HAFB 2003

DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 49TH FIGHTER WING (ACC)
HOLLOMAN AIR FORCE BASE, NEW MEXICO

3 DEC 2003

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT
Ms. Sandra Martin
Hazardous Waste Bureau
2905 Rodeo Park Dr., East
Santa Fe, NM 87505-6303

FROM: 49 CES/CEV
550 Tabosa Ave
Holloman AFB NM 88330-8458

SUBJECT: Hazardous and Solid Waste Amendments (HSWA) Quarterly Report for Jul – Sep 2003, EPA ID NM6572124422

1. In accordance with Module IV, Section E, of the Holloman AFB HSWA permit, attached please find the Jul – Sep 2003 Quarterly Report.

2. If you have any questions please contact Mr. Dan Holmquist at (505) 572-5395.

DAVID F. DeMARTINO, Lt Col, USAF
Base Civil Engineer

Attachment:
HSWA Quarterly Report, Jul – Sep 2003

cc (w/Atch):

Mr. Cornelius Amindyas
Hazardous Waste Bureau
4131 Montgomery NE
Albuquerque, NM 87109

Steve Jetter NMED-HWD
Hazardous Waste Bureau
4131 Montgomery NE
Albuquerque, NM 87109

James Harris
USEPA, Region 6 PD-N, e
1445 Ross Ave., Ste 12
Dallas, TX 75202-2733

MAIL CERTIFIED RECEIPT NO. 7001 2510 0005 2338 1031
RETURNED RECEIPT REQUESTED

Global Power for America

HOLLOMAN AIR FORCE BASE
NEW MEXICO

HAZARDOUS AND SOLID WASTE AMENDMENT

QUARTERLY ACTIVITY REPORT

EPA ID NM6572124422

Activity Period:
July 1 to September 30, 2003

I.0 INTRODUCTION

This quarterly report has been prepared in accordance with the Resource Conservation and Recovery Act (RCRA) Permit and the Hazardous and Solid Waste Amendments (HSWA) Permit for Holloman Air Force Base (HAFB or Holloman). This permit requires periodic reporting of activities related to corrective actions at Solid Waste Management Units (SWMUs) at HAFB.

The report summarizes activities and available data concerning corrective actions at actively remediated SWMUs across HAFB between July 1, 2003 and September 30, 2003. Table 1 briefly summarizes the status of each site undergoing the corrective action process. Table 1 provides the SWMU number, site name, corresponding Environmental Restoration Program (ERP) site number, the status of each site, the activities conducted during the reporting period and the schedule for additional activities (if needed).

Section 2.0 provides the details of specific activities such as soil excavation and sampling performed during this quarter. Figures and tables that provide details of recent activities at the site are presented as attachments. Section 3.0 summarizes planned future activities by site for the next quarter. The report certification statement is presented in Section 4.0

2.0 CORRECTIVE ACTION ACTIVITIES THIS QUARTER

Between July 1 and September 30, 2003, remediation activities were completed at the Fire Training Area (SWMU 39, 127, 135, 170 & 171). A landfarm was constructed at FT-31 to remediate hydrocarbons from petroleum contaminated sites at the Base. Excavation began at the BX Service Station (SS-17 or AOC-Q). Soil from the BX service station was treated in the new landfarm.

2.1 Old Fire Training Area FT-31 (SWMUs 39, 127, 135, 170, 171)

This is the site of the old fire training area at HAFB. A bioventing remediation system was operated at this site from approximately 1997 to 2001. The remediation system provided air to the subsurface in order to promote microbial growth. The microbes then consumed the petroleum hydrocarbons attached to the soil. However, the system was unable to remove recalcitrant hydrocarbon contamination from the soil. Between October 2002 and June 2003, approximately 20,000 tons of soil were removed for offsite disposal.

During this quarter, backfilling of the remaining excavations was completed. A new landfarm was constructed at the site. The landfarm consisting of two bermed cells, a fence with gates and four new groundwater monitoring wells was completed during the

third quarter. Additional information regarding the landfarm is presented in subsection 2.3.

2.2 BX Service Station (SS-17 or AOC-Q)

This is the site of the former Base Exchange (BX) Service Station. From 1990 to 2001, several hydrocarbon recovery systems operated at the site. Initially, hydrocarbon skimmer pumps were deployed to recover hydrocarbons. In 1996, a total fluids evacuation system was installed and began operation in October 1996. Operation of the system terminated in 2001 due to diminishing hydrocarbon recovery. However, periodic soil sampling indicated that significant hydrocarbon quantities still existed at the site.

