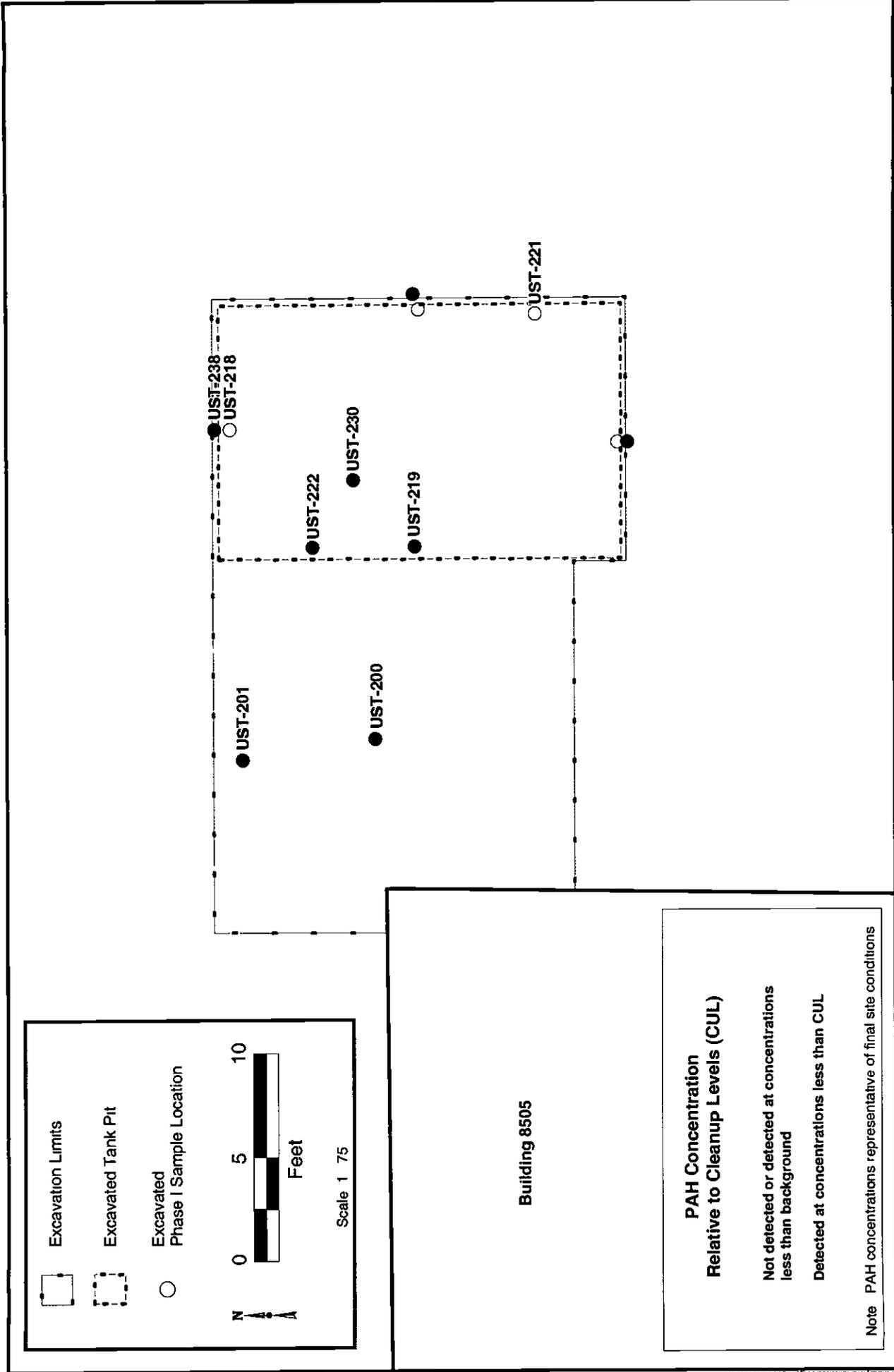
Table 5-1. WSA Closure Confirmatory Sample Results for UST-8505

Analyte <sup>a</sup>	Phase 2					
	UST-230-01	UST-238-01	UST-239-04	UST-240-01	UST-241-01	
	Location:		Tank Pit,		Tank Pit, South	
PAHs: ug/kg	Pit Floor	North Wall	Duplicate of	West Wall	Wall	Wall
			UST-238-01			
Acenaphthene	210 U	210 U	210 U	200 U		200 U
Anthracene	210 U	21 U	21 U	20 U		20 U
Benzo(a)anthracene	21 U	21 U	21 U	20 U		20 U
Benzo(a)pyrene	21 U	21 U	21 U	20 U		20 U
Benzo(b)fluoranthene	21 U	21 U	21 U	20 U		20 U
Benzo(ghi)perylene	42 U	41 U	41 U	41 U		40 U
Benzo(k)fluoranthene	21 U	21 U	21 U	20 U		20 U
Chrysene	42 U	20 FJ	22 FJ	41 U		40 U
Dibenzo(a,h)anthracene	21 U	21 U	21 U	20 U		20 U
Fluoranthene	42 U	41 U	41 U	41 U		40 U
Fluorene	42 U	41 U	41 U	41 U		40 U
Indeno(1,2,3-cd)pyrene	42 U	41 U	41 U	41 U		40 U
Phenanthrene	42 U	41 U	41 U	41 U		40 U
Pyrene	42 U	41 U	41 U	41 U		40 U

Note: Analyte concentrations greater than Plan A target concentrations are boxed.

<sup>a</sup>Only analytes that were detected in one sample are represented in this table.

<sup>b</sup>See Table 3-7 for qualifier definitions.



Creation Date 10/05/1999  
 Rev Date 03/13/2001  
 Project Manager B. Duffner  
 Prepared By D. Waardenburg  
 Project No. P-3109

**Figure 5-1**  
**UST 8505 Limits of Excavation and Confirmatory Sample Results**

M:\Bryant\MSA\backdoor\05-1-99\05 PAH VCR

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Contract No F41624-95-D-8002/Delivery Order 0009

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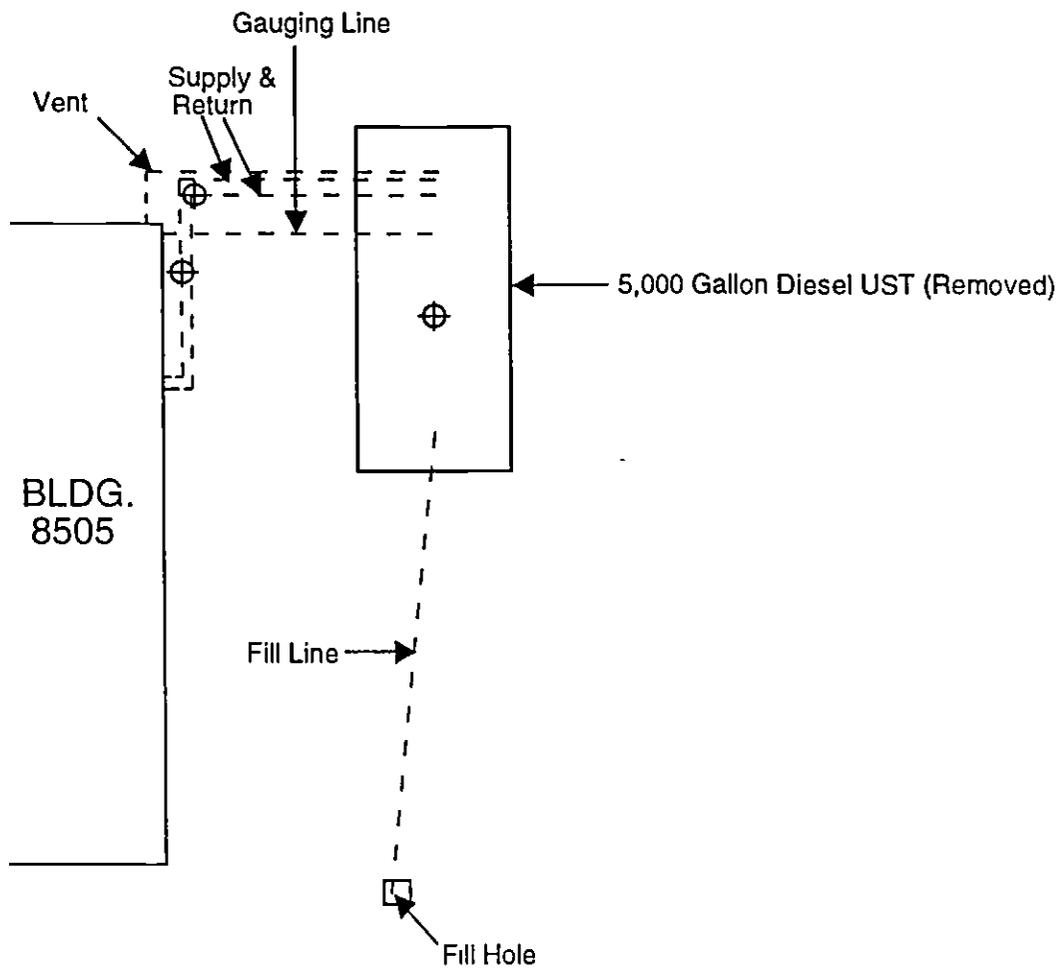
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Offsite Weapons Storage Area  
NAS Fort Worth JRB Carswell Field  
Contract No F41624-95-D-8002/Delivery Order 0009

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APPENDIX A

UNDERGROUND STORAGE TANK LOCATION DIAGRAM

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Legend	
	Borehole
	Piping
	Removed UST

Date	Project No
January 1998	3109-071
Project Manager	
B. Duffner	
Prepared by	
AMM	



1 inch = 10 feet

**Building 8505  
UST Borehole Locations**

APPENDIX B  
UST BOREHOLE LOGS

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Borehole (Location) ID: UST-006

Page 1 of 1

FIID	CRSWL	SiteID	18 (WSA)	Location Type	BOREHOLE (BH)
Location Description <u>Tank near Building 8505</u>					
Establishing Company		Geologist		Drilling Company	
<u>The Environmental Co</u>		<u>L. Myers</u>		<u>Maxim</u>	
Drilling Foreman		Ground Surface Elevation		Datum	
<u>F. Robinson</u>					
Sampling Device		Borehole Diameter (Inches)		Total Depth (Feet)	
<u>Spoon</u>		<u>2</u>		<u>2.0</u>	
Date/Time Drilling Started			Date/Time Total Depth Reached		
<u>9/04/97 10:</u>			<u>9/04/97</u>		

Depth (feet)	Sampling				USCS	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks Drilling Problems Equipment, Water levels, Samples Weather, Time
	% Recov	Sample Depth	Blow Counts	PD						
1	17" 24"	0-2'		HS 16.2			3-4 2.54R 5/6 (red) clay & silt, moist, mod plastic, up to 30% CaCO <sub>3</sub> concretions & gravel, root material * Chunks of black asphalt-like material. not in situ * Amount of sand increases with depth			
2						CLML	FILL			
3	18" 24"	2-4'		HS 8.5						
4										
5	20" 24"	--6'		HS 5.8		SM	FILL	2.54R 5/6 (red) sand & silt, fine fine gravel, some root material	Water at 4'	
6										
7	18" 24"	6-8'		HS 4.4		SM	FILL	2.54 6/1 (green) sand & silt, trace fine gravel, some fossils, still some root material, no color	UST-006-0 BTEX, -PH PPH	
8										
						CM	LS	Hit refusal at 2.0 feet		





APPENDIX C

WASTE PROFILE AND DISPOSAL FACILITY WASTE ACCEPTANCE FORM

693 113

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**USA WASTE OF HOUSTON  
LANDFILL SERVICES**

693 114

**WASTE CHARACTERIZATION DATA (WCD) FORM**

USA Waste Approval Code \_\_\_\_\_

Important: This form is to be completed by a representative of the generator. Please read the instruction page prior to the completion of this form. This form must be typewritten or legibly handwritten in ink, signed and dated.

USA Waste Tracking Number: \_\_\_\_\_  
 Salesperson: \_\_\_\_\_  
 Telephone: (281) 922-0012 \_\_\_\_\_  
 Fax: (281) 922-1108 \_\_\_\_\_  
 Date: \_\_\_\_\_

New Waste Approval  Addendum to Existing Approval  
 Update Approval - Previous Number: \_\_\_\_\_  
 Disposal Site Requested: \_\_\_\_\_  
 Approved for Solidification  Yes  No  N/D  
 Other \_\_\_\_\_

**1. Generator Information**

Generator's Name: Air Force Base Conversion Agency  
 Point of Origin/ Address: Carswell Off-site weapons Area  
 City: Fort Worth State: TX Zip: 76114-3520  
 Generator's Representative: Alvin Brown  
 Title: AFBCA / RUL BERG-  
 Telephone: ( ) 877-386 5429 (x 23)  
 Fax: ( ) \_\_\_\_\_  
 Emergency/Information Contact: Bob Duffner  
 Title: The Environmental Company  
 Telephone: ( ) 425-557-7899

State Registration Number: 65004  
 TNRCC Waste Code Number: \_\_\_\_\_  
 Origin: Carswell Field Off-site weapons Storage Area  
 Customer's Name: Bob Duffner  
 Customer's Mailing Address: 710 New Summer St  
 City: Issaquah State: WA Zip: 98027  
 Representative: The Environmental Company  
 Telephone: ( ) 425-557-7899  
 Fax: ( ) 425-557-7878

**2. Transporter Information**

Transporter's Name: Unified Services of Texas, Inc  
 Mailing Address: 2110 Greenbriar Drive  
 City: South Lake State: TX Zip: 76092

Transporter ID: Not Applicable  
 Telephone: ( ) 817 481-9510  
 Fax: ( ) 817 488-1729

**3. Waste Stream Information**

Waste/Waste Stream Name: Soil  
 Process Knowledge [Describe materials and process(es) generating the waste]: Soil impacted by generator station runoff and fuel oil storage tank maintenance activities  
 Is this waste a characteristically hazardous waste as per 40 CFR 261.21-24?  Yes  No  N/D  
 Is this waste an F, K, P, or U listed hazardous waste as per 40 CFR 261.32-33?  Yes  No  N/D  
 Is this a waste regulated by the Railroad Commission?  Yes  No  N/D (If yes, please provide Minor Permit)  
 Estimate Quantity: 1,600  Pounds  Tons  Cubic Yards  Drums  Gallons  Other  
 Frequency:  One Time  Monthly  Quarterly  Semi-Annual  Annual  Other: One primary load within one week period, followed by second potential smaller load.

**4. Physical Characteristics**

Physical State at 72°F:  Combination of  Solid  Liquid  Semi-solid  Powder  
 Appearance/Texture:  Granular/Lump  Powder/Fine  Free Flowing Liquid  Other: Silty Soil  
 Color(s): Brown  
 Odor:  Strong - Describe: \_\_\_\_\_  Mild  None  
 Corrosivity (pH):  ≤2  2.1 - 7.0  7.1 - 12.4  ≥12.5  Actual \_\_\_\_\_  N/D  
 Specific Gravity: \_\_\_\_\_  lbs./gal.  lbs./yd.<sup>3</sup>  Other \_\_\_\_\_  N/D  
 Volatility (Flashpoint, °F):  ≤72  73 - 140  141 - 200  ≥201  Actual \_\_\_\_\_  N/D

693.115

**5. Chemical Composition**

Based upon generator's knowledge of the process and expected contaminants please provide a breakdown of the waste stream requesting disposal. Account for 100 % of the waste.

Components/Expected Contaminants	Range (%)	
Cadmium	0.5 to 51.4 mg/kg	(majority = 1.2 mg/kg)
Copper	5.0 to 166.0 mg/kg	(majority = 14.2 mg/kg)
Mercury	0.06 to 10.9 mg/kg	(majority = 0.061 mg/kg)
Polycyclic Aromatic Hydrocarbons		
Benzo(a)anthracene	>0.06 to 6.1 mg/kg	
Benzo(a)pyrene	>0.06 to 5.6 mg/kg	
Benzo(b)fluoranthrene	>0.06 to 5.1 mg/kg	

**6. Additional Waste Components**

Indicate if the waste contains any of the following. If any are marked, please include in the overall composition in Section 5.

- Used Oils     Free Liquids     Radioactive Materials     Etiological Agents     OSHA Substances  
 Virgin Oils     PCB's not regulated by TSCA 40 CFR 761     Organic Solvents     None of the Above

**7. Reactivity**

Indicate if the waste exhibits any of the following properties:

- Water Reactive     Acid Reactive     Alkaline Reactive     Pyrophoric     Thermally Sensitive  
 Explosive     Autopolymerizable     Shock/Vibration Sensitive     None of the Above

**8. Supplemental Documents**

- Letter/Memo     Analytical Data     Chain of Custody     Notice of Registration  
 Process Diagrams     Material Safety Data Sheets     None     Other: \_\_\_\_\_

**9. Generator Certifications**

I certify that the analytical data identified below is representative and attached as support to the information certified on this application form.

Lab Name(s): RECRA LabNet  
 Report Date(s): 9/97 and 2/99  
 Sample I.D.(s): See Attached

By signing this form I certify that:

- I am the legal generator of the waste described on this application
- The waste described is not a regulated Hazardous Waste as defined by the USEPA, State, or local Regulations.
- This form and its attachments contain true and accurate information regarding this waste stream.
- Any laboratory data used to support the information presented herein has been obtained from the analysis of a representative sample collected and preserved in a manner consistent with accepted technical standards.