From mid August to mid September 2003, excavation of petroleum contaminated soil was performed at the BX service station. A limited excavation was performed starting along the First Street side of the site. Approximately 7000 cubic yards of hydrocarbon contaminated soil was removed from the site. Contaminated soil was removed to a depth approximately 1 to 2 feet below the water table (approximately 7 feet below the ground surface) as necessary to remove hydrocarbon stained soil. Soil excavated from SS-17 was transported to the Landfarm at FT-31. **Attachment 1** is a map of SS-17 indicating the limits of the soil excavation and the locations of confirmation soil samples collected from the excavation walls. Summary tables of the confirmation soil sample analytical results are presented in **Attachment 2.** Soil excavation will resume in mid 2004 when funding for this activity is received.

2.3 Landfarm at FT-31

On August 25, 2003, NMED issued a temporary discharge application to operate a petroleum contaminated soil landfarm. The landfarm was used to treat soil from the BX service station (SS-17 or AOC –Q).

Construction of the landfarm began in mid July 2003. The landfarm and accompanying groundwater monitoring wells were installed and pre-treatment soil and groundwater sampling was performed in accordance with the groundwater discharge application submitted to NMED in June 2003. Four groundwater monitoring wells were installed at the landfarm as indicated in the discharge application. Additionally, two existing monitoring wells were incorporated into the groundwater monitoring network. A map of the landfarm and groundwater monitoring well locations is presented in **Attachment 3**. **Attachment 4** is a summary of the groundwater monitoring well network construction. Eight (8) pre-treatment surface soil samples were collected from the bottom of the landfarm prior to the initiation of landfarming. The samples were analyzed for TPH, VOCs and SVOCs as indicated in the permit application. **Attachment 5** is a summary table of pre-treatment soil conditions beneath the landfarm. Groundwater samples were collected from the monitoring well network surrounding the landfarm prior to initiation of

landfarming. **Attachment 6** is a summary table of pre-treatment groundwater conditions at the landfarm.

During construction of the berms, soil testing was performed to determine if berm material had been compacted as indicated in the groundwater discharge permit application. **Attachment 7** is an engineering soil laboratory report summarizing the compaction testing conducted by Southwest Engineering, Inc. of Las Cruces, New Mexico. All soil in the berms had been compacted to a least 95 %.

On August 22, 2003, NMED granted Holloman AFB temporary permission to operate the landfarm. A copy of the NMED letter granting temporary permission is presented in **Attachment 8**.

Approximately 7000 cubic yards of soil were treated in the landfarm. All the soil treated during this quarter was derived from SS-17 (BX Service Station). Each truck load of soil was manifested for the trip to the landfarm. **Attachment 9** is a summary of the manifests for soil from site SS-17 to the FT-31 Landfarm.

Each 6-inch lift of soil was treated and then removed from the cells. Eight soil samples, four from each cell were collected and analyzed to determine if the soil had been adequately treated. The cells were divided into equal areas and assigned a number. A random number generator was used to pick a grid section for treatment sample collection. **Attachment 10** is a schematic map of the landfarm indicating the cell selected for soil sampling. Also, the attached map indicates the approximate quantity of soil placed in the landfarm before treatment.

Results for landfarm treatment soil samples are presented in **Attachment 11**. These samples were collected to determine if soil had been successfully treated prior to removal from the site. In most cases, the soil was treated to below 100 mg/Kg petroleum hydrocarbons which is substantially less than the 940 mg/Kg concentration required by the landfarm discharge permit.

3.0 ACTIVITES FOR SCHEDULED FOR THE NEXT QUARTER

Activities for the next quarter (Fourth Quarter, October 1 to December 31, 2003) will include:

1. Submittal of the work plan for Ritas Draw (DP-62)
2. Submittal of the work plan for AOC-1001 (SS-61)
3. Submittal of the work plan for POL Yard Wash Rack and Tank (SWMU 123).
4. Submittal of the Closure Report for FT-31
5. Class 3 Permit Modification to remove sites from the KAFB Permit
6. Exploratory excavation pits at SS-59, the T-38 Cell.

4.0 CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Daniel K. Holmquist
Name

49 CES/CEVR
Organization

Remedial Project Manager
Position

_____
Signature/Date

TABLES

TABLE 1
QUARTER 1, 2003 STATUS SUMMARY
(JULY 1 TO SEPTEMBER 30, 2003)
ONGOING CORRECTION ACTION SITES
HOLLOMAN AIR FORCE BASE, NEW MEXICO

SWMU NO.	SITE NAME	SITE STATUS	ACTIVITES CONDUCTED (THIS PERIOD)	SCHEDULED ACTIVITIES
39,127,135, 170 & 171	Fire Training Area (ERP Site FT-31)	Undergoing Corrective Action	Completion of North area excavation and backfill. Constructed and operated petroleum hydrocarbon soil landfarm on the site	Delivery of FT-31 Closure Report by 12/31/03
123	Building 704 Waste Oil Tank (ERP Site N/A)	Undergoing Corrective Action	Initiated revisions to the work plan based upon NMED comments.	Deliver to Base by 11/30/03. Delivery to NMED by 12/31/2003.
133	POL Yard Release (ERP Site SD-47)	Corrective Action Complete	None. Corrective action at the site was completed in Jan 1998.	Petition to remove site from RCRA Permit (Q4 2003).
136	King 1 Bio Vent Site (ERP Site)	Corrective Action Complete	None. Requested NFA status for site.	Petition to remove site from RCRA Permit (Q4 2003).
139 & 140	Lake Holloman (139) Lake Stinky (140)	Corrective Action Complete	None	Petition to remove the site from RCRA Permit (Q4 2003).
141	Pad 9 Washrack ERP Site	Site Requires Additional Characterization	None	No funding available at present time. Implement Phase II RFI work plan in FY05.

TABLE 1
QUARTER 1, 2003 STATUS SUMMARY
(JULY 1 TO SEPTEMBER 30, 2003)
ONGOING CORRECTION ACTION SITES
HOLLOMAN AIR FORCE BASE, NEW MEXICO

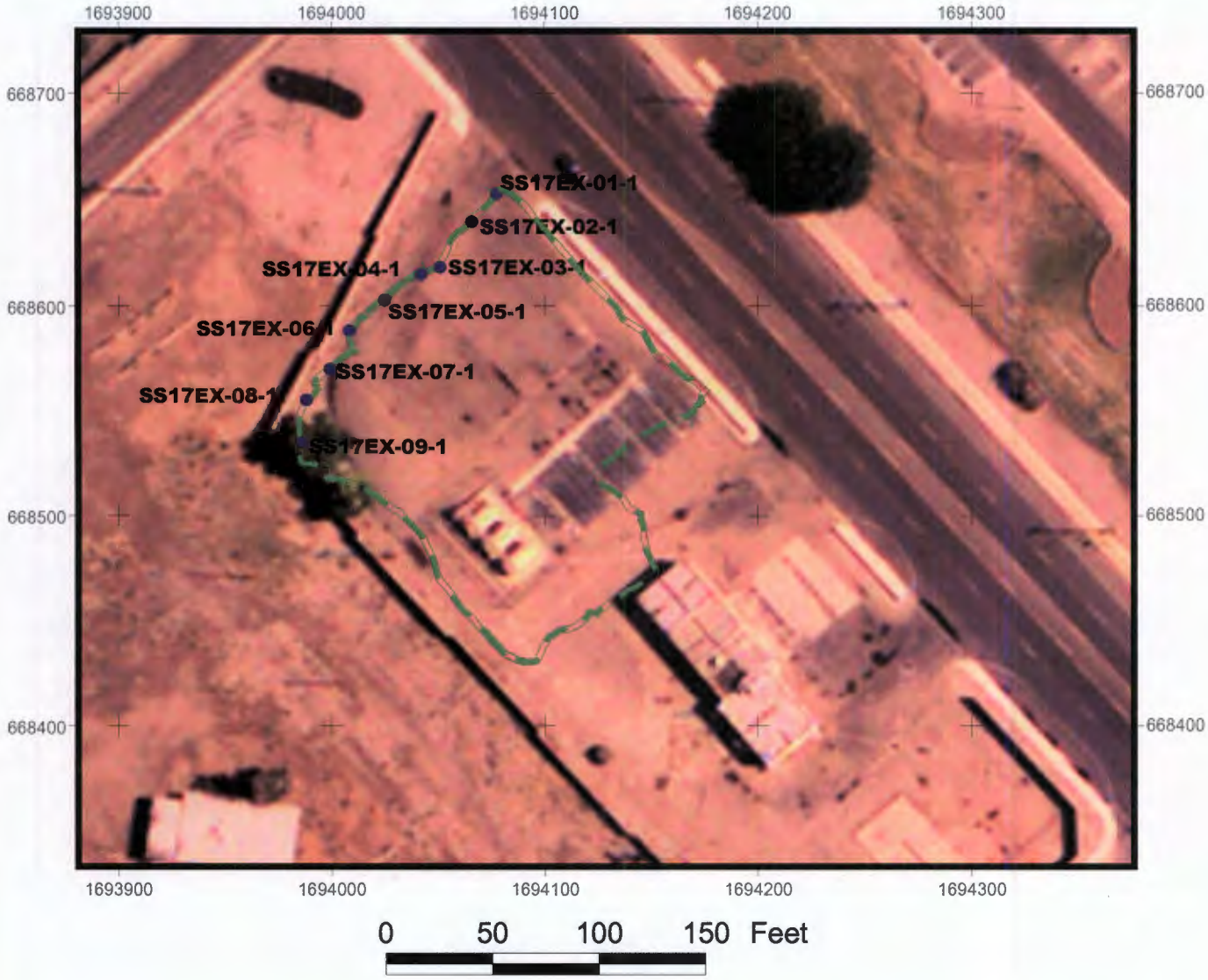
AOC-V	Officer's Club (EPR Site SS-57)	Undergoing Corrective Action	None	Submit work plan for activities in Q1 2004. Activities scheduled for Q3 2004
AOC-1	Chemical Agent Site (ERP Site DP-64)	Undergoing Corrective Action Preliminary Grid walk and visual site inspection for additional exposed agent conducted in FY 2000.	None. Awaiting approval of stringent Site Safety and Health Plan and funding for US Army support personnel.	Additional on-site investigations and actions await final approval of work plans and health and safety procedures. Work scheduled for FY04
AOC-3	Ammunition Disposal Site (ERP Site DP-63)	Undergoing Corrective Action PA/SI Completed 2000	Received comments from NMED concerning Final Report. FWENC preparing final report with incorporation of NMED comments	Report will be submitted to NMED in Q4.
AOC-4	West POL Fuel Spill Site	Corrective Action Complete	None. No funding available in 2004. If money becomes available, work plan for additional work will be prepared.	Preparation of a letter work plan to assess the extent of impacted soil beneath the SW corner of the tank farm basin.
AOC-1001	Building 1001 (ERP Site SS-61)	Undergoing Corrective Action	Prepared and submitted work plan to NMED.	Field work scheduled for Q1 2004.