Date: 18 June 1999

Print Name: ALVIN D. BROWN

Signature: Alvin D. Brown

Phone: 877-386-5429 Ext. 23

Title: ENVIRONMENTAL ENGINEER



# WASTE MANAGEMENT OF TEXAS AND OKLAHOMA SPECIAL WASTE APPROVAL FORM

CLASS II

APPROVAL #: W5-9131

GENERATOR'S NAME:	AIR FORCE BASE CONVERSION AGENCY		
GENERATING LOCATION:	Carswell offsite weapons area, Fort Worth	COUNTY:	
DISPOSAL FACILITY:	Westside	SALES REPRESENTATIVE:	DeeDee Hix
TNRCC WASTE CODE #:	NA <i>CS</i>	STATE REGISTRATION #:	65004
BROKER'S NAME:		PROJECT #:	NA
WASTE STREAM:	Soil		
ANNUAL QUANTITY:	1600 cubic yards		
APPROVAL ISSUE DATE:	7/20/99	APPROVAL EXPIRATION DATE:	10/20/99

### CONDITIONS OF APPROVAL

Contact customer prior to solidification

### ATTACHMENTS

RCRA LabNet analysis

### APPROVAL AMENDMENTS

SPECIAL WASTE APPROVALS SIGNATURE:

APPENDIX D  
WASTE MANIFESTS

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Lewisville, TX 75067  
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448-146

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency**  
**ADDRESS: Carswell Offsite Weapons Area**  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 386-6429**

**ID#: 65004**  
**LOCATION: SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	_____	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Alvin A. ...  
Generator Authorized Agent Name (Print)

[Signature] 7/2/99  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc**  
**ADDRESS: 2110 Greenbriar Drive**  
**CITY/ST.: Southlake, Tx. 76092**

**DRIVER NAME(Print):** [Signature]  
**TRUCK NUMBER:** [Signature]  
**PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/2/99  
Driver Signature Shipment Date

[Signature] 7/2/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**

**PHONE NUMBER: 817-244-3500**

I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature

7/2/99  
Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



27457

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**NON-HAZARDOUS MANIFEST**

GENERATOR: **Air Force Base Conversion Agency**  
ADDRESS: **Carswell Offsite Weapons Area**  
CITY/ST: **Ft. Worth, TX 76114-**  
PHONE: **(877) 386-5429**

ID#: **65004**  
LOCATION: **SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-0131	20	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN  
Generator Authorized Agent Name (Print)

Alvin D. Brown 7/27/99  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: **Unified Services of Texas, Inc**  
ADDRESS: **2110 Greenbriar Drive**  
CITY/ST.: **Southlake, Tx. 76092**

DRIVER NAME(Print): \_\_\_\_\_  
TRUCK NUMBER: 4212170012K-14  
PHONE#: **817-481-9510** 150

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/27/99  
Driver Signature Shipment Date

[Signature] 7/27/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: **Westside Recycling and Disposal Facility**  
ADDRESS: **12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: **817-244-3500**

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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787709

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**NON-HAZARDOUS MANIFEST**

GENERATOR: **Air Force Base Conversion Agency**  
 ADDRESS: **Carswell Offsite Weapons Area**  
 CITY/ST: **Ft. Worth, TX 76114-**  
 PHONE: **(877) 388-5429**

ID#: **65004**  
 LOCATION: **SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>20</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name (Print): \_\_\_\_\_ Signature: [Signature] Delivery Date: \_\_\_\_\_

**TRANSPORTER**

TRANSPORTER NAME: **Unified Services of Texas, Inc** DRIVER NAME(Print): [Signature]  
 ADDRESS: **2110 Greenbriar Drive** TRUCK NUMBER: 74107  
 CITY/ST: **Southlake, Tx. 76092** PHONE#: **817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Driver Signature: [Signature] Shipment Date: 7-2-99 Driver Signature: [Signature] Delivery Date: 7-2-99

**DISPOSAL FACILITY**

SITE NAME: **Westside Recycling and Disposal Facility** PHONE NUMBER: **817-244-3500**  
 ADDRESS: **12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
 I hereby acknowledge receipt of the above described materials.

Name of Authorized Agent (Print): \_\_\_\_\_ Signature: \_\_\_\_\_ Receipt Date: \_\_\_\_\_

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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657139

**NON-HAZARDOUS MANIFEST**

GENERATOR: **Air Force Base Conversion Agency**  
ADDRESS: **Carswell Offsite Weapons Area**  
CITY/ST: **Ft. Worth, TX 76114-**  
PHONE: **(877) 386-5429**

ID#: **65004**  
LOCATION: **SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	_____	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name (Print)

Signature

Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: **Unified Services of Texas, Inc**  
ADDRESS: **2110 Greenbriar Drive**  
CITY/ST.: **Southlake, Tx. 76092**

DRIVER NAME(Print): \_\_\_\_\_  
TRUCK NUMBER: \_\_\_\_\_  
PHONE#: **817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Driver Signature

Shipment Date

Driver Signature

Delivery Date

**DISPOSAL FACILITY**

SITE NAME: **Westside Recycling and Disposal Facility**  
ADDRESS: **12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: **817-244-3600**

Name of Authorized Agent (Print)

Signature

Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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9/18/17

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency**  
**ADDRESS: Carswell Offsite Weapons Area**  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 386-6429**

**ID#: 65004**  
**LOCATION: SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>22</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Generator/Authorized Agent Name (Print)

Signature D. Brown Delivery Date 9/18/17

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc**  
**ADDRESS: 2110 Greenbriar Drive**  
**CITY/ST: Southlake, Tx. 76092**

**DRIVER NAME(Print):** L. AVA  
**TRUCK NUMBER:** 1787  
**PHONE#:** 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Driver Signature D.P. Brown Shipment Date 9/18/17

Driver Signature L. AVA Delivery Date 9/18/17

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

**PHONE NUMBER: 817-244-3500**

Name of Authorized Agent (Print)

Signature

Receipt Date

D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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596000

NON-HAZARDOUS MANIFEST

GENERATOR: Air Force Base Conversion Agency  
ADDRESS: Carswell Offsite Weapons Area  
CITY/ST: Ft. Worth, TX 76114-  
PHONE: (877) 386-6429

ID#: 85004  
LOCATION: SAME

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	20	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

AVIN D BROWN  
Generator Authorized Agent Name (Print)

[Signature] 7/27/99  
Signature Delivery Date

TRANSPORTER

TRANSPORTER NAME: Unified Services of Texas, Inc  
ADDRESS: 2110 Greenbriar Drive  
CITY/ST.: Southlake, Tx. 76092

DRIVER NAME(Print): [Signature]  
TRUCK NUMBER: 12V121110 041271  
PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/27/99  
Driver Signature Shipment Date

[Signature] 7/27/99  
Driver Signature Delivery Date

DISPOSAL FACILITY

SITE NAME: Westside Recycling and Disposal Facility  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: 817-244-3500

Name of Authorized Agent (Print)

Signature

Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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AC

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency**  
**ADDRESS: Carswell Offsite Weapons Area**  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 386-5429**

**ID#: 65004**  
**LOCATION: SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-8131	<u>20</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Alvin D. Brown  
Generator Authorized Agent Name (Print)

Alvin D. Brown 7/27/99  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc**  
**ADDRESS: 2110 Greenbriar Drive**  
**CITY/ST: Southlake, Tx. 76092**

**DRIVER NAME(Print):** Oliver Barnes  
**TRUCK NUMBER:** 1107  
**PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Oliver Barnes 7/27/99  
Driver Signature Shipment Date

Oliver Barnes 7/27/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

**PHONE NUMBER: 817-244-3500**

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Receipt Date

D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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787861

**NON-HAZARDOUS MANIFEST**

GENERATOR: Air Force Base Conversion Agency  
ADDRESS: Carswell Offsite Weapons Area  
CITY/ST: Ft. Worth, TX 76114-  
PHONE: (877) 388-5429

ID#: 65004  
LOCATION: SAME

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>20</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

[Signature]  
Generator Authorized Agent Name (Print)

[Signature] 7/1/88  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: Unified Services of Texas, Inc  
ADDRESS: 2110 Greenbriar Drive  
CITY/ST.: Southlake, Tx. 76092

DRIVER NAME(Print): ARMANDO GARCIA  
TRUCK NUMBER: 929  
PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7-27-88  
Driver Signature Shipment Date

[Signature] 7/1/88  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: Westside Recycling and Disposal Facility  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008

PHONE NUMBER: 817-244-3500

I hereby acknowledge receipt of the above described materials.

[Signature]  
Name of Authorized Agent (Print)

[Signature] 7/1/88  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



27464

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595901

693 127

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency**  
**ADDRESS: Carswell Offsite Weapons Area**  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 386-5429**

**ID#: 65004**  
**LOCATION: SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-8131	<u>20</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Amory D. Brown  
Generator/Authorized Agent Name (Print)

Amory D. Brown 7/27/99  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc**  
**ADDRESS: 2110 Greenbriar Drive**  
**CITY/ST.: Southlake, Tx. 76092**

**DRIVER NAME(Print):** Lizikinda Ponce  
**TRUCK NUMBER:** 7H 930  
**PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Julius Hoce 7/27/99  
Driver Signature Shipment Date

Julius Hoce 7/27/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

**PHONE NUMBER: 817-244-3600**

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Receipt Date

D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain

693 128



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Lewisville, TX 75067  
(972) 316-2298 / FAX (972) 316-2298

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NON-HAZARDOUS MANIFEST

GENERATOR: Air Force Base Conversion Agency  
ADDRESS: Carswell Offsite Weapons Area  
CITY/ST: Ft. Worth, TX 76114  
PHONE: (877) 388-5429

ID#: 85004  
LOCATION: SAME

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-8131	20	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name (Print)

Signature [Signature] Delivery Date [Date]

TRANSPORTER

TRANSPORTER NAME: Unified Services of Texas, Inc  
ADDRESS: 2110 Greenbriar Drive  
CITY/ST.: Southlake, Tx. 76092

DRIVER NAME(Print): [Signature]  
TRUCK NUMBER: 219  
PHONE#: 817-481-8510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Driver Signature [Signature] Shipment Date [Date]

Driver Signature [Signature] Delivery Date [Date]

DISPOSAL FACILITY

SITE NAME: Westside Recycling and Disposal Facility  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: 817-244-3500

Name of Authorized Agent (Print)

Signature [Signature] Receipt Date [Date]

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain			Pink-Transporter Retain	Gold-Generator Retain



27466

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18

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757564 693 129

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency** ID#: 65004  
**ADDRESS: Carswell Offsite Weapons Area** LOCATION: SAME  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 386-5429**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>20</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name (Print) \_\_\_\_\_ Signature \_\_\_\_\_ Delivery Date \_\_\_\_\_

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc** DRIVER NAME(Print): \_\_\_\_\_  
**ADDRESS: 2110 Greenbriar Drive** TRUCK NUMBER: \_\_\_\_\_  
**CITY/ST.: Southlake, Tx. 76092** PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Driver Signature \_\_\_\_\_ Shipment Date \_\_\_\_\_ Driver Signature \_\_\_\_\_ Delivery Date \_\_\_\_\_

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility** PHONE NUMBER: 817-244-3500  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**

I hereby acknowledge receipt of the above described materials.

Name of Authorized Agent (Print) \_\_\_\_\_ Signature \_\_\_\_\_ Receipt Date \_\_\_\_\_

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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976951

**NON-HAZARDOUS MANIFEST**

GENERATOR: Air Force Base Conversion Agency  
ADDRESS: Carswell Offsite Weapons Area  
CITY/ST: Ft. Worth, TX 76114-  
PHONE: (877) 388-5429

ID#: 65004  
LOCATION: SAME

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>21</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALLAN D. BRIDEN  
Generator Authorized Agent Name (Print)

Allan D. Briden 7/27/99  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: Unified Services of Texas, Inc  
ADDRESS: 2110 Greenbriar Drive  
CITY/ST.: Southlake, Tx. 76092

DRIVER NAME(Print): \_\_\_\_\_  
TRUCK NUMBER: 1127410  
PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Driver Signature [Signature] Shipment Date 7/27/99

Driver Signature [Signature] Delivery Date 7/27/99

**DISPOSAL FACILITY**

SITE NAME: Westside Recycling and Disposal Facility  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: 817-244-3600

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



27468

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776952

693 131

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**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency**  
**ADDRESS: Carswell Offsite Weapons Area**  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 386-6429**

**ID#: 65004**  
**LOCATION: SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-0131	<del>2.0</del>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Michael D. Brown  
Generator Authorized Agent Name (Print)

[Signature] 7/27/89  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc**  
**ADDRESS: 2110 Greenbriar Drive**  
**CITY/ST.: Southlake, Tx. 76092**

**DRIVER NAME(Print):** LEAH WHE  
**TRUCK NUMBER:** 102A/116  
**PHONE#:** 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 8/1/89  
Driver Signature Shipment Date

[Signature] 8/1/89  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**

**PHONE NUMBER: 817-244-3500**

I hereby acknowledge receipt of the above described materials.

Name of Authorized Agent (Print)

[Signature] 8/1/89  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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595904

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency**  
**ADDRESS: Carswell Offsite Weapons Area**  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 386-5429**

**ID#: 86004**  
**LOCATION: SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-8131	20	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BRODIN  
Generator Authorized Agent Name (Print)

Alvin D. Brodin 7/27/99  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc**  
**ADDRESS: 2110 Greenbriar Drive**  
**CITY/ST.: Southlake, Tx. 76092**

**DRIVER NAME(Print):** D. J. ...  
**TRUCK NUMBER:** ...  
**PHONE#: 817-481-0510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

James ... 7/27/99  
Driver Signature Shipment Date

James ... 7/27/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

**PHONE NUMBER: 817-244-3600**

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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776953

**NON-HAZARDOUS MANIFEST**

GENERATOR: Air Force Base Conversion Agency  
ADDRESS: Carswell Offsite Weapons Area  
CITY/ST: Ft. Worth, TX 78114-  
PHONE: (877) 386-5429

ID#: 66004  
LOCATION: SAME

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<del>20</del>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ANN D. BRANN  
Generator Authorized Agent Name (Print)

[Signature] 7/1/99  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: Unified Services of Texas, Inc  
ADDRESS: 2110 Greenbriar Drive  
CITY/ST.: Southlake, Tx. 76092

DRIVER NAME(Print): W. JAMES  
TRUCK NUMBER: 1107  
PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/1/99  
Driver Signature Shipment Date

[Signature] 7/1/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: Westside Recycling and Disposal Facility  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008

PHONE NUMBER: 817-244-3600

I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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27471

4/15/19

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**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency**  
**ADDRESS: Carswell Offsite Weapons Area**  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 386-5429**

**ID#: 65004**  
**LOCATION: SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	20	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN  
Generator Authorized Agent Name (Print)

Alvin D. Brown 7/27/99  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc**  
**ADDRESS: 2110 Greenbriar Drive**  
**CITY/ST.: Southlake, Tx. 76092**

**DRIVER NAME(Print):** S. J. WALKER  
**TRUCK NUMBER:** 11219  
**PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/27/99  
Driver Signature Shipment Date

[Signature] 7/27/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**

**PHONE NUMBER: 817-244-3500**

I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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78 7863

**NON-HAZARDOUS MANIFEST**

GENERATOR: **Air Force Base Conversion Agency**  
ADDRESS: **Carswell Offsite Weapons Area**  
CITY/ST: **Ft. Worth, TX 76114-**  
PHONE: **(877) 386-5429**

ID#: **65004**  
LOCATION: **SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<del>223</del>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

[Signature]  
Generator Authorized Agent Name (Print)

[Signature] 7/6/99  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: **Unified Services of Texas, Inc**  
ADDRESS: **2110 Greenbriar Drive**  
CITY/ST.: **Southlake, Tx. 76092**

DRIVER NAME(Print): ARMANDO GONZALEZ  
TRUCK NUMBER: 979  
PHONE#: **817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/27/99  
Driver Signature Shipment Date

[Signature] 7/27/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: **Westside Recycling and Disposal Facility**  
ADDRESS: **12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: **817-244-3500**

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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4418157

NON-HAZARDOUS MANIFEST

GENERATOR: Air Force Base Conversion Agency  
ADDRESS: Carswell Offsite Weapons Area  
CITY/ST: Ft. Worth, TX 76114-  
PHONE: (877) 386-6429

ID#: 65004  
LOCATION: SAME

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>20</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

[Signature]  
Generator Authorized Agent Name (Print)

[Signature] [Date]  
Signature Delivery Date

TRANSPORTER

TRANSPORTER NAME: Unified Services of Texas, Inc  
ADDRESS: 2110 Greenbriar Drive  
CITY/ST.: Southlake, Tx. 76092

DRIVER NAME(Print): \_\_\_\_\_  
TRUCK NUMBER: \_\_\_\_\_  
PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] [Date]  
Driver Signature Shipment Date

[Signature] [Date]  
Driver Signature Delivery Date

DISPOSAL FACILITY

SITE NAME: Westside Recycling and Disposal Facility  
ADDRESS: 12280 U.S. Hwy 80 W., Alledo, Tx. 76008

PHONE NUMBER: 817-244-3500

I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



27474

693 137 50

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59 5413

**NON-HAZARDOUS MANIFEST**

GENERATOR: **Air Force Base Conversion Agency**  
ADDRESS: **Carswell Offsite Weapons Area**  
CITY/ST: **FL Worth, TX 76114-**  
PHONE: **(877) 386-6428**

ID#: **65004**  
LOCATION: **SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>20</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

William D. Brown  
Generator Authorized Agent Name (Print)