TABLE 1
QUARTER 1, 2003 STATUS SUMMARY
(JULY 1 TO SEPTEMBER 30, 2003)
ONGOING CORRECTION ACTION SITES
HOLLOMAN AIR FORCE BASE, NEW MEXICO

148 to 154	Holloman Sewage Lagoons	Corrective Action Complete	Routine inspection and maintenance to fences.	Routine inspection and maintenance in FY04
229	T-38 Test Cell (ERP Site SS-59)	Undergoing Corrective Action	Submitted work plan for excavation and removal of soil in Q1, 2004.	Excavation and disposal of impacted soil planned for Q1 2004.
AOC-2	North Tower Site	Recently Discovered	None	Submit the work plan for additional characterization by Q4.
AOC-Q	BX Service Station (ERP Site SS-17)	Undergoing Corrective Action	Excavation, disposal and landfarming of soil from the site. Terminated activities in mid September due to depletion of funding. Approximately 7000 cubic yards of soil were excavated and treated.	Resume activities in 2004 with new funding
AOC-T	Main POL Spill (EPR Sites SS-02 and SS-05)	Undergoing Corrective Action	Developed work plans for additional excavation of contaminated soil.	Work plans to be delivered in November 2003. Excavation scheduled for Q2 of 2004.

LIST OF ATTACHMENTS

1. Map of BX Service Station with excavation limits and confirmation soil sample locations.
2. BX Service station confirmation samples analytical results.
3. Map of Landfarm and groundwater monitoring well network.
4. Summary table of landfarm monitoring well network construction
5. Summary table of landfarm groundwater monitoring well analytical results.
6. Summary table of landfarm pre-treatment soil sample analytical results.
7. Compaction soil tests of berms at the landfarm.
8. Copy of temporary permission to discharge letter from NMED.
9. Summary of manifests for soil from SS-17 to the landfarm.
10. Map of landfarm treatment sampling locations.
11. Summary of landfarm soil treatment analytical results.