[Signature] 7/27/99  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: **Unified Services of Texas, Inc**  
ADDRESS: **2110 Greenbriar Drive**  
CITY/ST: **Southlake, Tx. 76092**

DRIVER NAME(Print): [Signature]  
TRUCK NUMBER: 27730  
PHONE#: **817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/27/99  
Driver Signature Shipment Date

[Signature] 7/27/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: **Westside Recycling and Disposal Facility**  
ADDRESS: **12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: **817-244-3500**

Name of Authorized Agent (Print)

[Signature] 7/27/99  
Signature Receipt Date

D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



693 138

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27475

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610

**NON-HAZARDOUS MANIFEST**

GENERATOR: **Air Force Base Conversion Agency**  
ADDRESS: **Carswell Offsite Weapons Area**  
CITY/ST: **Ft. Worth, TX 76114-**  
PHONE: **(877) 388-5429**

ID#: **65004**  
LOCATION: **SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>20</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

MVIN D BRIDIA  
Generator Authorized Agent Name (Print)

[Signature] 7/27/99  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: **Unified Services of Texas, Inc**  
ADDRESS: **2110 Greenbriar Drive**  
CITY/ST.: **Southlake, Tx. 76092**

DRIVER NAME(Print): [Signature]  
TRUCK NUMBER: 5733  
PHONE#: **817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/27/99  
Driver Signature Shipment Date

[Signature] 7/27/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: **Westside Recycling and Disposal Facility**  
ADDRESS: **12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: **817-244-3500**

\_\_\_\_\_  
Name of Authorized Agent (Print)

[Signature] 7/27/99  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



27476

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55

6954

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**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency**  
**ADDRESS: Carswell Offsite Weapons Area**  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 386-5429**

**ID#: 85004**  
**LOCATION: SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>20</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN  
Generator Authorized Agent Name (Print)

Alvin D. Brown 7/27/99  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc**  
**ADDRESS: 2110 Greenbriar Drive**  
**CITY/ST.: Southlake, Tx. 76092**

**DRIVER NAME(Print):** Wayne  
**TRUCK NUMBER:** 427  
**PHONE#:** 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Wayne 7/29/99  
Driver Signature Shipment Date

Wayne 7/29/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**

**PHONE NUMBER: 817-244-3500**

I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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**NON-HAZARDOUS MANIFEST**

GENERATOR: Air Force Base Conversion Agency  
ADDRESS: Carswell Offsite Weapons Area  
CITY/ST: Ft. Worth, TX 76114-  
PHONE: (877) 386-5429

ID#: 65004  
LOCATION: SAME

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	20	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

M. D. Brown  
Generator Authorized Agent Name (Print)

M. D. Brown 7/27/97  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: Unified Services of Texas, Inc  
ADDRESS: 2110 Greenbriar Drive  
CITY/ST.: Southlake, Tx. 76092

DRIVER NAME(Print): L. Y. ...  
TRUCK NUMBER: 1125  
PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/28/97  
Driver Signature Shipment Date

[Signature] 7/28/97  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: Westside Recycling and Disposal Facility  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: 817-244-3600

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



27478

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7-76956

693 141

**NON-HAZARDOUS MANIFEST**

GENERATOR: **Air Force Base Conversion Agency**  
ADDRESS: **Carswell Offsite Weapons Area**  
CITY/ST: **Ft. Worth, TX 76114-**  
PHONE: **(877) 388-5429**

ID#: **65004**  
LOCATION: **SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-0131	<del>20</del>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

AVIA D. PERRY  
Generator Authorized Agent Name (Print)

[Signature] - 7-6-99  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: **Unified Services of Texas, Inc**  
ADDRESS: **2110 Greenbriar Drive**  
CITY/ST.: **Southlake, Tx. 76092**

DRIVER NAME(Print): WAYNE  
TRUCK NUMBER: 417  
PHONE#: **817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/27/99  
Driver Signature Shipment Date

[Signature] 7/27/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: **Westside Recycling and Disposal Facility**  
ADDRESS: **12280 U.S. Hwy 80 W., Aledo, Tx. 76008**  
I hereby acknowledge receipt of the above described materials.

PHONE NUMBER: **817-244-3600**

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



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27479

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58

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency**  
**ADDRESS: Carswell Offsite Weapons Area**  
**CITY/ST: Ft. Worth, TX 76114-**  
**PHONE: (877) 388-5429**

**ID#: 85004**  
**LOCATION: SAME**

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	70	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

William D. P. [Signature]  
Generator Authorized Agent Name (Print)

[Signature] 7/1/99  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas, Inc**  
**ADDRESS: 2110 Greenbriar Drive**  
**CITY/ST: Southlake, Tx. 76092**

**DRIVER NAME (Print):** \_\_\_\_\_  
**TRUCK NUMBER:** \_\_\_\_\_  
**PHONE#: 817-481-8510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

\_\_\_\_\_  
Driver Signature Shipment Date

\_\_\_\_\_  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008**

**PHONE NUMBER: 817-244-3500**

I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

*D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain



27480

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**NON-HAZARDOUS MANIFEST**

GENERATOR: Air Force Base Conversion Agency  
ADDRESS: Carswell Offsite Weapons Area  
CITY/ST: Ft. Worth, TX 76114-  
PHONE: (877) 386-5429

ID#: 65004  
LOCATION: SAME

Description of Waste Materials	Approval Number	Quantity	Units
Contaminated soil	WS-9131	<u>202</u>	Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

WILLIAM A. BROWN  
Generator Authorized Agent Name (Print)

Alvin G. Brown 7/6/99  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: Unified Services of Texas, Inc  
ADDRESS: 2110 Greenbriar Drive  
CITY/ST.: Southlake, Tx. 76092

DRIVER NAME(Print): D. W. ...  
TRUCK NUMBER: ...  
PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 7/7/99  
Driver Signature Shipment Date

[Signature] 7/7/99  
Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: Westside Recycling and Disposal Facility  
ADDRESS: 12260 U.S. Hwy 80 W., Aledo, Tx. 76008

PHONE NUMBER: 817-244-3500

I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print)

\_\_\_\_\_  
Signature Receipt Date

D-Drum	C-Carton	B-Bag	P-Pounds	Y-Yards	O-Other
White-Original	Canary-Disposer Retain		Pink-Transporter Retain		Gold-Generator Retain





31824

Track ticket #

899653

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**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency ID#: 65004**  
**ADDRESS: Carswell Offsite Weapons Area** Manifests to: **The Environmental Co.**  
**CITY/ST: Ft. Worth, TX 76114-** **3 W Garden St. #300**  
**PHONE: (877) 388-5429** **Pensacola, FL. 32501**  
**Attn: Jim Boone**

**Description of Waste Materials: Approval Number: Quantity: Units:**

**Contaminated soil WS-9131 15 Yards**

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Anna D. Brown  
Generator Authorized Agent Name (Print)

Jim Boone  
Signature

Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas Inc DRIVER NAME(Print): CMC**  
**ADDRESS: 2110 Greenbriar Drive TRUCK NUMBER: 5587**  
**CITY/ST.: Southlake, Tx. 76092 PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Maxio C  
Driver Signature

12/8/99  
Shipment Date

Maxio C  
Driver Signature

1/1  
Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility PHONE NUMBER: 817-244-3500**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008 PERMIT # 1019A**  
I hereby acknowledge receipt of the above described materials.

Name of Authorized Agent (Print)  
Date

Signature

Receipt

- D-Drum C-Carton B-Bag P-Pounds Y-Yards O-Other



31825

Truck ticket #  
892654<sup>693</sup> 146

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**NON-HAZARDOUS MANIFEST**

GENERATOR: Air Force Base Conversion Agency ID#: 85004  
ADDRESS: Carswell Offsite Weapons Area Manifests to: The Environmental C .  
CITY/ST: Ft. Worth, TX 76114- 3 W Garden St. #300  
PHONE: (877) 388-5429 Pensacola, FL 32501  
Attn: Jim Boone

Description of Waste Materials: Contaminated soil Approval Number: WS-0131 Quantity: 15 Units: Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN  
Generator Authorized Agent Name (Print)

Alvin D. Brown  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: Unified Services of Texas Inc DRIVER NAME(Print): CMC  
ADDRESS: 2110 Greenbriar Drive TRUCK NUMBER: 5507  
CITY/ST.: Southlake, Tx. 76092 PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Max C 12/8/94  
Driver Signature Shipment Date Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: Westside Recycling and Disposal Facility PHONE NUMBER: 817-244-3500  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008 PERMIT # 1019A  
I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print) Signature Receipt  
Date

\*D-Drum C-Carton B-Bag P-Pounds Y-Yards O-Other

693 147



31826

Truck ticket #

899655

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NON-HAZARDOUS MANIFEST

GENERATOR: Air Force Base Conversion Agency ID#: 65004  
ADDRESS: Carswell Offsite Weapons Area Mail Manifests to: The Environmental Co.  
CITY/ST: Ft. Worth, TX 76114- 3 W Garden St. #300  
PHONE: (877) 386-5429 Pensacola, FL. 32501  
Attn: Jim Boone

Description of Waste Materials Approval Number Quantity Units

Contaminated soil WS-9131 16 Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Anna D Brown  
Generator Authorized Agent Name (Print)

Jim Boone 12/2/99  
Signature Delivery Date

TRANSPORTER

TRANSPORTER NAME: Unified Services of Texas Inc DRIVER NAME(Print): MC  
ADDRESS: 2110 Greenbriar Drive TRUCK NUMBER: 717  
CITY/ST.: Southlake, Tx. 76092 PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

MC 12/2/99  
Driver Signature Shipment Date Driver Signature Delivery Date

DISPOSAL FACILITY

SITE NAME: Westside Recycling and Disposal Facility PHONE NUMBER: 817-244-3500  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008 PERMIT # 1019A  
I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print) Signature Receipt  
Date

\*D-Drum C-Carton B-Bag P-Pounds Y-Yards O-Other



31827

693 148

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872694

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency ID#: 85004**  
**ADDRESS: Carswell Offsite Weapons Area Mail Manifests to: The Environmental Co.**  
**CITY/ST: Ft. Worth, TX 76114- 3 W Garden St. #300**  
**PHONE: (877) 388-5429 Pensacola, FL. 32501**  
**Attn: Jim Boone**

**Description of Waste Materials: Approval Number: Quantity: Units:**

**Contaminated soil WS-9131 15 Yards**

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN  
Generator Authorized Agent Name (Print)

Alvin D. Brown 17-9-04  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas Inc DRIVER NAME(Print): Miguel D**  
**ADDRESS: 2110 Greenbriar Drive TRUCK NUMBER: 446**  
**CITY/ST.: Southlake, Tx. 76092 PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Miguel D 17 19 04  
Driver Signature Shipment Date Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility PHONE NUMBER: 817-244-3500**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008 PERMIT # 1019A**  
I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print) Signature Recelot  
Date

\*D-Drum C-Carton B-Bag P-Pounds Y-Yards O-Other



31828

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872654

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency ID#: 65004**  
**ADDRESS: Carswell Offsets Weapons Area** Manifests to: **The Environmental C**  
**CITY/ST: Ft. Worth, TX 76114-** **3 W Garden St. #300**  
**PHONE: (877) 388-5429** **Pensacola, FL. 32501**  
**Attn: Jim Boone**

**Description of Waste Materials: Contaminated soil** **Approval Number: WS-9131** **Quantity: 15** **Units: Yards**

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN Alvin D. Brown 12-8-94  
Generator Authorized Agent Name (Print) Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas Inc** **DRIVER NAME(Print): J. J. J.**  
**ADDRESS: 2110 Greenbriar Drive** **TRUCK NUMBER: 317**  
**CITY/ST.: Southlake, Tx. 76092** **PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 12/9/94 [Signature] 1/1  
Driver Signature Shipment Date Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility** **PHONE NUMBER: 817-244-3500**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008** **PERMIT # 1019A**

I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print) Signature Receipt  
Date

**\*D-Drum C-Carton B-Bag P-Pounds Y-Yards O-Other**





31830

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(972) 316-2296 / FAX (972) 316-2298

872611

**NON-HAZARDOUS MANIFEST**

GENERATOR: Air Force Base Conversion Agency ID#: 65004  
ADDRESS: Carswell Offsite Weapons Area Manifests to: The Environmental Co.  
CITY/ST: Ft. Worth, TX 76114- 3 W Garden St. #300  
PHONE: (877) 388-6428 Pensacola, FL. 32501  
Attn: Jim Boone

**Description of Waste Materials: Approval Number: Quantity: Units:**

Contaminated soil WS-9131 15 Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN  
Generator Authorized Agent Name (Print)

Alvin D. Brown 12-9-94  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: Unified Services of Texas Inc DRIVER NAME(Print): J M R  
ADDRESS: 2110 Greenbriar Drive TRUCK NUMBER: 317  
CITY/ST.: Southlake, Tx. 76092 PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 12/9/94  
Driver Signature Shipment Date Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: Westside Recycling and Disposal Facility PHONE NUMBER: 817-244-3500  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008 PERMIT # 1019A  
I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print) Signature Receipt  
Date

\*D-Drum C-Carton B-Bag P-Pounds Y-Yards O-Other



31831

693 152

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Lewisville, TX 75067  
(972) 316-2296 / FAX (972) 316-2298

872695

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency ID# 65004**  
**ADDRESS: Carswell Offsite Weapons Area** Manifests to: **The Environmental Co.**  
**CITY/ST: Ft. Worth, TX 76114-** **3 W Garden St. #300**  
**PHONE: (877) 388-6429** **Pensacola, FL 32501**  
**Attn: Jim Boone**

**Description of Waste Materials:** Contaminated soil **Approval Number:** WS-9131 **Quantity:** 15 **Units:** Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN  
Generator Authorized Agent Name (Print)

Alvin D. Brown 12-4-94  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas Inc** **DRIVER NAME(Print):** M. D. [Signature]  
**ADDRESS: 2110 Greenbriar Drive** **TRUCK NUMBER:** 4660  
**CITY/ST.: Southlake, Tx. 76092** **PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

[Signature] 12/9/94  
Driver Signature Shipment Date Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility** **PHONE NUMBER: 817-244-3500**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008** **PERMIT # 1019A**  
I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print)  
Date

\_\_\_\_\_  
Signature Receipt  
\_\_\_\_\_  
Date

**\*D-Drum    C-Carton    B-Bag    P-Pounds    Y-Yards    O-Other**



31832

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873177

**NON-HAZARDOUS MANIFEST**

**GENERATOR:** Air Force Base Conversion Agency ID#: 65004  
**ADDRESS:** Carswell Offsite Weapons Area  
**CITY/ST:** Ft. Worth, TX 76114-  
**PHONE:** (877) 386-5429  
Manifests to: The Environmental Co.  
3 W Garden St. #300  
Pensacola, FL 32501  
Attn: Jim Boone

**Description of Waste Materials: Approval Number: Quantity: Units:**

**Contaminated soil** **WS-9131** **Yards**

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN  
Generator Authorized Agent Name (Print)

Alvin D. Brown 12-4-00  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME:** Unified Services of Texas Inc **DRIVER NAME(Print):** James Stanley  
**ADDRESS:** 2110 Greenbriar Drive **TRUCK NUMBER:** 605  
**CITY/ST.:** Southlake, Tx. 76092 **PHONE#:** 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

James Stanley 12 19 00 James Stanley 1/1  
Driver Signature Shipment Date Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME:** Westside Recycling and Disposal Facility **PHONE NUMBER:** 817-244-3500  
**ADDRESS:** 12280 U.S. Hwy 80 W., Aledo, Tx. 76008 **PERMIT #** 1019A  
I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print) Signature Receipt  
Date

**\*D-Drum C-Carton B-Bag P-Pounds Y-Yards O-Other**



693 155



31834

North Texas Industrial Service Center  
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Lewisville, TX 75067  
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P7317P

**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency ID#: 65004**  
**ADDRESS: Carswell Offsite Weapons Area** Manifests to: **The Environmental Co.**  
**CITY/ST: Ft. Worth, TX 76114-** **3 W Garden St. #300**  
**PHONE: (877) 386-5429** **Pensacola, FL 32501**  
**Attn: Jim Boone**

**Description of Waste Materials: Approval Number: Quantity: Units:**

**Contaminated soil WS-9131 15 Yards**

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

Alvin D. Brown  
Generator Authorized Agent Name (Print)

Alvin D. Brown 12-8-99  
Signature Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas Inc DRIVER NAME(Print):** JAMES STANLEY  
**ADDRESS: 2110 Greenbriar Drive TRUCK NUMBER:** 645  
**CITY/ST.: Southlake, Tx. 76092 PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

James Stanley 12/8/99 1 1  
Driver Signature Shipment Date Driver Signature Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility PHONE NUMBER: 817-244-3500**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008 PERMIT # 1019A**  
I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print) Signature Receipt  
Date

**\*D-Drum C-Carton B-Bag P-Pounds Y-Yards O-Other**



31835

693 156

North Texas Industrial Service Center  
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**NON-HAZARDOUS MANIFEST**

**GENERATOR: Air Force Base Conversion Agency ID#: 65004**  
**ADDRESS: Carswell Offsite Weapons Area Manifests to: The Environmental Co.**  
**CITY/ST: Ft. Worth, TX 76114- 3 W Garden St. #300**  
**PHONE: (877) 388-5429 Pensacola, FL 32501**  
**Attn: Jim Boone**

**Description of Waste Materials: Approval Number: Quantity: Units:**

**Contaminated soil WS-9131 15 Yards**

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

ALVIN D. BROWN Generator Authorized Agent Name (Print)      Alvin D. Brown Signature      12.8.99 Delivery Date

**TRANSPORTER**

**TRANSPORTER NAME: Unified Services of Texas Inc DRIVER NAME(Print): Miguel P.**  
**ADDRESS: 2110 Greenbriar Drive TRUCK NUMBER: 806**  
**CITY/ST.: Southlake, Tx. 76092 PHONE#: 817-481-9510**

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

Miguel P. Driver Signature      12.8.99 Shipment Date      Miguel P. Driver Signature      12.10.99 Delivery Date

**DISPOSAL FACILITY**

**SITE NAME: Westside Recycling and Disposal Facility PHONE NUMBER: 817-244-3500**  
**ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008 PERMIT # 1019A**

I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print)      Signature      1  
Date                Receipt

**\*D-Drum      C-Carton      B-Bag      P-Pounds      Y-Yards      O-Other**



31836

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072012

**NON-HAZARDOUS MANIFEST**

GENERATOR: Air Force Base Conversion Agency ID#: 65004

ADDRESS: Carswell Offsite Weapons Area  
CITY/ST: Ft. Worth, TX 76114-  
PHONE: (877) 388-5429  
Mail Manifests to: The Environmental Co.  
3 W Garden St. #300  
Pensacola, FL 32501  
Attn: Jim Boone

**Description of Waste Materials : Approval Number : Quantity : Units :**

Contaminated soil WS-9131 15 Yards

I hereby certify that the above described materials are not hazardous wastes as defined by 40 CFR Part 261 and does not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law. Have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations.

M. D. Boone  
Generator Authorized Agent Name (Print)

M. D. Boone 12-0-94  
Signature Delivery Date

**TRANSPORTER**

TRANSPORTER NAME: Unified Services of Texas Inc DRIVER NAME(Print): J.M.L.  
ADDRESS: 2110 Greenbriar Drive TRUCK NUMBER: 317  
CITY/ST.: Southlake, Tx. 76092 PHONE#: 817-481-9510

I hereby acknowledge receipt of the above described materials were received from the generator listed above and delivered to the disposal facility listed below without incident.

J.M.L. 12/8/94  
Driver Signature Shipment Date Driver Signature Delivery Date

**DISPOSAL FACILITY**

SITE NAME: Westside Recycling and Disposal Facility PHONE NUMBER: 817-244-3500  
ADDRESS: 12280 U.S. Hwy 80 W., Aledo, Tx. 76008 PERMIT # 1019A  
I hereby acknowledge receipt of the above described materials.

\_\_\_\_\_  
Name of Authorized Agent (Print) Signature Receipt  
Date

\*D-Drum C-Carton B-Bag P-Pounds Y-Yards O-Other

APPENDIX E  
LIST OF ANALYTICAL PARAMETERS

693 159

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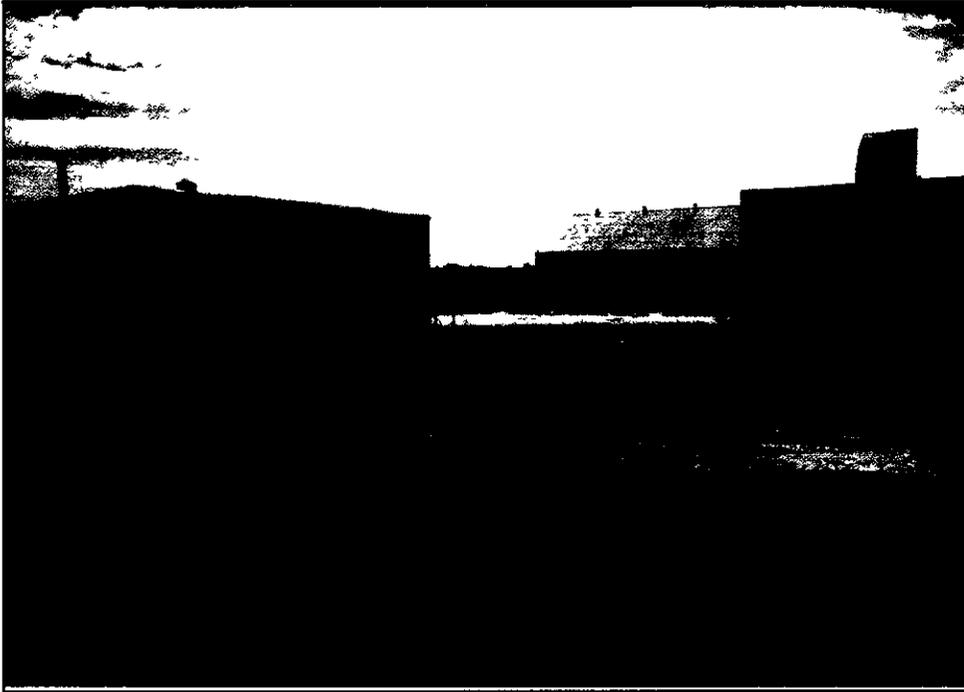
Table E-1. List of Analytical Parameters for the Offsite Weapon Storage Area RFI	
Aromatic Volatile Organics - Method SW5030A/SW8020A	Semivolatile Organics - Method SW8270B
Benzene	1,2,4-Trichlorobenzene
Ethylbenzene	1,2-DCB
Toluene	1,3-DCB
Xylenes, total	1,4-DCB
	2,4-DNT
	2,6-DNT
	2-Chloronaphthalene
	2-Methylnaphthalene
	2-Nitroaniline
	3-Nitroaniline
	3,3'-Dichlorobenzidine
	4-Bromophenyl phenyl ether
	4-Chloroaniline
	4-Chlorophenyl phenyl ether
	4-Nitroaniline
	Acenaphthylene
	Acenaphthene
	Anthracene
	Benz (a) anthracene
	Benzo (a) pyrene
	Benzo (b) fluoranthene
	Benzo (g,h,i) perylene
	Benzyl alcohol
	Bis (2-chloroethoxy) methane
	Bis (2-chlorethyl) ether
	Bis (2-chloroisopropyl) ether
	Bis (2-ethylhexyl) phthalate
	Butyl benzylphthalate
	Chrysene
	Di-n-butylphthalate
	Di-n-octylphthalate
	<b>Polynuclear Aromatic Hydrocarbons - Method SW8310</b>
	Acenaphthene
	Acenaphthylene
	Anthracene
	Benzo (a) anthracene
	Benzo (a) pyrene
	Benzo (b) fluoranthene
	Benzo (g,h,i) perylene
	Benzo (k) fluoranthene
	Chrysene
	Dibenzo (a,h) anthracene
	Fluoranthrene
	Fluorene
	Indeno (1,2,3-c,d) pyrene
	Naphthalene
	Phenanthrene
	Pyrene
<b>Volatile Organic Compounds - Method SW8260A</b>	
1,1,1,2-Tetrachloroethane	
1,1,1-TCA	
1,1,2,2-Tetrachloroethane	
1,1,2-TCA	
1,1-DCA	
1,1-DCE	
1,1-Dichloropropene	
1,2,3-Trichlorobenzene	
1,2,3-Trichloropropene	
1,2,4-Trichlorobenzene	
1,2,4-Trimethylbenzene	
1,2-DCA	
1,2-DCB	
1,2-Dibromo-3-chloropropane	
1,2-Dichloropropane	
1,2-EDB	
1,3,5-Trimethylbenzene	
1,3-DCB	
1,3-Dichloropropane	
1,4-DCB	
1-Chlorohexane	
2,2-Dichloropropane	
2-Chlorotoluene	
4-Chlorotoluene	
Benzene	
Bromobenzene	
Bromochloromethane	
Bromodichloromethane	
Bromoform	
Bromomethane	
Carbon tetrachloride	
Chlorobenzene	
Chloroethane	
Chloroform	
Chloromethane	
Cis-1,2-DCE	
Cis-1,2-Dichloropropene	
Dibromochloromethane	
Dibromomethane	
Dichlorodifluoromethane	
Ethylbenzene	
Hexachlorobutadiene	

APPENDIX F

PHOTO DOCUMENTATION OF SOIL REMOVAL

693 162

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Site: Underground Storage Tanks at  
Bldg. 8505 and Bldg. 8507.

Photo Number: UST8505-3

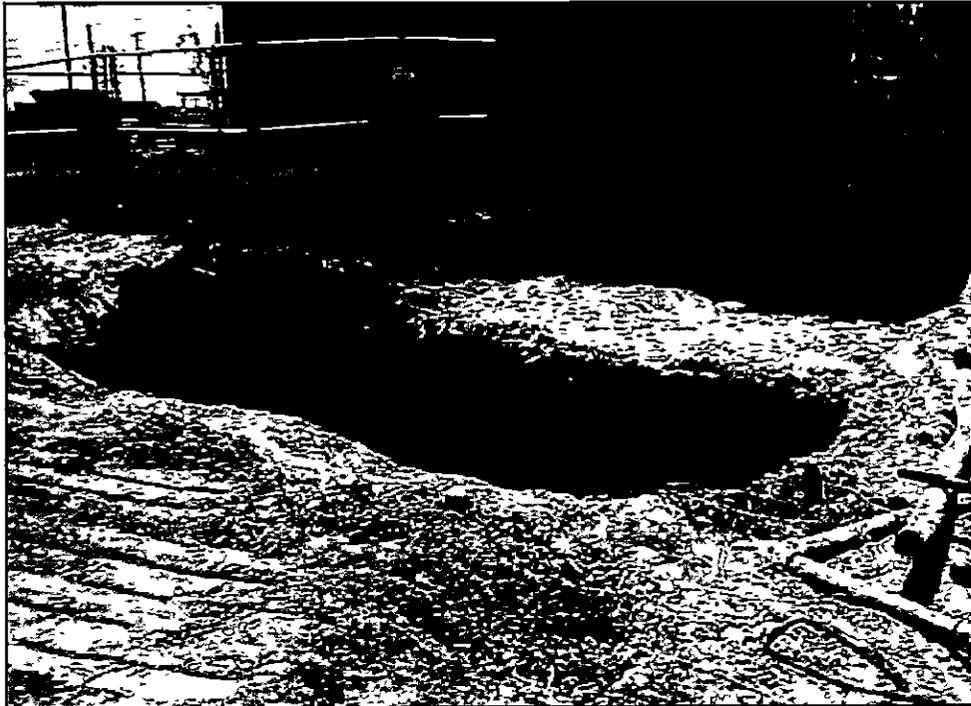
View: Southeast

Comments: From north bank of  
DW-3 of filled and  
graded former UST  
sites.

Date: March 3, 2000

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Site: UST-8505

Photo Number: UST8505-1

View: Southwest

Comments: Tank pit excavation.

Date: July 28, 1999

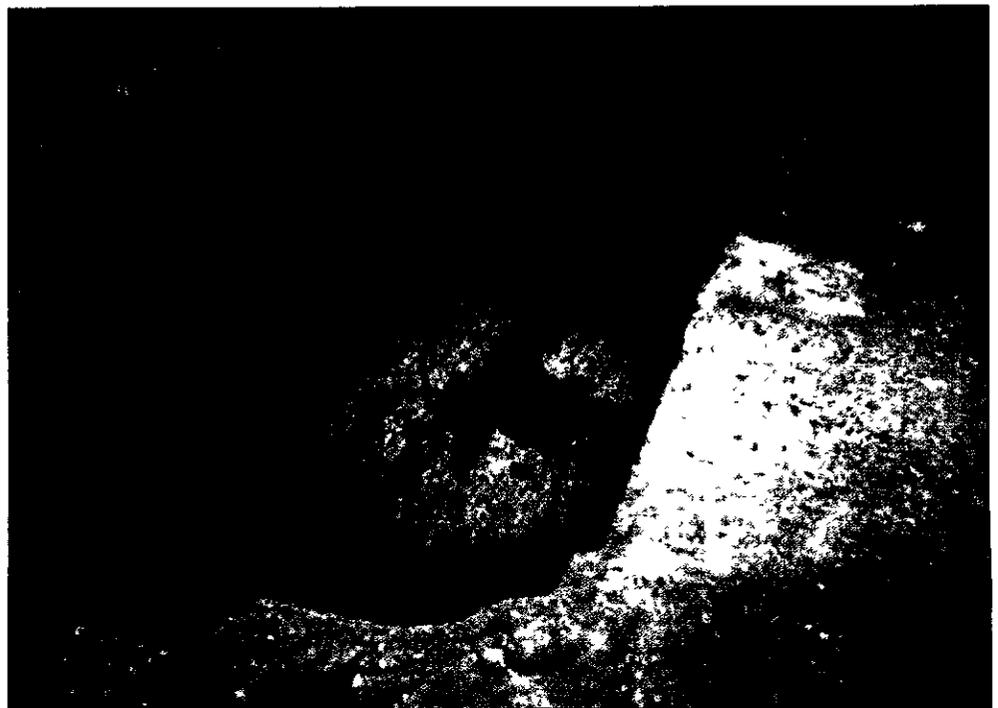
Site: UST-8505

Photo Number: 8505

View: Southeast

Comments: From northwest edge  
of former UST site  
just after completion  
of Phase 1 excavation.

Date: July 28, 1999



APPENDIX G  
LABORATORY ANALYTICAL RESULTS

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AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

307790  
693 167

Analytical Method: 8020

AAB #: A7B07549

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: UST-006-01

Lab Sample ID: A7313018

Matrix: SOIL

% Solids: 80.8

Dilution: 1.00

Date Received: 5-Sep-97

Date Extracted: \_\_\_\_\_

Date Analyzed: 9-Sep-97

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BENZENE	0.0011	0.0020	0.0011	U
ETHYLBENZENE	0.0011	0.0020	0.0011	U
TOLUENE	0.0011	0.0020	0.0011	U
XYLENES, TOTAL	0.0011	0.0020	0.0011	U

Comments:

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*Handwritten signature and date:*  
3/16/97

693 168

Environmental Company Inc, The  
Wet Chemistry Analysis

Client Sample No.

UST-006-01

Lab Name: Recra LabNet

Contract: F46162495D80

Lab Code: RECVY

Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SDG No.: \_\_\_\_\_

Matrix (soil/water): SOIL

Lab Sample ID: A7313018

% Solids: 80.8

Date Samp/Recv: 09/04/97 09/05/97

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons_	UG/G	179				418.1	09/16/97

Comments:

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AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

000091  
693 169

Analytical Method: 8020

AAB #: A7B07549

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: UST-007-01

Lab Sample ID: A7313008

Matrix: SOIL

% Solids: 89.9

Dilution: 1.00

Date Received: 5-Sep-97

Date Extracted: \_\_\_\_\_

Date Analyzed: 9-Sep-97

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BENZENE	0.00098	0.0020	0.00098	U
ETHYLBENZENE	0.00098	0.0020	0.00098	U
TOLUENE	0.00098	0.0020	0.00098	U
XYLENES, TOTAL	0.00098	0.0020	0.00098	U

Comments:

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smk  
3/16/97

693 170

Environmental Company Inc, The  
Wet Chemistry Analysis

Client Sample No.

UST-007-01

Lab Name: Recra LabNet

Contract: F46162495D80

Lab Code: RECNY

Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SDG No.: \_\_\_\_\_

Matrix (soil/water): SOIL

Lab Sample ID: A7313008

% Solids: 89.9

Date Samp/Recv: 09/04/97 09/05/97

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons_	UG/G	12.5	U			418.1	09/16/97

Comments:

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AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

009092  
693 171

Analytical Method: 8020

AAB #: A7B07549

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: UST-007-04

Lab Sample ID: A7313009

Matrix: SOIL

% Solids: 93.5

Dilution: 1.00

Date Received: 5-Sep-97

Date Extracted: \_\_\_\_\_

Date Analyzed: 9-Sep-97

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PDL	Concentration	Qualifier
BENZENE	0.00089	0.0020	0.00089	U
ETHYLBENZENE	0.00089	0.0020	0.00089	U
TOLUENE	0.00089	0.0020	0.00089	U
XYLENES, TOTAL	0.00089	0.0020	0.00089	U

Comments:

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SP12  
3/16/98

693 172

Environmental Company Inc, The  
Wet Chemistry Analysis

Client Sample No.