Clearance Sample Locations

Extent of Excavation

N

SITE SS-17 (BX), HOLLOMAN AFB, NM

ATTACHMENT #1

SS-17 (BX SERVICE STATION) EXCAVATION CONFIRMATION SOIL SAMPLES LR #116303
Date Sampled: August 8, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	SS17EX-01-1	SS17EX-02-1	SS17EX-03-1	SS17EX-04-1				Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<3,000	<3,000	<3,000	<3,000				NA	NA
C10 - C22	<3,000	<3,000	<3,000	<3,000					
C22 - C32	<5,000	<5,000	<5,000	<5,000					
Total (C10 - C32)	<4,000	<4,000	<4,000	<4,000				893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	<5	<5	<5	<5				5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	<5	<5	<5	<5				2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<5	<5	<5	<5				1.92E+06	7.00E+06*
Acetone	<5	<5	<5	<5				2.84E+06	1.35E+07
Benzene	<5	<5	<5	<5				1.12E+04	2.45E+04
Ethylbenzene	<5	<5	<5	<5				8.66E+04*	8.66E+04*
Isopropylbenzene	<5	<5	<5	<5				2.65E+05	3.69E+05*
Methacrylonitrile	<5	<5	<5	<5				3.41E+03	1.79E+04
MTBE	<5	<5	<5	<5				3.34E+05	1.13E+06
Naphthalene	<5	<5	<5	<5				6.12E+04*	6.12E+04*
Toluene	<5	<5	<5	<5				2.19E+05*	2.19E+05*
Xylenes, total	<5	<5	<5	<5				8.12E+04*	8.12E+04*
n-Buthylbenzene	<5	<5	<5	<5				6.21E+04*	6.21E+04*
n-Propylbenzene	<5	<5	<5	<5				6.21E+04*	6.21E+04*
p-Isopropyltoluene	<5	<5	<5	<5				6.30E+04*	6.30E+04*
sec-Butylbenzene	<5	<5	<5	<5				6.05E+04*	6.05E+04*
2-Methylnaphthalene	<333	<333	<333	<333				1.71E+05*	1.71E+05*
Acenaphthene	<333	<333	<333	<333				3.16E+04*	3.16E+04*
Anthracene	<333	<333	<333	<333				1.56E+03*	1.56E+03*
Benzo(a)anthrene	<333	<333	<333	<333				6.19E+03	2.10E+04*
Benzo(a)pyrene	<333	<333	<333	<333				6.19E+02	2.10E+03
Benze(b)fluoranthene	<333	<333	<333	<333				1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<333	<333	<333	<333				4.54E+02*	4.54E+02*
Chrysene	<333	<333	<333	<333				9.60E+02*	9.60E+02*
Dibenzofuran	<333	<333	<333	<333				3.68E+04*	3.68E+04*
Diethylphthalate	<333	881	<333	<333				4.32E+05*	4.32E+05*
Fluoranthene	<333	<333	<333	<333				1.49E+04*	1.49E+04*
Fluorene	<333	<333	<333	<333				2.28E+04*	2.28E+04*
Phenanthrene	<333	<333	<333	<333				2.10E+04*	2.10E+04*
Pyrene	<333	<333	<333	<333				1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1+\frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

ATTACHMENT #2 1 OF 3

SS-17 (BX SERVICE STATION) EXCAVATION CONFIRMATION SOIL SAMPLES LR #116582
Date Sampled: September 4, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	SS-17EX05-01	SS-17EX06-01						Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<3,000	<3,000						NA	NA
C10 - C22	<3,000	<3,000							
C22 - C32	<5,000	<5,000							
Total (C10 - C32)	<4,000	<4,000						893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	<5	<5						5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	<5	<5						2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<5	<5						1.92E+06	7.00E+06*
Acetone	<5	<5						2.84E+06	1.35E+07
Benzene	<5	<5						1.12E+04	2.45E+04
Ethylbenzene	<5	<5						8.66E+04*	8.66E+04*
Isopropylbenzene	<5	<5						2.65E+05	3.69E+05*
Methacrylonitrile	<5	<5						3.41E+03	1.79E+04
MTBE	<5	<5						3.34E+05	1.13E+06
Naphthalene	<5	<5						6.12E+04*	6.12E+04*
Toluene	<5	<5						2.19E+05*	2.19E+05*
Xylenes, total	<5	<5						8.12E+04*	8.12E+04*
n-Buthylbenzene	<5	<5						6.21E+04*	6.21E+04*
n-Propylbenzene	<5	<5						6.21E+04*	6.21E+04*
p-Isopropyltoluene	<5	<5						6.30E+04*	6.30E+04*
sec-Butylbenzene	<5	<5						6.05E+04*	6.05E+04*
2-Methylnaphthalene	<333	<333						1.71E+05*	1.71E+05*
Acenaphthene	<333	<333						3.16E+04*	3.16E+04*
Anthracene	<333	<333						1.56E+03*	1.56E+03*
Benzo(a)anthrene	<333	<333						6.19E+03	2.10E+04*
Benzo(a)pyrene	<333	<333						6.19E+02	2.10E+03
Benze(b)fluoranthene	<333	<333						1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<333	<333						4.54E+02*	4.54E+02*
Chrysene	<333	<333						9.60E+02*	9.60E+02*
Dibenzofuran	<333	<333						3.68E+04*	3.68E+04*
Diethylphthalate	<333	<333						4.32E+05*	4.32E+05*
Fluoranthene	<333	<333						1.49E+04*	1.49E+04*
Fluorene	<333	<333						2.28E+04*	2.28E+04*
Phenanthrene	<333	<333						2.10E+04*	2.10E+04*
Pyrene	<333	<333						1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