UST-007-04

Lab Name: Recra LabNet

Contract: F46162495D80

Lab Code: RECNY

Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SDG No.: \_\_\_\_\_

Matrix (soil/water): SOIL

Lab Sample ID: A7313009

% Solids: 93.5

Date Samp/Recv: 09/04/97 09/05/97

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	17.5				418.1	09/16/97

Comments:

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Cust ID: UST-002-01 UST-002-02 UST-004-01 UST-005-01 BLK BLK BS

Sample Information: RFW#: 012 SOIL 013 SOIL 014 SOIL 015 SOIL 97LE1642-MB1 SOIL 97LE1642-MB1 SOIL  
 Matrix: SOIL SOIL SOIL SOIL SOIL SOIL  
 D.F.: 1.00 1.00 5.00 5.00 1.00 1.00  
 Units: ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg

PAH

Sample Information	RFW#	Matrix	D.F.	Units	UST-002-01	UST-002-02	UST-004-01	UST-005-01	BLK	BLK BS		
Triphenylene	85	%	76	%	D	%	D	%	85	%	86	%
Naphthalene	1320	U	1360	U	7240	U	7290	U	1210	U	71	%
Acenaphthylene	1560	U	1610	U	8550	U	8620	U	1430	U	78	%
Acenaphthene	1320	U	1360	U	7240	U	7290	U	1210	U	80	%
Fluorene	153	U	158	U	960	U	1100	U	140	U	79	%
Phenanthrene	469	U	485	U	5700	U	13000	U	430	U	84	%
Anthracene	480	U	496	U	2630	U	2550	U	440	U	91	%
Fluoranthene	153	U	158	U	4500	U	5600	U	140	U	85	%
Pyrene	196	U	203	U	2500	U	1400	U	180	U	86	%
Benzo(a)anthracene	9.82	U	10.1	U	1100	U	210	U	9.00	U	89	%
Chrysene	109	U	113	U	1200	U	603	U	100	U	86	%
Benzo(b)fluoranthrene	13.1	U	11.5	U	990	U	180	U	12.0	U	90	%
Benzo(k)fluoranthrene	12.0	U	12.4	U	590	U	120	U	11.0	U	89	%
Benzo(a)pyrene	41	U	16.9	U	1300	U	480	U	15.0	U	105	%
Dibenzo(a,h)anthracene	21.6	U	22.6	U	150	U	121	U	20.0	U	93	%
Benzo(ghi)perylene	55.7	U	57.5	U	860	U	360	U	51.0	U	87	%
Indeno(1,2,3-cd)pyrene	31.7	U	32.7	U	780	U	200	U	29.0	U	87	%

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.  
 % = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

Cust ID: UST-007-01 UST-007-04 UST-008-01 UST-010-01 UST-010-01 UST-010-01 UST-010-01  
 174

Sample Information	RFM#:	008	009	010	011	011 MS	011 MSD
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
D.F.:	1.00	1.00	5.00	1.00	1.00	1.00	1.00
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Triphenylene	116	%	%	D	%	%	%
Naphthalene	1320	U	1310	U	1330	U	64
Acenaphthylene	1560	U	1540	U	1580	U	73
Acenaphthene	1320	U	1310	U	1330	U	76
Fluorene	153	U	151	U	154	U	80
Phenanthrene	468	U	465	U	474	U	91
Anthracene	479	U	475	U	485	U	89
Fluoranthene	540	U	511	U	514	U	120 *
Pyrene	380	U	194	U	198	U	102
Benzo(a)anthracene	190	U	36	U	12	U	292 *
Chrysene	210	U	108	U	110	U	103
Benzo(b)fluoranthrene	220	U	43	U	13	U	228 *
Benzo(k)fluoranthrene	120	U	25	U	12.1	U	181 *
Benzo(a)pyrene	480	U	100	U	42	U	436 *
Dibenzo(a,h)anthracene	28	U	21.6	U	22.0	U	100
Benzo(ghi)perylene	200	U	58	U	56.2	U	126 *
Indeno(1,2,3-cd)pyrene	170	U	40	U	32.0	U	140 *

PAH

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. MR= Not reported. NS= Not spiked.  
 % = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \* = Outside of EPA CLP QC

Cust ID: DST-006-01 DST-009-01 DST-009-02 EB-015 BLK BLK BS

Sample Information RFW#: 001 002 003 011  
 Matrix: SOIL SOIL SOIL WATER  
 D.P.: 1.00 1.00 1.00 1.00  
 Units: ug/Kg ug/Kg ug/Kg ug/L  
 SOIL SOIL SOIL SOIL  
 97LE1642-MBL 97LE1642-MBL 97LE1642-MBL 97LE1642-MBL  
 SOIL SOIL SOIL SOIL  
 1.00 1.00 1.00 1.00  
 ug/Kg ug/Kg ug/Kg ug/L

PAH

Triphenylene	88	%	77	%	100	%	86	%	85	%	86	%
Naphthalene	1460	U	1430	U	1420	U	18.0	U	1210	U	71	%
Acenaphthylene	1720	U	1690	U	1670	U	23.0	U	1430	U	78	%
Acenaphthene	1460	U	1430	U	1420	U	18.0	U	1210	U	80	%
Fluorene	169	U	165	U	164	U	2.10	U	140	U	79	%
Phenanthrene	518	U	508	U	503	U	6.40	U	430	U	84	%
Anthracene	530	U	520	U	515	U	6.60	U	440	U	91	%
Fluoranthene	180	U	165	U	360	U	2.10	U	140	U	85	%
Pyrene	217	U	213	U	211	U	2.70	U	180	U	86	%
Benzo(a)anthracene	82	U	28	U	46	U	0.13	U	9.00	U	89	%
Chrysene	120	U	118	U	117	U	1.50	U	100	U	86	%
Benzo(b)fluoranthrene	110	U	35	U	61	U	0.18	U	12.0	U	90	%
Benzo(k)fluoranthrene	58	U	19	U	29	U	0.17	U	11.0	U	89	%
Benzo(a)pyrene	280	U	99	U	160	U	0.23	U	15.0	U	105	%
Dibenzo(a,h)anthracene	24.1	U	23.6	U	23.4	U	0.30	U	20.0	U	93	%
Benzo(ghi)perylene	130	U	60.3	U	62	U	0.76	U	51.0	U	87	%
Indeno(1,2,3-cd)pyrene	99	U	34	U	42	U	0.43	U	29.0	U	87	%

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.  
 % = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \* = Outside of EPA CLP QC

Recre LabNet - Lionville Laboratory  
 PAH'S by HPLC / Method 8310  
 Client: THE ENVIRONMENTAL CO Work Order: 70000001001 Page: 2

Preliminary Report for :  
 RFW Batch Number: 9709L213

Report Date: 09/26/97 10:17

Cust ID: BLK BLK BS BLK BSD  
 RFW#: 97LE1690-MB1 97LE1690-MB1 97LE1690-MB1  
 Matrix: WATER WATER WATER  
 D.P.: 1.00 1.00 1.00  
 Units: ug/L ug/L ug/L

PAH

Sample Information	61	%	82	%	85	%
Triphenylene						
Naphthalene	10.0	U	77	%	81	%
Acenaphthylene	23.0	U	80	%	84	%
Acenaphthene	18.0	U	82	%	85	%
Fluorene	2.10	U	80	%	84	%
Phenanthrene	6.40	U	78	%	82	%
Anthracene	6.60	U	82	%	87	%
Fluoranthene	2.10	U	80	%	85	%
Pyrene	2.70	U	79	%	82	%
Benzo (a) anthracene	0.13	U	85	%	89	%
Chrysene	1.50	U	80	%	85	%
Benzo (b) fluoranthrene	0.18	U	83	%	87	%
Benzo (k) fluoranthrene	0.17	U	82	%	87	%
Benzo (a) pyrene	0.23	U	74	%	80	%
Dibenzo (a, h) anthracene	0.30	U	82	%	88	%
Benzo (ghi) perylene	0.76	U	77	%	82	%
Indeno (1,2,3-cd) pyrene	0.43	U	82	%	89	%

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.  
 % = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \* = Outside of EPA CLP QC

Cust ID: A4-001-02 A4-002-02 A4-003-02 A4-004-02 UST-001-01 UST-003-01

Sample Information  
 RFW#: 002  
 Matrix: SOIL  
 D.F.: 1.00  
 Units: ug/Kg

PAH

Sample Information	RFW#	Matrix	D.F.	Units	84	81	92	87	87	006	007
		SOIL	1.00	ug/Kg	%	%	%	%	%	SOIL	SOIL
											ug/Kg
Triphenylene											
Naphthalene					1430 U	1350 U	1300 U	1440 U	1340 U		6390 U
Acenaphthylene					1690 U	1590 U	1540 U	1700 U	1580 U		7550 U
Acenaphthene					1430 U	1350 U	1300 U	1440 U	1340 U		6390 U
Fluorene					166 U	156 U	151 U	167 U	155 U		740 U
Phenanthrene					508 U	480 U	463 U	512 U	475 U		2270 U
Anthracene					520 U	491 U	473 U	524 U	486 U		2320 U
Fluoranthene					166 U	156 U	151 U	167 U	155 U		1700 U
Pyrene					213 U	201 U	194 U	214 U	199 U		1200 U
Benzo (a) anthracene					10.6 U	10.0 U	9.66 U	10.7 U	9.94 U		650 U
Chrysene					118 U	112 U	108 U	119 U	110 U		660 U
Benzo (b) fluoranthrene					14.2 U	13.4 U	12.9 U	14.3 U	13.3 U		640 U
Benzo (k) fluoranthrene					13.0 U	12.3 U	11.8 U	13.1 U	12.1 U		360 U
Benzo (a) pyrene					17.7 U	16.7 U	16.1 U	17.9 U	16.6 U		1600 U
Dibenzo (a, h) anthracene					23.6 U	22.3 U	21.5 U	23.8 U	22.1 U		105 U
Benzo (ghi) perylene					60.3 U	56.9 U	54.9 U	60.8 U	56.3 U		630 U
Indeno (1,2,3-cd) pyrene					34.3 U	32.3 U	31.2 U	34.6 U	32.0 U		500 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.  
 % = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \* = Outside of EPA CLP QC

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AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0153

Analytical Method: 8260AAB #: A7B08069Lab Name: Recra LabNetContract #: F46162495080Field Sample ID: XU-32-12-901-01Lab Sample ID: A7322801Matrix: WATER% Solids:       Dilution: 1.00Date Received: 11-Sep-97Date Extracted:       Date Analyzed: 20-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-Tetrachloroethane	0.1	0.500	0.1	U
1,1,1-Trichloroethane	0.2	0.800	0.2	U
1,1,2,2-Tetrachloroethane	0.2	0.400	0.2	U
1,1,2-Trichloroethane	0.2	1.0	0.2	U
1,1-Dichloroethane	0.2	0.400	0.2	U
1,1-Dichloroethene	0.2	1.2	0.2	U
1,1-Dichloropropene	0.2	1.0	0.2	U
1,2,3-Trichlorobenzene	0.2	0.300	0.2	U
1,2,3-Trichloropropane	0.2	3.2	0.2	✓
1,2,4-Trichlorobenzene	0.2	0.400	0.2	U
1,2,4-Trimethylbenzene	0.2	1.3	0.2	U
1,2-Dichloroethane	0.1	0.600	0.1	U
1,2-Dichlorobenzene	0.2	0.300	0.2	U
1,2-Dibromo-3-chloropropane	0.4	2.6	0.4	U
1,2-Dichloropropane	0.09	0.400	0.09	U
1,2-Dibromoethane	0.1	0.600	0.1	U
1,3,5-Trimethylbenzene	0.3	0.500	0.3	U
1,3-Dichlorobenzene	0.2	1.2	0.2	U
1,3-Dichloropropane	0.2	0.400	0.2	U
1,4-Dichlorobenzene	0.2	0.300	0.2	U
1-Chlorohexane	0.1	0.500	0.1	U
2,2-Dichloropropane	0.2	3.5	0.2	U
o-Chlorotoluene	0.2	0.400	0.2	U
p-Chlorotoluene	0.2	0.600	0.2	U
Benzene	0.2	0.400	0.2	U

R①

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SMK 12-19-97

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0154

693 179

Analytical Method: 8260

AAB #: A7B08069

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted:       

Date Analyzed: 20-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Bromobenzene	0.1	0.300	0.1	U
Bromochloromethane	0.2	0.400	0.2	U
Bromodichloromethane	0.2	0.800	0.2	U
Bromoform	0.09	1.2	0.09	U
Bromomethane	0.2	1.1	0.2	U
Carbon Tetrachloride	0.2	2.1	0.2	U
Chlorobenzene	0.1	0.400	0.1	U
Chloroethane	0.2	1.0	0.2	U
Chloroform	0.2	0.300	0.2	U
Chloromethane	0.2	1.3	0.2	U
cis-1,2-Dichloroethene	0.2	1.2	0.2	U
cis-1,3-Dichloropropene	0.1	1.0	0.1	U
Dibromochloromethane	0.1	0.500	0.1	U
Dibromomethane	0.1	2.4	0.1	U
Dichlorodifluoromethane	0.2	1.0	0.2	U
Ethylbenzene	0.2	0.600	0.2	U
Hexachlorobutadiene	0.2	1.1	0.2	U
Isopropylbenzene	0.2	0.500	0.2	U
m-Xylene	0.3	0.500	0.3	U
Methylene chloride	0.2	0.300	0.2	U
n-Butylbenzene	0.2	1.1	0.2	U
n-Propylbenzene	0.2	0.400	0.2	U
Naphthalene	0.2	0.400	0.2	U
o-Xylene	0.2	1.1	0.2	U
p-Cymene	0.2	1.2	0.2	U

R ①

R ①

R ①

✓ copy  
12/17/97  
SMR 12.19.9

693 180

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0155

Analytical Method: 8260

AAB #: A7B08069

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted:       

Date Analyzed: 20-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
p-Xylene	0.3	1.3	0.3	U
sec-Butylbenzene	0.2	1.3	0.2	U
Styrene	0.2	0.400	0.2	U
Trichloroethene	0.2	1.0	0.2	U
tert-Butylbenzene	0.2	1.4	0.2	U
Tetrachloroethene	0.2	1.4	0.2	U
Toluene	0.2	1.1	0.2	U
trans-1,2-Dichloroethene	0.2	0.600	0.2	U
trans-1,3-Dichloropropene	0.2	0.800	0.2	U
Trichlorofluoromethane	0.2	1.1	0.2	U
Vinyl chloride	0.2	0.000	0.2	U

R ①

Comments: ① % RSD exceeded for ICAL - AFCEE criteria

✓ CMJ 12/17/97  
SMK 12/18/97

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0077  
693 181

Analytical Method: 8270

AAB #: H7B00887

Lab Name: Recre LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 13-Sep-97

Date Analyzed: 23-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-Trichlorobenzene	2	10.0	2	✓
1,2-Dichlorobenzene	2	10.0	2	✓
1,3-Dichlorobenzene	2	10.0	2	✓
1,4-Dichlorobenzene	2	10.0	2	✓
2,4-Dinitrotoluene	3	10.0	3	U
2,6-Dinitrotoluene	2	10.0	2	U
2-Chloronaphthalene	2	10.0	2	✓
2-Methylnaphthalene	2	10.0	2	✓
2-Nitroaniline	10	50.0	10	U
3-Nitroaniline	9	50.0	9	U
3,3'-Dichlorobenzidine	2	20.0	2	U
4-Bromophenyl phenyl ether	2	10.0	2	✓
4-Chloroaniline	3	20.0	3	U
4-Chlorodiphenylether	2	10.0	2	✓
4-Nitroaniline	9	50.0	9	✓
Acenaphthylene	2	10.0	2	U
Acenaphthene	2	10.0	2	U
Anthracene	2	10.0	2	✓
Benzo(a)anthracene	3	10.0	3	U
Benzo(a)pyrene	2	10.0	2	U
Benzo(b)fluoranthene	4	10.0	4	U
Benzo(ghi)perylene	2	10.0	2	U
Benzyl alcohol	2	20.0	2	U
Bis(2-chloroethoxy) methane	2	10.0	2	U
Bis(2-chloroethyl) ether	2	10.0	2	U

R ③  
R ③  
R ③  
R ③

R ③  
R ③

R ①

R ①  
R ①

R ①

✓ Amy  
12/9/97

693 182

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0078

Analytical Method: 8270AAB #: H7B00887Lab Name: Recre LabNetContract #: F46162495D80Field Sample ID: XU-32-12-901-01Lab Sample ID: A7322801Matrix: WATER% Solids:       Dilution: 1.00Date Received: 11-Sep-97Date Extracted: 13-Sep-97Date Analyzed: 23-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Bis(2-chloroisopropyl) ether	4	10.0	4	U
Bis(2-ethylhexyl) phthalate	3	10.0	3	U
Butyl benzyl phthalate	2	10.0	2	U
Chrysene	3	10.0	3	U
Di-n-butyl phthalate	2	10.0	2	U
Di-n-octyl phthalate	2	10.0	2	<del>U</del> R①
Dibenzo(a,h)anthracene	2	10.0	2	U
Dibenzofuran	2	10.0	2	U
Diethyl phthalate	3	10.0	3	U
Dimethyl phthalate	2	10.0	2	U
Fluoranthene	3	10.0	3	U
Fluorene	3	10.0	3	<del>U</del> R①
Hexachlorobenzene	2	10.0	2	<del>U</del> R①
Hexachlorobutadiene	2	10.0	2	<del>U</del> R③
Hexachlorocyclopentadiene	2	10.0	2	<del>U</del> R①
Hexachloroethane	2	10.0	2	<del>U</del> R③
Indeno(1,2,3-cd)pyrene	3	10.0	3	U
Isophorone	2	10.0	2	U
N-nitrosodiphenylamine	2	10.0	2	U
N-Nitroso-Di-n-propylamine	2	10.0	2	U
Naphthalene	2	10.0	2	<del>U</del> R③
Nitrobenzene	2	10.0	2	<del>U</del> R③
Phenanthrene	3	10.0	3	<del>U</del> R①
Pyrene	3	10.0	3	<del>U</del> U
2,4,5-Trichlorophenol	7	50.0	7	<del>U</del> R①

VCMJ  
12/9/97  
SMX  
12-19-97

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0079  
693 183

Analytical Method: 8270

AAB #: H7B00887

Lab Name: Recre LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 13-Sep-97

Date Analyzed: 23-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-Trichlorophenol	3	10.0	3	U
2,4-Dichlorophenol	0.8	10.0	0.8	U
2,4-Dimethylphenol	2	10.0	2	U
2,4-Dinitrophenol	10	50.0	10	<del>U</del> R①
2-Chlorophenol	2	10.0	2	U
2-Methylphenol	2	10.0	2	U
2-Nitrophenol	2	10.0	2	<del>U</del> R②
4,6-Dinitro-2-methylphenol	8	50.0	8	<del>U</del> R①
4-Chloro-3-methylphenol	2	20.0	2	U
4-Methylphenol	2	10.0	2	U
4-Nitrophenol	10	50.0	10	<del>U</del> R①
Benzoic acid	2	50.0	2	<del>U</del> R①
Pentachlorophenol	7	50.0	7	U
Phenol	2	10.0	2	U

Comments: ① % RSD exceeded AFCEE criteria of 15% or of SPC, exceeded  
RSD of 30%.

② % D exceeded AFCEE criteria of 20% for CCC①

③ % R for 3... exceeded criteria.

VCM  
12/9/97  
12-19-97

693 184

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0018

Analytical Method: 8081

AAB #: A7B07677

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 13-Sep-97

Date Analyzed: 19-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
alpha-BHC	0.0030	0.350	0.0030	U
beta-BHC	0.023	0.230	0.023	U
delta-BHC	0.026	0.240	0.026	U
gamma-BHC (Lindane)	0.026	0.250	0.026	U
alpha-Chlordane	0.023	0.800	0.023	U
gamma-Chlordane	0.022	0.370	0.022	U
4,4'-DDD	0.027	0.500	0.027	U
4,4'-DDE	0.052	0.580	0.052	U
4,4'-DDT	0.057	0.810	0.057	U
Aldrin	0.032	0.340	0.032	U
Dieldrin	0.056	0.440	0.056	U
Endosulfan I	0.027	0.300	0.027	U
Endosulfan II	0.042	0.400	0.042	U
Endosulfan Sulfate	0.047	0.350	0.047	U
Endrin	0.055	0.390	0.055	U
Endrin aldehyde	0.038	0.500	0.038	U
Heptachlor	0.029	0.400	0.029	U
Heptachlor epoxide	0.021	0.320	0.021	U
Methoxychlor	0.38	0.860	0.38	U
Aroclor 1016	0.17	1.0	0.17	U
Aroclor 1221	0.23	1.0	0.23	U
Aroclor 1232	0.23	1.0	0.23	U
Aroclor 1242	0.13	1.0	0.13	U
Aroclor 1248	0.27	1.0	0.27	U
Aroclor 1254	0.25	1.0	0.25	U

*SMK*  
*12/11/97*  
*12/3/97*

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 185 .

0019

Analytical Method: 8081

AAS #: A7807677

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 13-Sep-97

Date Analyzed: 19-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Aroclor 1260	0.34	1.0	0.34	U
Toxaphene	1.6	0.500	1.6	U

Comments:

✓ SMK 12-19-97  
any 12/3/97



AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 187  
0223

Analytical Method: 7740

AAB #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids: 0.0

AD 714630

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 22-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Selenium - Total	4.0	7.7	4.0	U ✓

Comments:

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*✓ Conf.  
12/14/97*

*SMK  
12-19-97*

693 188

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

0264

Analytical Method: 7041

AAB #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids: 0.0

*A D 714630*

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 23-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MOL	PQL	Concentration	Qualifier
Antimony - Total	5.0	5.0	5.0	U ✓

Comments:

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*copy 12/14/97*

*SMK  
12-19-97*

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 189  
0254

Analytical Method: 7060

AAB #: A7807747

Lab Name: Recre LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids: 0.0

AD 74630

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 21-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Arsenic - Total	3.8	4.9	3.8	U ✓

Comments:

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12/19/97

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AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

0244

Analytical Method: 7421

AAB #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids: 0.0

*AD714630*

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 23-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Lead - Total	3.3	3.3	3.3	U

Comments:

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*W/CMJ  
12/17/97*

*SMK  
12-19-97*

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 191  
0233

Analytical Method: 7131

AAB #: A7B07747

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids: 0.0

*AD-14631*

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 24-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Cadmium - Total	0.40	0.500	0.40	U ✓

Comments:

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*Very  
12/17/97*

*SMK  
12.19.97*

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AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

0210

Analytical Method: 7470

AAB #: A7807695

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-901-01

Lab Sample ID: A7322801

Matrix: WATER

% Solids: 0.0

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 15-Sep-97

Date Analyzed: 15-Sep-97

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
Mercury - Total	0.00024	0.0010	0.00024	U ✓

Comments:

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*Sample  
12/17/97*

*SMK  
12-19*



693 194

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0157

Analytical Method: 8260AAB #: A7808069Lab Name: Recra LabNetContract #: F46162495080Field Sample ID: XU-32-12-902-01Lab Sample ID: A7322803Matrix: WATER% Solids:       Dilution: 1.00Date Received: 11-Sep-97Date Extracted:       Date Analyzed: 20-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Bromobenzene	0.1	0.300	0.1	U
Bromochloromethane	0.2	0.400	0.2	U
Bromodichloromethane	0.2	0.800	0.2	U
Bromoform	0.09	1.2	0.09	U
Bromomethane	0.2	1.1	0.2	U
Carbon Tetrachloride	0.2	2.1	0.2	U
Chlorobenzene	0.1	0.400	0.1	U
Chloroethane	0.2	1.0	0.2	U
Chloroform	0.2	0.300	0.2	U
Chloromethane	0.2	1.3	0.2	U
cis-1,2-Dichloroethene	0.2	1.2	0.2	U
cis-1,3-Dichloropropene	0.1	1.0	0.1	U
Dibromochloromethane	0.1	0.500	0.1	U
Dibromomethane	0.1	2.4	0.1	U
Dichlorodifluoromethane	0.2	1.0	0.2	U
Ethylbenzene	0.2	0.600	0.2	U
Hexachlorobutadiene	0.2	1.1	0.2	U
Isopropylbenzene	0.2	0.500	0.2	U
m-Xylene	0.3	0.500	0.3	U
Methylene chloride	0.2	0.300	0.2	U
n-Butylbenzene	0.2	1.1	0.2	U
n-Propylbenzene	0.2	0.400	0.2	U
Naphthalene	0.2	0.400	0.2	U
o-Xylene	0.2	1.1	0.2	U
p-Cymene	0.2	1.2	0.2	U

R ①

R ①

R ①

✓  
12/17/97  
SMK  
12-19-97

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 195 0158

Analytical Method: 8260

AAS #: A7808069

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted:       

Date Analyzed: 20-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
p-Xylene	0.3	1.3	0.3	U
sec-Butylbenzene	0.2	1.3	0.2	U
Styrene	0.2	0.400	0.2	U
Trichloroethene	0.2	1.0	0.2	U
tert-Butylbenzene	0.2	1.4	0.2	U
Tetrachloroethene	0.2	1.4	0.2	U
Toluene	0.2	1.1	0.2	U
trans-1,2-Dichloroethene	0.2	0.600	0.2	U
trans-1,3-Dichloropropene	0.2	0.800	0.2	U
Trichlorofluoromethane	0.2	1.1	0.2	U
Vinyl chloride	0.2	0.000	0.2	U

R ①

Comments: ① % RSD exceeded for ICAL - AFCEE criteria.

✓ Cmy  
12/17/97  
SMR  
12-19-97

693 196

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0080

Analytical Method: 8270AAB #: H7800887Lab Name: Recra LabNetContract #: F46162495D80Field Sample ID: XU-32-12-902-01Lab Sample ID: A7322803Matrix: WATER% Solids:       Dilution: 1.00Date Received: 11-Sep-97Date Extracted: 13-Sep-97Date Analyzed: 23-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-Trichlorobenzene	2	10.0	2	<del>✓</del> R (3)
1,2-Dichlorobenzene	2	10.0	2	<del>✓</del> R (3)
1,3-Dichlorobenzene	2	10.0	2	U R (3)
1,4-Dichlorobenzene	2	10.0	2	<del>✓</del> R (3)
2,4-Dinitrotoluene	3	10.0	3	U
2,6-Dinitrotoluene	2	10.0	2	U
2-Chloronaphthalene	2	10.0	2	<del>✓</del> R (3)
2-Methylnaphthalene	2	10.0	2	<del>✓</del> R (3)
2-Nitroaniline	10	50.0	10	U
3-Nitroaniline	9	50.0	9	U
3,3'-Dichlorobenzidine	2	20.0	2	U
4-Bromophenyl phenyl ether	2	10.0	2	<del>✓</del> R (1)
4-Chloroaniline	3	20.0	3	U
4-Chlorodiphenylether	2	10.0	2	<del>✓</del> R (1)
4-Nitroaniline	9	50.0	9	<del>✓</del> R (1)
Acenaphthylene	2	10.0	2	U
Acenaphthene	2	10.0	2	U
Anthracene	2	10.0	2	<del>✓</del> R (1)
Benzo(a)anthracene	3	10.0	3	U
Benzo(a)pyrene	2	10.0	2	U
Benzo(b)fluoranthene	4	10.0	4	U
Benzo(ghi)perylene	2	10.0	2	U
Benzyl alcohol	2	20.0	2	U
Bis(2-chloroethoxy) methane	2	10.0	2	U
Bis(2-chloroethyl) ether	2	10.0	2	U

✓ CMV  
R  
12/9/97

693 197

0081

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: 8270AAB #: H7B00887Lab Name: Recre LabNetContract #: F46162495080Field Sample ID: XU-32-12-902-01Lab Sample ID: A7322803Matrix: WATER

% Solids: \_\_\_\_\_

Dilution: 1.00Date Received: 11-Sep-97Date Extracted: 13-Sep-97Date Analyzed: 23-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Bis(2-chloroisopropyl) ether	4	10.0	4	U
Bis(2-ethylhexyl) phthalate	3	10.0	3	U
Butyl benzyl phthalate	2	10.0	2	U
Chrysene	3	10.0	3	U
Di-n-butyl phthalate	2	10.0	2	U
Di-n-octyl phthalate	2	10.0	2	<del>U</del> R(1)
Dibenzo(a,h)anthracene	2	10.0	2	U
Dibenzofuran	2	10.0	2	U
Diethyl phthalate	3	10.0	3	U
Dimethyl phthalate	2	10.0	2	U
Fluoranthene	3	10.0	3	U
Fluorene	3	10.0	3	<del>U</del> R(1)
Hexachlorobenzene	2	10.0	2	<del>U</del> R(1)
Hexachlorobutadiene	2	10.0	2	<del>U</del> R(3)
Hexachlorocyclopentadiene	2	10.0	2	<del>U</del> R(1)
Hexachloroethane	2	10.0	2	<del>U</del> R(3)
Indeno(1,2,3-cd)pyrene	3	10.0	3	U
Isophorone	2	10.0	2	U
N-nitrosodiphenylamine	2	10.0	2	U
N-Nitroso-Di-n-propylamine	2	10.0	2	U
Naphthalene	2	10.0	2	<del>U</del> R(3)
Nitrobenzene	2	10.0	2	<del>U</del> R(3)
Phenanthrene	3	10.0	3	<del>U</del> R(1)
Pyrene	3	10.0	3	U
2,4,5-Trichlorophenol	7	50.0	7	<del>U</del> R(1)

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SMR 12-19-97

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AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0082

Analytical Method: 8270

AAB #: H7B00887

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 13-Sep-97

Date Analyzed: 23-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-Trichlorophenol	3	10.0	3	U
2,4-Dichlorophenol	0.8	10.0	0.8	U
2,4-Dimethylphenol	2	10.0	2	U
2,4-Dinitrophenol	10	50.0	10	✓ R ①
2-Chlorophenol	2	10.0	2	U
2-Methylphenol	2	10.0	2	U
2-Nitrophenol	2	10.0	2	✓ R ②
4,6-Dinitro-2-methylphenol	8	50.0	8	✓ R ①
4-Chloro-3-methylphenol	2	20.0	2	U
4-Methylphenol	2	10.0	2	U
4-Nitrophenol	10	50.0	10	U R ①
Benzoic acid	2	50.0	2	✓ R ①
Pentachlorophenol	7	50.0	7	U
Phenol	2	10.0	2	U

Comments: ① % RSD exceeded AFCEE criteria of 15% or if SFCC exceeded  
% RSD of 30%

② % D for CCC exceeded 20%  
AFCEE criteria

③ % R exceeded for LCS.

Very 12/19/97  
SMK  
12-19-97

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 199 0020

Analytical Method: 8081

AAB #: A7807677

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 13-Sep-97

Date Analyzed: 20-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
alpha-BHC	0.0030	0.350	0.0030	U
beta-BHC	0.023	0.230	0.023	U
delta-BHC	0.026	0.240	0.026	U
gamma-BHC (Lindane)	0.026	0.250	0.026	U
alpha-Chlordane	0.023	0.800	0.023	U
gamma-Chlordane	0.022	0.370	0.022	U
4,4'-ODD	0.027	0.500	0.027	U
4,4'-DDE	0.052	0.580	0.052	U
4,4'-DOT	0.057	0.810	0.057	U
Aldrin	0.032	0.340	0.032	U
Dieldrin	0.056	0.440	0.056	U
Endosulfan I	0.027	0.300	0.027	U
Endosulfan II	0.042	0.400	0.042	U
Endosulfan Sulfate	0.047	0.350	0.047	U
Endrin	0.055	0.390	0.055	U
Endrin aldehyde	0.038	0.500	0.038	U
Heptachlor	0.029	0.400	0.029	U
Heptachlor epoxide	0.021	0.320	0.021	U
Methoxychlor	0.38	0.860	0.38	U
Aroclor 1016	0.17	1.0	0.17	U
Aroclor 1221	0.23	1.0	0.23	U
Aroclor 1232	0.23	1.0	0.23	U
Aroclor 1242	0.13	1.0	0.13	U
Aroclor 1248	0.27	1.0	0.27	U
Aroclor 1254	0.25	1.0	0.25	U

*V. Amy SMK  
12/3/97 12.19.9*

693 200

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0021

Analytical Method: 8081

AAB #: A7B07677

Lab Name: Recra LabWet

Contract #: F46162495D80

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 13-Sep-97

Date Analyzed: 20-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Aroclor 1260	0.34	1.0	0.34	U
Toxaphene	1.6	0.500	1.6	U

Comments:

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*VCMJ*  
*12/3/97*  
*SME*  
*12-19-97*

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 201

0184

Analytical Method: 6010

AAB #: A7807634

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids: 0.0

AD 714373

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 12-Sep-97

Date Analyzed: 1-Oct-97

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
Aluminum - Total	0.045	0.050	0.070	B
Antimony - Total	0.0075	0.010	0.0075	U
Arsenic - Total	0.0070	0.010	0.0070	U
Barium - Total	0.0015	0.0050	0.061	
Beryllium - Total	0.0010	0.0010	0.0010	U
Cadmium - Total	0.00070	0.0010	0.00070	U
Calcium - Total	0.015	0.200	70.1	B
Chromium - Total	0.0035	0.0050	0.0035	U
Cobalt - Total	0.0020	0.0020	0.0020	U
Copper - Total	0.0035	0.0050	0.014	
Iron - Total	0.045	0.050	1.2	
Lead - Total	0.0035	0.010	0.0037	F
Magnesium - Total	0.020	0.050	23.3	
Manganese - Total	0.0015	0.0050	0.025	
Molybdenum - Total	0.0030	0.0050	0.0030	U
Nickel - Total	0.0050	0.0050	0.0050	U
Potassium - Total	0.30	0.200	4.5	
Selenium - Total	0.010	0.010	0.010	U
Silver - Total	0.0045	0.0050	0.0045	U
Sodium - Total	1.5	0.500	31.2	
Thallium - Total	0.0085	0.020	0.0085	U
Vanadium - Total	0.0025	0.0050	0.0025	U
Zinc - Total	0.0025	0.020	0.030	

Comments: ① Analyte detected in associated equipment blank > RL.  
~~② Lead detected in blank > 100% (dilution factor)~~  
 ② See attached Asphite furnace results

Very  
12/17/97  
SMR/2/9

693 202

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

0224

Analytical Method: 7740

AAB #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids: 0.0

AD714631

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 22-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Selenium - Total	4.0	7.7	4.0	U ✓

Comments:

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*Very 12/17/97*

*SML  
12-19-97*

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 203

0265

Analytical Method: 7041

AAB #: A7B07747

Lab Name: Recre LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% solids: 0.0

A D714631

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 23-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Antimony - Total	5.0	5.0	5.0	U ✓

Comments:

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*✓ only 12/17/97*

*SMK  
12-19-97*

693 204

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

0255

Analytical Method: 7060

AAS #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids: 0.0

AD714631

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 21-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Arsenic - Total	3.8	4.9	3.8	U

Comments:

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*✓ only  
12/17/97*

*SMK  
12.19.97*

693.205  
0245

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: 7421

AAB #: A7B07747

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids: 0.0

AD714631

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 23-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Lead - Total	3.3	3.3	3.3	U ✓

Comments:

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*✓ CMY  
12/17/97*

*SMK  
12-19-97*

693 206

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

0234

Analytical Method: 7131

AAB #: A7807747

Lab Name: Recre LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids: 0.0

*AD 714632*

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 24-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Cadmium - Total	0.40	0.500	0.40	U ✓

Comments:

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*Samy  
12/17/97*

*SMR  
12-19-97*

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 207  
0211

Analytical Method: 7470

AAB #: A7B07695

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-902-01

Lab Sample ID: A7322803

Matrix: WATER

% Solids: 0.0

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 15-Sep-97

Date Analyzed: 15-Sep-97

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
Mercury - Total	0.00024	0.0010	0.00024	U ✓

Comments:

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✓ CMF  
12/17/97

SMC  
12.19.97

693 208

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0159

Analytical Method: 8260AAB #: A7808069Lab Name: Recra LabNetContract #: F46162495D80Field Sample ID: XU-32-12-902-02Lab Sample ID: A7322804Matrix: WATER% Solids:       Dilution: 1.00Date Received: 11-Sep-97Date Extracted:       Date Analyzed: 20-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-Tetrachloroethane	0.1	0.500	0.1	U
1,1,1-Trichloroethane	0.2	0.800	0.2	U
1,1,2,2-Tetrachloroethane	0.2	0.400	0.2	U
1,1,2-Trichloroethane	0.2	1.0	0.2	U
1,1-Dichloroethane	0.2	0.400	0.2	U
1,1-Dichloroethene	0.2	1.2	0.2	U
1,1-Dichloropropene	0.2	1.0	0.2	U
1,2,3-Trichlorobenzene	0.2	0.300	0.2	U
1,2,3-Trichloropropane	0.2	3.2	0.2	U
1,2,4-Trichlorobenzene	0.2	0.400	0.2	U
1,2,4-Trimethylbenzene	0.2	1.3	0.2	U
1,2-Dichloroethane	0.1	0.600	0.1	U
1,2-Dichlorobenzene	0.2	0.300	0.2	U
1,2-Dibromo-3-chloropropane	0.4	2.6	0.4	U
1,2-Dichloropropane	0.09	0.400	0.09	U
1,2-Dibromoethane	0.1	0.600	0.1	U
1,3,5-Trimethylbenzene	0.3	0.500	0.3	U
1,3-Dichlorobenzene	0.2	1.2	0.2	U
1,3-Dichloropropane	0.2	0.400	0.2	U
1,4-Dichlorobenzene	0.2	0.300	0.2	U
1-Chlorohexane	0.1	0.500	0.1	U
2,2-Dichloropropane	0.2	3.5	0.2	U
o-Chlorotoluene	0.2	0.400	0.2	U
p-Chlorotoluene	0.2	0.600	0.2	U
Benzene	0.2	0.400	0.2	U

R ①  
R ①

R ①

Verny 12/19/97  
SMK  
12-19-97

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: B260AAB #: A7B08069Lab Name: Recre LabNetContract #: F46162495080Field Sample ID: XU-32-12-902-02Lab Sample ID: A7322804Matrix: WATER% Solids:       Dilution: 1.00Date Received: 11-Sep-97Date Extracted:       Date Analyzed: 20-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Bromobenzene	0.1	0.300	0.1	U
Bromochloromethane	0.2	0.400	0.2	U
Bromodichloromethane	0.2	0.800	0.2	U
Bromoform	0.09	1.2	0.09	U
Bromomethane	0.2	1.1	0.2	U
Carbon Tetrachloride	0.2	2.1	0.2	U
Chlorobenzene	0.1	0.400	0.1	U
Chloroethane	0.2	1.0	0.2	U
Chloroform	0.2	0.300	0.2	U
Chloromethane	0.2	1.3	0.2	U
cis-1,2-Dichloroethene	0.2	1.2	0.2	U
cis-1,3-Dichloropropene	0.1	1.0	0.1	U
Dibromochloromethane	0.1	0.500	0.1	U
Dibromomethane	0.1	2.4	0.1	U
Dichlorodifluoromethane	0.2	1.0	0.2	U
Ethylbenzene	0.2	0.600	0.2	U
Hexachlorobutadiene	0.2	1.1	0.2	U
Isopropylbenzene	0.2	0.500	0.2	U
m-Xylene	0.3	0.500	0.3	U
Methylene chloride	0.2	0.300	0.2	U
n-Butylbenzene	0.2	1.1	0.2	U
n-Propylbenzene	0.2	0.400	0.2	U
Naphthalene	0.2	0.400	0.2	U
o-Xylene	0.2	1.1	0.2	U
p-Cymene	0.2	1.2	0.2	U

R ⊕

R ⊕

R ⊕

CMJ  
12/17/99  
SMK  
12-19-99

693 210

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0161

Analytical Method: 8260

AAB #: A7808069

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-902-02

Lab Sample ID: A7322804

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted:       

Date Analyzed: 20-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
p-Xylene	0.3	1.3	0.3	U
sec-Butylbenzene	0.2	1.3	0.2	U
Styrene	0.2	0.400	0.2	U
Trichloroethene	0.2	1.0	0.2	U
tert-Butylbenzene	0.2	1.4	0.2	U
Tetrachloroethene	0.2	1.4	0.2	U
Toluene	0.2	1.1	0.2	U
trans-1,2-Dichloroethene	0.2	0.600	0.2	U
trans-1,3-Dichloropropene	0.2	0.800	0.2	U
Trichlorofluoromethane	0.2	1.1	0.2	U
Vinyl chloride	0.2	0.000	0.2	U

① R

Comments: ① AFCEE 90 LSD of 15% exceeded. <sup>for ICAL</sup> Conf

✓ Conf  
12/17/97  
SMK  
12-19-97

693 211

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0083

Analytical Method: 8270AAB #: H7B00887Lab Name: Recre LabNetContract #: F46162495080Field Sample ID: XU-32-12-902-02Lab Sample ID: A7322804Matrix: WATER% Solids:       Dilution: 1.00Date Received: 11-Sep-97Date Extracted: 13-Sep-97Date Analyzed: 23-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-Trichlorobenzene	2	10.0	2	U
1,2-Dichlorobenzene	2	10.0	2	U
1,3-Dichlorobenzene	2	10.0	2	U
1,4-Dichlorobenzene	2	10.0	2	U
2,4-Dinitrotoluene	3	10.0	3	U
2,6-Dinitrotoluene	2	10.0	2	U
2-Chloronaphthalene	2	10.0	2	U
2-Methylnaphthalene	2	10.0	2	U
2-Nitroaniline	10	50.0	10	U
3-Nitroaniline	9	50.0	9	U
3,3'-Dichlorobenzidine	2	20.0	2	U
4-Bromophenyl phenyl ether	2	10.0	2	U
4-Chloroaniline	3	20.0	3	U
4-Chlorodiphenylether	2	10.0	2	U
4-Nitroaniline	9	50.0	9	U
Acenaphthylene	2	10.0	2	U
Acenaphthene	2	10.0	2	U
Anthracene	2	10.0	2	U
Benzo(a)anthracene	3	10.0	3	U
Benzo(a)pyrene	2	10.0	2	U
Benzo(b)fluoranthene	4	10.0	4	U
Benzo(ghi)perylene	2	10.0	2	U
Benzyl alcohol	2	20.0	2	U
Bis(2-chloroethoxy) methane	2	10.0	2	U
Bis(2-chloroethyl) ether	2	10.0	2	U

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R (3)

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R (1)

R (1)

Very 1/9/97

693 212

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0084

Analytical Method: 8270AAB #: H7B00887Lab Name: Recre LabNetContract #: F46162495D80Field Sample ID: XU-32-12-902-02Lab Sample ID: A7322804Matrix: WATER

% Solids: \_\_\_\_\_

Dilution: 1.00Date Received: 11-Sep-97Date Extracted: 13-Sep-97Date Analyzed: 23-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Bis(2-chloroisopropyl) ether	4	10.0	4	U
Bis(2-ethylhexyl) phthalate	3	10.0	3	U
Butyl benzyl phthalate	2	10.0	2	U
Chrysene	3	10.0	3	U
Di-n-butyl phthalate	2	10.0	2	U
Di-n-octyl phthalate	2	10.0	2	U
Dibenzo(a,h)anthracene	2	10.0	2	U
Dibenzofuran	2	10.0	2	U
Diethyl phthalate	3	10.0	3	U
Dimethyl phthalate	2	10.0	2	U
Fluoranthene	3	10.0	3	U
Fluorene	2	10.0	2	U
Hexachlorobenzene	2	10.0	2	U
Hexachlorobutadiene	2	10.0	2	U
Hexachlorocyclopentadiene	2	10.0	2	U
Hexachloroethane	2	10.0	2	U
Indeno(1,2,3-cd)pyrene	2	10.0	2	U
Isophorone	2	10.0	2	U
N-nitrosodiphenylamine	2	10.0	2	U
N-Nitroso-Di-n-propylamine	2	10.0	2	U
Naphthalene	2	10.0	2	U
Nitrobenzene	2	10.0	2	U
Phenanthrene	3	10.0	3	U
Pyrene	3	10.0	3	U
2,4,5-Trichlorophenol	6	50.0	.6	U

R①

R①

R①

R③

R①

R③

R③

R①

R①

V. V. V.  
12/9/97

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: 8270

AAB #: H7B00887

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: XU-32-12-902-02

Lab Sample ID: A7322804

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 13-Sep-97

Date Analyzed: 23-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-Trichlorophenol	2	10.0	2	U
2,4-Dichlorophenol	0.8	10.0	0.8	U
2,4-Dimethylphenol	2	10.0	2	U
2,4-Dinitrophenol	10	50.0	10	U R①
2-Chlorophenol	2	10.0	2	U
2-Methylphenol	2	10.0	2	U
2-Nitrophenol	2	10.0	2	U R②
4,6-Dinitro-2-methylphenol	8	50.0	8	U R①
4-Chloro-3-methylphenol	2	20.0	2	U
4-Methylphenol	2	10.0	2	U
4-Nitrophenol	10	50.0	10	U R①
Benzoic acid	2	50.0	2	U R③
Pentachlorophenol	6	50.0	6	U
Phenol	2	10.0	2	U

Comments: ① % RSD exceeded 15% for initial calibration & 30% for SPC.CC  
~~CPDs for initial calibration~~

② %D exceeded 20% for CQC cpd. emj

③ %ok exceeded for LCS. emj

Vony 12/9/97

693 214

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

0022

Analytical Method: 8081AAS #: A7807677Lab Name: Recra LabNetContract #: F46162495D80Field Sample ID: XU-32-12-902-02Lab Sample ID: A7322804Matrix: WATER% Solids:       Dilution: 1.00Date Received: 11-Sep-97Date Extracted: 13-Sep-97Date Analyzed: 20-Sep-97Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
alpha-BHC	0.0030	0.350	0.0030	U
beta-BHC	0.023	0.230	0.023	U
delta-BHC	0.026	0.240	0.026	U
gamma-BHC (Lindane)	0.026	0.250	0.026	U
alpha-Chlordane	0.023	0.800	0.023	U
gamma-Chlordane	0.022	0.370	0.022	U
4,4'-DDD	0.027	0.500	0.027	U
4,4'-DDE	0.052	0.580	0.052	U
4,4'-DDT	0.057	0.810	0.057	U
Aldrin	0.032	0.340	0.032	U
Dieldrin	0.056	0.440	0.056	U
Endosulfan I	0.027	0.300	0.027	U
Endosulfan II	0.042	0.400	0.042	U
Endosulfan Sulfate	0.047	0.350	0.047	U
Endrin	0.055	0.390	0.055	U
Endrin aldehyde	0.038	0.500	0.038	U
Heptachlor	0.029	0.400	0.029	U
Heptachlor epoxide	0.021	0.320	0.021	U
Methoxychlor	0.38	0.860	0.38	U
Aroclor 1016	0.17	1.0	0.17	U
Aroclor 1221	0.23	1.0	0.23	U
Aroclor 1232	0.23	1.0	0.23	U
Aroclor 1242	0.13	1.0	0.13	U
Aroclor 1248	0.27	1.0	0.27	U
Aroclor 1254	0.25	1.0	0.25	U

✓  
cmf  
12/3/97  
SMK  
12/19/97

693 215 0023

AFCEE  
ORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: 8081

AAB #: A7807677

Lab Name: Recre LabWet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-02

Lab Sample ID: A7322804

Matrix: WATER

% Solids:       

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 13-Sep-97

Date Analyzed: 20-Sep-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Aroclor 1260	0.34	1.0	0.34	U
Toxaphene	1.6	0.500	1.6	U

Comments:

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*Vcmj*  
*12/3/97*  
*SMK*  
*12-19-97*



693 217  
0225

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: 7740

AAB #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-02

Lab Sample ID: A7322804

Matrix: WATER

% Solids: 0.0

AD71463Z

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 22-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Selenium - Total	4.0	7.7	4.0	U ✓

Comments:

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*Viny 12/17/97*

*SMK  
12.19.97*

693 218

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

0266

Analytical Method: 7041

AAB #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-02

Lab Sample ID: A7322804

Matrix: WATER

% Solids: 0.0

*AD 714632*

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 23-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Antimony - Total	5.0	5.0	5.0	U ✓

Comments:

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*v cny 12/17/97*

*SML  
12-19-97*

693, 219

0256

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

Analytical Method: 7060

AAB #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-02

Lab Sample ID: A7322804

Matrix: WATER

% Solids: 0.0

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 21-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Arsenic - Total	3.8	4.9	3.8	U ✓

Comments:

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*Very  
12/17/97*

*SML  
12-19-97*

693 220

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

0246

Analytical Method: 7421

AAB #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-02

Lab Sample ID: A7322804

Matrix: WATER

% Solids: 0.0

*AD714632*

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 23-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Lead - Total	3.3	3.3	3.3	U ✓

Comments:

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*V CMY  
12/17/97*

*SMK  
12-19-97*

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

693 221

0235

Analytical Method: 7131

AAB #: A7807747

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-02

Lab Sample ID: A7322804

Matrix: WATER

% Solids: 0.0

AD 714630

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 16-Sep-97

Date Analyzed: 24-Oct-97

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
Cadmium - Total	0.40	0.500	0.40	U ✓

Comments:

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*Sony*  
*12/14/97*

*SMR*  
*12.19.97*

693 222

AFCEE  
INORGANIC ANALYSES DATA SHEET 2  
RESULTS

0212

Analytical Method: 7470

AAB #: A7B07695

Lab Name: Recre LabNet

Contract #: F46162495080

Field Sample ID: XU-32-12-902-02

Lab Sample ID: A7322804

Matrix: WATER

% Solids: 0.0

Dilution: 1.00

Date Received: 11-Sep-97

Date Extracted: 15-Sep-97

Date Analyzed: 15-Sep-97

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
Mercury - Total	0.00024	0.0010	0.00024	U ✓

Comments:

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*CMJ*  
*12/17/97*

*SMX*  
*12-19-97*

## THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SO

Lab Sample ID:D9G300168 038

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g

Date Received: 07/30/99

Work Order: DOP6A101

Date Extracted:08/11/99

Dilution factor: 1

Date Analyzed: 08/18/99

Moisture %:7.6

QC Batch: 9222172

Client Sample Id: UST-200-01

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/kg)	ug/kg	
83-32-9	Acenaphthene	220		U
208-96-8	Acenaphthylene	220		U
120-12-7	Anthracene	22		U
56-55-3	Benzo(a)anthracene	22		U
50-32-8	Benzo(a)pyrene	22		U
205-99-2	Benzo(b)fluoranthene	4.8		F
191-24-2	Benzo(ghi)perylene	43		U
207-08-9	Benzo(k)fluoranthene	22		U
218-01-9	Chrysene	43		U
53-70-3	Dibenzo(a,h)anthracene	22		U
206-44-0	Fluoranthene	8.4		F
86-73-7	Fluorene	43		U
193-39-5	Indeno(1,2,3-cd)pyrene	43		U
91-20-3	Naphthalene	220		U
85-01-8	Phenanthrene	43		U
129-00-0	Pyrene	43		U

Cny 3/26/00

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

99

(22 - 167 )

693.22A

THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) WQ

Lab Sample ID:D9G300168 017

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 660 / mL

Date Received: 07/30/99

Work Order: D0P3L101

Date Extracted:08/03/99

Dilution factor: 1

Date Analyzed: 08/23/99

Moisture %:

QC Batch: 9215240

Client Sample Id: EQUIPMENT BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg) ug/L	Q
83-32-9	Acenaphthene	1.0	U
208-96-8	Acenaphthylene	1.0	U
120-12-7	Anthracene	0.10	U
56-55-3	Benzo(a)anthracene	0.10	U
50-32-8	Benzo(a)pyrene	0.10	U
205-99-2	Benzo(b)fluoranthene	0.10	U
191-24-2	Benzo(ghi)perylene	0.20	U
207-08-9	Benzo(k)fluoranthene	0.10	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenzo(a,h)anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.20	U
91-20-3	Naphthalene	1.0	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Pyrene	0.20	U
90-12-0	1-Methylnaphthalene	1.0	U
91-57-6	2-Methylnaphthalene	1.0	U

*✓*  
Cmg 3/26/00

SURROGATE RECOVERY

‡

ACCEPTABLE LIMITS

Terphenyl-d14

88

(25 - 157 )

## THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SO

Lab Sample ID:D9H020153 017

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g

Date Received: 07/31/99

Work Order: DORJX101PR

Date Extracted:08/12/99

Dilution factor: 1

Date Analyzed: 08/24/99

Moisture %:4.7

QC Batch: 9224267

Client Sample Id: UST-217-01

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/kg)	ug/kg	
83-32-9	Acenaphthene	2000		
208-96-8	Acenaphthylene	210		U
120-12-7	Anthracene	150		
56-55-3	Benzo(a)anthracene	550		
50-32-8	Benzo(a)pyrene	460		
205-99-2	Benzo(b)fluoranthene	560		
191-24-2	Benzo(qhi)perylene	330		
207-08-9	Benzo(k)fluoranthene	200		
218-01-9	Chrysene	640		
53-70-3	Dibenzo(a,h)anthracene	340		
206-44-0	Fluoranthene	1600		
86-73-7	Fluorene	110		
193-39-5	Indeno(1,2,3-cd)pyrene	320		
91-20-3	Naphthalene	210		U M
85-01-8	Phenanthrene	990		
129-00-0	Pyrene	1500		

Cmg 3/21/00

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

120

✓

(22 - 167 )