ATTACHMENT #2 2 OF 3

SS-17 (BX SERVICE STATION) EXCAVATION CONFIRMATION SOIL SAMPLES LR #116806
Date Sampled: September 10-11, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	SS17EX07-1	SS17EX08-1	SS17EX09-1	LFBRM-18	LFBRM-19	LFBRM-20		Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<3,000	<3,000	<3,000	23,355	899,161	152,974		NA	NA
C10 - C22	<3,000	<3,000	<3,000	3,737	38,535 J	58,387			
C22 - C32	<5,000	<5,000	<5,000	<5,000	<100,000	<5,000			
Total (C10 - C32)	<4,000	<4,000	<4,000	6,656	96,923	61,306		893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	<5	<5	<5	404 J	33,865	48,695		5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	<5	<5	<5	1,179	12,261	17,750		2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<5	<5	<5	<500	<500	<500		1.92E+06	7.00E+06*
Acetone	<5	<5	<5	<500	<500	<500		2.84E+06	1.35E+07
Benzene	<5	<5	<5	<500	<500	1,436		1.12E+04	2.45E+04
Ethylbenzene	<5	<5	<5	<500	13,779	20,552		8.66E+04*	8.66E+04*
Isopropylbenzene	<5	<5	<5	<500	1,448	1,997		2.65E+05	3.69E+05*
Methacrylonitrile	<5	<5	<5	<500	<500	<500		3.41E+03	1.79E+04
MTBE	<5	<5	<5	<500	<500	<500		3.34E+05	1.13E+06
Naphthalene	<5	<5	<5	<500	4,893 (1,082)	6,504 (1,378)		6.12E+04*	6.12E+04*
Toluene	<5	<5	<5	<500	13,079	21,720		2.19E+05*	2.19E+05*
Xylenes, total	<5	<5	<5	<500	54,534	86,880		8.12E+04*	8.12E+04*
n-Buthylbenzene	<5	<5	<5	988	1,752	2,265		6.21E+04*	6.21E+04*
n-Propylbenzene	<5	<5	<5	<500	5,290	7,847		6.21E+04*	6.21E+04*
p-Isopropyltoluene	<5	<5	<5	<500	932	1,238		6.30E+04*	6.30E+04*
sec-Butylbenzene	<5	<5	<5	<500	<500	830		6.05E+04*	6.05E+04*
2-Methylnaphthalene	<333	<333	<333	<333	963	1,108		1.71E+05*	1.71E+05*
Acenaphthene	<333	<333	<333	<333	<333	<333		3.16E+04*	3.16E+04*
Anthracene	<333	<333	<333	<333	<333	<333		1.56E+03*	1.56E+03*
Benzo(a)anthrene	<333	<333	<333	<333	<333	<333		6.19E+03	2.10E+04*
Benzo(a)pyrene	<333	<333	<333	<333	<333	<333		6.19E+02	2.10E+03
Benze(b)fluoranthene	<333	<333	<333	<333	<333	<333		1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<333	<333	<333	<333	<333	<333		4.54E+02*	4.54E+02*
Chrysene	<333	<333	<333	<333	<333	<333		9.60E+02*	9.60E+02*
Dibenzofuran	<333	<333	<333	<333	<333	<333		3.68E+04*	3.68E+04*
Diethylphthalate	<333	<333	<333	<333	<333	<333		4.32E+05*	4.32E+05*
Fluoranthene	<333	<333	<333	<333	<333	<333		1.49E+04*	1.49E+04*
Fluorene	<333	<333	<333	<333	<333	<333		2.28E+04*	2.28E+04*
Phenanthrene	<333	<333	<333	<333	<333	<333		2.10E+04*	2.10E+04*
Pyrene	<333	<333	<333	<333	<333	<333		1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