693-226

THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SO

Lab Sample ID:D9G300168 041

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g

Date Received: 07/30/99

Work Order: D0P6G101

Date Extracted:08/11/99

Dilution factor: 1

Date Analyzed: 08/19/99

Moisture %:5.1

QC Batch: 9222172

Client Sample Id: UST-201-01

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/kg)	ug/kg	Q
83-32-9	Acenaphthene	210		U
208-96-8	Acenaphthylene	210		U
120-12-7	Anthracene	21		U
56-55-3	Benzo (a) anthracene	4.0		F
50-32-8	Benzo (a) pyrene	7.4		F
205-99-2	Benzo (b) fluoranthene	14		F
191-24-2	Benzo (ghi) perylene	7.6		F
207-08-9	Benzo (k) fluoranthene	21		U
218-01-9	Chrysene	42		U
53-70-3	Dibenzo (a, h) anthracene	21		U
206-44-0	Fluoranthene	25		F
86-73-7	Fluorene	42		U
193-39-5	Indeno (1,2,3-cd) pyrene	42		U
91-20-3	Naphthalene	210		U
85-01-8	Phenanthrene	42		U
129-00-0	Pyrene	38		F

CMY 3/26/00

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

100

(22 - 167 )

## THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SO

Lab Sample ID:D9H020153 004

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g

Date Received: 07/31/99

Work Order: DORJ5101PR

Date Extracted:08/12/99

Dilution factor: 1

Date Analyzed: 08/24/99

Moisture %:1.0

QC Batch: 9224267

Client Sample Id: UST-219-01

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/kg)	ug/kg	
83-32-9	Acenaphthene	180	✓	F
208-96-8	Acenaphthylene	200		U
120-12-7	Anthracene	46		
56-55-3	Benzo(a)anthracene	63		
50-32-8	Benzo(a)pyrene	60		
205-99-2	Benzo(b)fluoranthene	20		U
191-24-2	Benzo(ghi)perylene	40		
207-08-9	Benzo(k)fluoranthene	19		F
218-01-9	Chrysene	40		U
53-70-3	Dibenzo(a,h)anthracene	41		
206-44-0	Fluoranthene	190		
86-73-7	Fluorene	15		F
193-39-5	Indeno(1,2,3-cd)pyrene	40		U
91-20-3	Naphthalene	200		U
85-01-8	Phenanthrene	40		U
129-00-0	Pyrene	170		

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

102

✓

(22 - 167 )

Cmg = 3/21/00

693 228

THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SO

Lab Sample ID:D9H020153 011

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g

Date Received: 07/31/99

Work Order: DORJJ101

Date Extracted:08/12/99

Dilution factor: 1

Date Analyzed: 08/24/99

Moisture %:2.8

QC Batch: 9224267

Client Sample Id: UST-218-01

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/kg)	ug/kg	Q
83-32-9	Acenaphthene	240		
208-96-8	Acenaphthylene	210		U
120-12-7	Anthracene	54		
56-55-3	Benzo(a)anthracene	160		
50-32-8	Benzo(a)pyrene	120		
205-99-2	Benzo(b)fluoranthene	130		
191-24-2	Benzo(ghi)perylene	76		
207-08-9	Benzo(k)fluoranthene	40		
218-01-9	Chrysene	170		
53-70-3	Dibenzo(a,h)anthracene	80		
206-44-0	Fluoranthene	320		
86-73-7	Fluorene	21		F
193-39-5	Indeno(1,2,3-cd)pyrene	74		
91-20-3	Naphthalene	210		U
85-01-8	Phenanthrene	140		
129-00-0	Pyrene	300		

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

102

(22 - 167 )

## THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SO

Lab Sample ID:D9H020153 003

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g

Date Received: 07/31/99

Work Order: DORJ4101PR

Date Extracted:08/12/99

Dilution factor: 1

Date Analyzed: 08/24/99

Moisture %:14

QC Batch: 9224267

Client Sample Id: UST-221-01

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
83-32-9	Acenaphthene	560	
208-96-8	Acenaphthylene	230	U
120-12-7	Anthracene	77	
56-55-3	Benzo(a)anthracene	130	
50-32-8	Benzo(a)pyrene	170	
205-99-2	Benzo(b)fluoranthene	23	U
191-24-2	Benzo(ghi)perylene	84	
207-08-9	Benzo(k)fluoranthene	52	
218-01-9	Chrysene	47	U
53-70-3	Dibenzo(a,h)anthracene	120	
206-44-0	Fluoranthene	430	
86-73-7	Fluorene	53	
193-39-5	Indeno(1,2,3-cd)pyrene	47	U
91-20-3	Naphthalene	230	U
85-01-8	Phenanthrene	270	
129-00-0	Pyrene	310	

✓ emy 3/21/00

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

98 ✓

(22 - 167 )

693 230

THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SO

Lab Sample ID:D9H020153 009

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g

Date Received: 07/31/99

Work Order: DORJD101PR

Date Extracted:08/12/99

Dilution factor: 1

Date Analyzed: 08/24/99

Moisture %:1.8

QC Batch: 9224267

Client Sample Id: UST-220-01

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/kg)	ug/kg	Q
83-32-9	Acenaphthene	3500		
208-96-8	Acenaphthylene	200		U
120-12-7	Anthracene	260		
56-55-3	Benzo (a) anthracene	710		
50-32-8	Benzo (a) pyrene	520		
205-99-2	Benzo (b) fluoranthene	590		
191-24-2	Benzo (ghi) perylene	340		
207-08-9	Benzo (k) fluoranthene	200		
218-01-9	Chrysene	730		
53-70-3	Dibenzo (a, h) anthracene	400		
206-44-0	Fluoranthene	1900		
86-73-7	Fluorene	350		
193-39-5	Indeno (1, 2, 3-cd) pyrene	340		
91-20-3	Naphthalene	200		U
85-01-8	Phenanthrene	1100		
129-00-0	Pyrene	1800		

*cmg 3/21/00*

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

97 /

(22 - 167 )

693 231.

## THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SO

Lab Sample ID:D9H020153 013

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g

Date Received: 07/31/99

Work Order: DORJL101PR

Date Extracted:08/12/99

Dilution factor: 1

Date Analyzed: 08/24/99

Moisture %:14

QC Batch: 9224267

Client Sample Id: UST-222-01

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
83-32-9	Acenaphthene	230	U
208-96-8	Acenaphthylene	230	U
120-12-7	Anthracene	23	U
56-55-3	Benzo(a)anthracene	23	U
50-32-8	Benzo(a)pyrene	23	U
205-99-2	Benzo(b)fluoranthene	23	U
191-24-2	Benzo(ghi)perylene	46	U
207-08-9	Benzo(k)fluoranthene	23	U
218-01-9	Chrysene	46	U
53-70-3	Dibenzo(a,h)anthracene	23	U
206-44-0	Fluoranthene	46	U
86-73-7	Fluorene	46	U
193-39-5	Indeno(1,2,3-cd)pyrene	46	U
91-20-3	Naphthalene	230	U <sup>m</sup>
85-01-8	Phenanthrene	46	U
129-00-0	Pyrene	23	F
90-12-0	1-Methylnaphthalene	230	U
91-57-6	2-Methylnaphthalene	230	U

Cmy 3/21/00

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

98

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(22 - 167 )

693.232

THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) SO

Lab Sample ID:D9H020153 005

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g

Date Received: 07/31/99

Work Order: DORJ6101PR

Date Extracted:08/12/99

Dilution factor: 1

Date Analyzed: 08/24/99

Moisture %:14

QC Batch: 9224267

Client Sample Id: UST-221-04

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg Q
83-32-9	Acenaphthene	230	U
208-96-8	Acenaphthylene	230	U
120-12-7	Anthracene	61 ✓	
56-55-3	Benzo (a) anthracene	66	
50-32-8	Benzo (a) pyrene	89	
205-99-2	Benzo (b) fluoranthene	100	
191-24-2	Benzo (ghi) perylene	53	
207-08-9	Benzo (k) fluoranthene	31	
218-01-9	Chrysene	92	
53-70-3	Dibenzo (a, h) anthracene	60	
206-44-0	Fluoranthene	290	
86-73-7	Fluorene	21	F
193-39-5	Indeno (1, 2, 3-cd) pyrene	40	F
91-20-3	Naphthalene	230	U m
85-01-8	Phenanthrene	180	
129-00-0	Pyrene	280	

very 3/21/00

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

99 ✓

(22 - 167 )

693 233  
RESUMITICA 5/10/00

THE ENVIRONMENTAL CO., INC.

Lab Name: Severn Trent Laboratories, Inc.      SDG Number:  
Matrix: (soil/water) SO      Lab Sample ID: D9L090164 009  
Method: SW846 8310  
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)  
Sample WT/Vol: 30 / g      Date Received: 12/09/99  
Work Order: \ D62CR101      Date Extracted: 12/10/99  
Dilution factor: 1      Date Analyzed: 12/16/99  
Moisture %: 2.5  
QC Batch: 9344177  
Client Sample Id: UST-238-01

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
83-32-9	Acenaphthene	210	U
208-96-8	Acenaphthylene	210	U
120-12-7	Anthracene	21	U
56-55-3	Benzo (a) anthracene	21	U
50-32-8	Benzo (a) pyrene	21	U
205-99-2	Benzo (b) fluoranthene	21	U
191-24-2	Benzo (ghi) perylene	41	U
207-08-9	Benzo (k) fluoranthene	21	U
218-01-9	Chrysene	20	F J
53-70-3	Dibenzo (a, h) anthracene	21	U
206-44-0	Fluoranthene	41	U
86-73-7	Fluorene	41	U
193-39-5	Indeno (1, 2, 3-cd) pyrene	41	U
91-20-3	Naphthalene	210	U
85-01-8	Phenanthrene	41	U
129-00-0	Pyrene	41	U

CMY 5/10/00

SURROGATE RECOVERY      %      ACCEPTABLE LIMITS  
Terphenyl-d14      95      (22 - 167 )

693 234

new material 5/10/00

THE ENVIRONMENTAL CO., INC.

Lab Name: Severn Trent Laboratories, Inc.      SDG Number:

Matrix: (soil/water) SO      Lab Sample ID: D9L090164 002

Method: SW846 8310  
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g      Date Received: 12/09/99

Work Order: D62CG101      Date Extracted: 12/10/99

Dilution factor: 1      Date Analyzed: 12/16/99

Moisture %: 5.2

QC Batch: 9344177

Client Sample Id: UST-230-01

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
83-32-9	Acenaphthene	210	U
206-96-8	Acenaphthylene	210	U
120-12-7	Anthracene	21	U
56-55-3	Benzo (a) anthracene	21	U
50-32-8	Benzo (a) pyrene	21	U
205-99-2	Benzo (b) fluoranthene	21	U
191-24-2	Benzo (ghi) perylene	42	U
207-08-9	Benzo (k) fluoranthene	21	U
218-01-9	Chrysene	42	U
53-70-3	Dibenzo (a, h) anthracene	21	U
206-44-0	Fluoranthene	42	U
86-73-7	Fluorene	42	U
193-39-5	Indeno (1, 2, 3-cd) pyrene	42	U
91-20-3	Naphthalene	210	U
85-01-8	Phenanthrene	42	U
129-00-0	Pyrene	42	U

Conf 5/10/00

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Terphenyl-d14	106	(22 - 167 )

893-235  
Resubmitted 5/10/200

THE ENVIRONMENTAL CO., INC.

Lab Name: Severn Trent Laboratories, Inc.      SDG Number:

Matrix: (soil/water) SO      Lab Sample ID: D9L090164 011

Method: SW846 8310  
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g      Date Received: 12/09/99

Work Order: D62D0101      Date Extracted: 12/10/99

Dilution factor: 1      Date Analyzed: 12/16/99

Moisture %: 2.3

QC Batch: 9344177

Client Sample Id: UST-240-01

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
83-32-9	Acenaphthene	200	U
208-96-8	Acenaphthylene	200	U
120-12-7	Anthracene	20	U
56-55-3	Benzo (a) anthracene	20	U
50-32-8	Benzo (a) pyrene	20	U
205-99-2	Benzo (b) fluoranthene	20	U
191-24-2	Benzo (ghi) perylene	41	U
207-06-9	Benzo (k) fluoranthene	20	U
218-01-9	Chrysene	41	U
53-70-3	Dibenzo (a, h) anthracene	20	U
206-44-0	Fluoranthene	41	U
86-73-7	Fluorene	41	U
193-39-5	Indeno (1, 2, 3-cd) pyrene	41	U
91-20-3	Naphthalene	200	U
85-01-8	Phenanthrene	41	U
129-00-0	Pyrene	41	U

cmg 5/10/00

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

101

(22 - 167 )

693 236

Resubmitted 5/10/2000

THE ENVIRONMENTAL CO., INC.

Lab Name: Severn Trent Laboratories, Inc.      SDG Number:

Matrix: (soil/water) SO      Lab Sample ID: D9L090164 010  
Method: SW846 8310  
Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 30 / g      Date Received: 12/09/99  
Work Order: D62CV101      Date Extracted: 12/10/99  
Dilution factor: 1      Date Analyzed: 12/16/99  
Moisture %: 2.6

QC Batch: 9344177

Client Sample Id: UST-239-04

CAS NO.	COMPOUND	CONCENTRATION UNITS:		
		(ug/L or ug/kg)	ug/kg	Q
83-32-9	Acenaphthene	210		U
208-96-8	Acenaphthylene	210		U
120-12-7	Anthracene	21		U
56-55-3	Benzo (a) anthracene	21		U
50-32-8	Benzo (a) pyrene	21		U
205-99-2	Benzo (b) fluoranthene	21		U
191-24-2	Benzo (ghi) perylene	41		U
207-08-9	Benzo (k) fluoranthene	21		U
218-01-9	Chrysene	22		F J
53-70-3	Dibenzo (a, h) anthracene	21		U
206-44-0	Fluoranthene	41		U
86-73-7	Fluorene	41		U
193-39-5	Indeno (1, 2, 3-cd) pyrene	41		U
91-20-3	Naphthalene	210		U
85-01-6	Phenanthrene	41		U
129-00-0	Pyrene	41		U

cmg 5/10/00

<u>SURROGATE RECOVERY</u>	<u>%</u>	<u>ACCEPTABLE LIMITS</u>
Terphenyl-d14	101	(22 - 167 )

## THE ENVIRONMENTAL CO., INC.

Lab Name:QUANTERRA

SDG Number:

Matrix: (soil/water) WATER

Lab Sample ID:D9L100214 001

Method: SW846 8310

Hydrocarbons, Polynuclear Aromatic (HPLC - 8310)

Sample WT/Vol: 971 / mL

Date Received: 12/10/99

Work Order: D6535101

Date Extracted:12/15/99

Dilution factor: 1

Date Analyzed: 12/17/99

Moisture %:NA

QC Batch: 9349165

Client Sample Id: EB-202

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/L Q
83-32-9	Acenaphthene	1.0	U
208-96-8	Acenaphthylene	1.0	U
120-12-7	Anthracene	0.10	U
56-55-3	Benzo (a) anthracene	0.10	U
50-32-8	Benzo (a) pyrene	0.10	U
205-99-2	Benzo (b) fluoranthene	0.10	U
191-24-2	Benzo (ghi) perylene	0.20	U
207-08-9	Benzo (k) fluoranthene	0.10	U
218-01-9	Chrysene	0.20	U
53-70-3	Dibenzo (a, h) anthracene	0.20	U
206-44-0	Fluoranthene	0.20	U
86-73-7	Fluorene	0.20	U
193-39-5	Indeno (1, 2, 3-cd) pyrene	0.20	U
91-20-3	Naphthalene	1.0	U
85-01-8	Phenanthrene	0.20	U
129-00-0	Byrene	0.20	U

SURROGATE RECOVERY

%

ACCEPTABLE LIMITS

Terphenyl-d14

82

(25 - 157 )

693 238

# BEST AVAILABLE COPY

THE ENVIRONMENTAL CO., INC.

Client Sample ID: UST-241-01

HPLC

Lot-Sample #....: D9L090164-012    Work Order #....: D62D1101    Matrix.....: SO  
 Date Sampled....: 12/08/99 15:49    Date Received...: 12/09/99  
 Prep Date.....: 12/10/99    Analysis Date...: 12/16/99  
 Prep Batch #....: 9344177    Analysis Time...: 06:08  
 Dilution Factor: 1  
 Method.....: SW846 8310

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Acenaphthene	ND	200	ug/kg	38
Acenaphthylene	ND	200	ug/kg	33
Anthracene	ND	20	ug/kg	2.3
Benzo (a) anthracene	ND	20	ug/kg	2.4
Benzo (a) pyrene	ND	20	ug/kg	4.0
Benzo (b) fluoranthene	ND	20	ug/kg	2.6
Benzo (ghi) perylene	ND	40	ug/kg	2.3
Benzo (k) fluoranthene	ND	20	ug/kg	3.3
Chrysene	ND	40	ug/kg	3.6
Dibenzo (a, h) anthracene	ND	20	ug/kg	6.2
Fluoranthene	ND	40	ug/kg	5.2
Fluorene	ND	40	ug/kg	4.3
Indeno (1, 2, 3-cd) pyrene	ND	40	ug/kg	4.0
Naphthalene	ND	200	ug/kg	37
Phenanthrene	ND	40	ug/kg	2.2
Pyrene	ND	40	ug/kg	9.3
	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>		
<u>SURROGATE</u>				
Terphenyl-d14	103	(22 - 167)		

**NOTE (S):**

Results and reporting limits have been adjusted for dry weight.

**FINAL PAGE**

**ADMINISTRATIVE RECORD**

**FINAL PAGE**