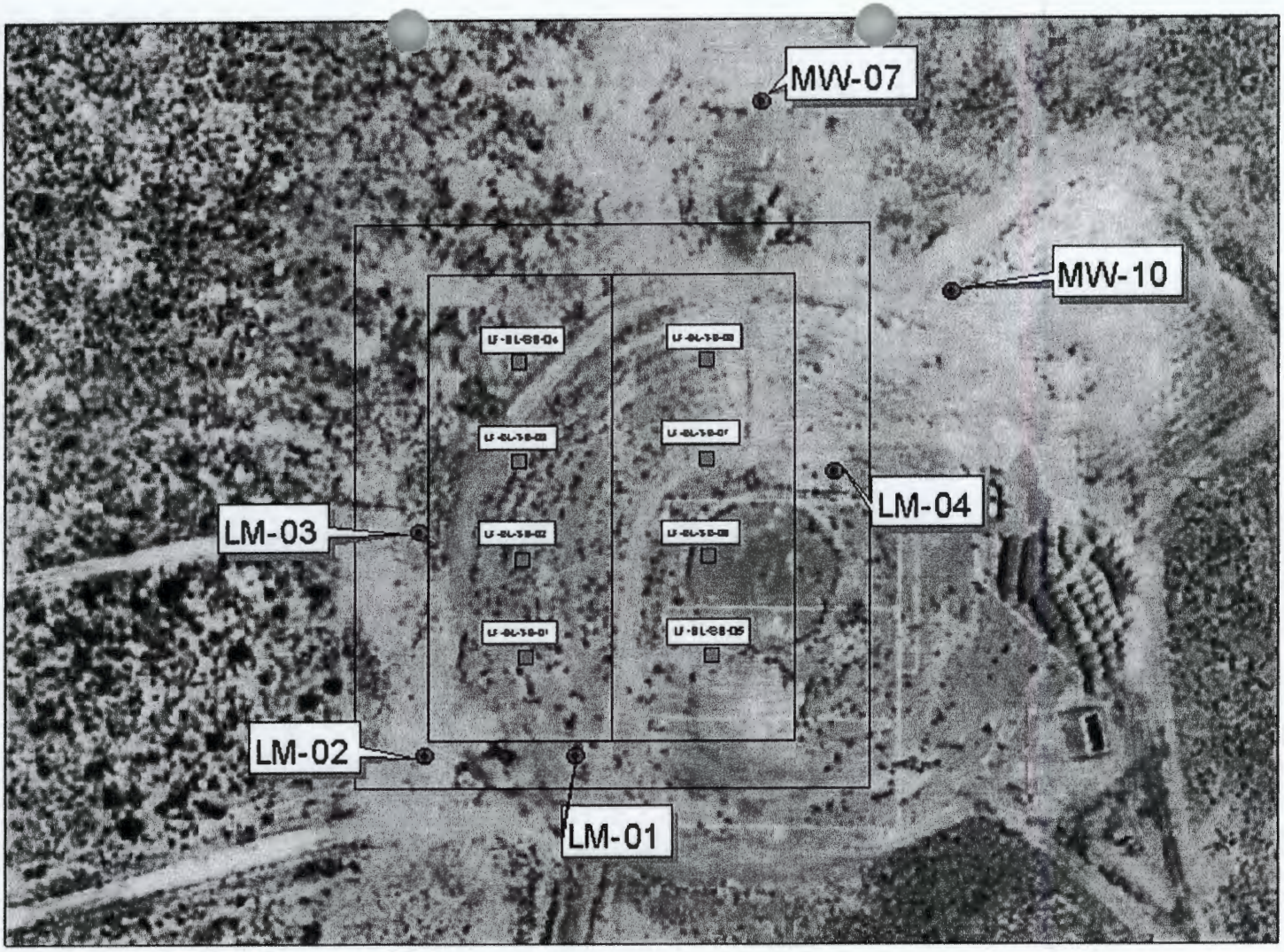
C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

ATTACHMENT #2 3 OF 3



0 90 180 270 360 Feet

Landfarm

ATTACHMENT #3

TABLE 1
SUMMARY OF
LANDFARM MONITORING WELL CONSTRUCTION
FT-31 LANDFARM
HOLLOMAN AFB, NM

Well No.	Well[1] Depth	Measuring Point Elevation[1] (Ft) NGVD	Date Surveyed	Elevation of Well Screen Interval (Ft) NGVD	Depth To[1] Water (Ft)	Date Measured	Groundwater Elevation (Ft) NGVD
LM-01	35.86	4103.61	10/27/2003	44069.61 to 4079.61	23.52	8/25/2003	4080.09
LM-02	37.5	4104.06	10/27/2003	4070.06 to 4080.06	23.29	8/25/2003	4080.77
LM-03	36.19	4103.70	10/27/2003	4069.70 to 4079.70	22.82	8/25/2003	4080.88
LM-04	35.86	4102.86	10/27/2003	4068.86 to 4078.86	24.11	8/25/2003	4078.75
MW-7	38.4	4103.51	10/27/2003	4068.51 to 4083.51	22.17	8/26/2003	4081.34
MW-10	36.73	4103.02	10/27/2003	4067.02 to 4082.02	23.51	8/26/2003	4079.51

Notes: 1. Measured from top of casing.

ATTACHMENT # 4

TABLE 3
SUMMARY OF SOIL ANALYTICAL RESULTS FROM NATIVE SOIL BENEATH THE FT-31 LANDFARM PRIOR TO SOIL TREATMENT HOLLOMAN AFB, NM

SOIL SAMPLE NO.	LF-BL-SB-01	LF-BL-SB-02	LF-BL-SB-03	LF-BL-SB-04	LF-BL-SB-05	LF-BL-SB-06	LF-BL-SB-07	LF-BL-SB-08
Laboratory Order #	455545	455546	455547	455548	455549	455550	455551	455552
DATE SAMPLED	8/15/2003	8/15/2003	8/15/2003	8/15/2003	8/15/2003	8/15/2003	8/15/2003	8/15/2003
DEPTH OF SAMPLE (FT) BELOW GROUND SURFACE	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2
METHOD 8015 CARBON CHAIN mg/Kg								
C_6 to C_{10}	<3	<3	<3	<3	<3	<3	<3	<3
C_{10} to C_{22}	<3	<3	<3	<3	<3	<3	<3	<3
C_{22} to C_{36}	<3	<3	**18**	**5**	**12**	<3	<3	<3
Volatile Organic Compounds Method 8260B µg/Kg								
All Constituents	ND	ND	ND	ND	ND	ND	ND	ND
Semi-volatile Organic Compounds Method 8270C µg/Kg								
All Constituents	ND	ND	ND	ND	ND	ND	ND	ND

Notes: ND= not detected. Value was not quantified in excess of reporting limit.
All constituents refers to the list of analytes in either the 8260B and 8270C methodology

ATTACHMENT # 5

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PRIOR TO OPERATION OF THE
FT-31 LANDFARM
HOLLOMAN AFB, NM

WELL NO.	LM-01	LM-02	LM-03	LM-04	MW-7	MW-10
Laboratory Order #	459025	459026	459027	459028	459029	459030
Date Sampled						
Total Dissolved Solids Method 160.1 mg/L	**25200**	**22800**	**19500**	**22800**	**21000**	**23600**
Volatile Organic Compounds Method 8260B µg/L						
All Constituents	ND	ND	ND	ND	ND	ND
Semi-volatile Organic Compounds Method 8270C µg/L						
bis(2-ethylhexyl)phthalate	<10	**11**	<10	<10	<10	<10
All Other Constituents	ND	ND	ND	ND	ND	ND

Notes: ND= not detected. Value was not quantified in excess of reporting limit.
All constituents refers to the list of analytes in either the 8260B and 8270C methodology

ATTACHMENT #6

SOUTHWEST ENGINEERING, INC.

■ 475 ARCHULETA ROAD ■ LAS CRUCES, NEW MEXICO 88005 ■
PHONE (505) 526-3361 ■ FAX (505) 526-1762

Bhate Environmental
Attn: Jerry Pelfrey
1110 10th Street, #480

Alamogordo, NM 88310-

TASK NO.: LM31651 PROJECT NO.: SEI23172
CONTRACTOR: Bhate Environmental
TEST CERTIFICATE NO.: BE-C1-03
PROJECT: HAFB - FT31 Land Farm
LOCATION: HAFB, NM

Density- ASTM D2922, D3017 AASHTO T238, T239

Test Location:

DATE TEST NO.	LOCATION AND DESCRIPTION SPECIAL NOTES	DEPTH	MX DRY DENS	OPT MOIS	DRY DENS	MOIS	% COMP	REMARKS
07/25/03 D005	North Side of Cell at West Side Berms for Cells	Final	145.4	5.7	146.0	5.4	100.4	95% Req'd
07/25/03 D006	North Side of Cell at East Side Berms for Cells	Final	145.4	5.7	139.6	3.4	96.0	95% Req'd
07/25/03 D007	East Side of Cell at North End Berms for Cells	Final	145.4	5.7	138.4	3.7	95.2	95% Req'd

SOUTHWEST ENGINEERING, INC.

Paul Deason

ATTACHMENT #7 1 OF 3

SOUTHWEST ENGINEERING, INC.

475 ARCHULETA ROAD LAS CRUCES, NEW MEXICO 88005
PHONE (505) 526-3381 FAX (505) 526-1762

Bhate Environmental
Attn: Jerry Pelfrey
1110 10th Street, #480

Alamogordo, NM 88310-

TASK NO.: LM32047 PROJECT NO.: SEI23172
CONTRACTOR:
TEST CERTIFICATE NO.: BE-C2-03
PROJECT: HAFB - FT31 Land Farm
LOCATION: HAFB, NM

Density- ASTM D2922, D3017 AASHTO T238, T239

Test Location:

DATE TEST NO.	LOCATION AND DESCRIPTION SPECIAL NOTES	DEPTH	MX DRY DENS	OPT MOIS	DRY DENS	MOIS	% COMP	REMARKS
08/22/03 D009	NE Side of Cell Cell Subgrade	Final	112.2	8.3	104.3	4.0	93.0	90% Req'd
08/22/03 D010	NW Side of Cell Cell Subgrade	Final	112.2	8.3	103.7	4.3	92.4	90% Req'd
08/22/03 D011	SE Side of Cell Cell Subgrade	Final	112.2	8.3	105.8	6.0	94.3	90% Req'd
08/22/03 D012	SW Side of Cell Cell Subgrade	Final	112.2	8.3	106.4	5.3	94.8	90% Req'd

SOUTHWEST ENGINEERING, INC.

Paul Deason

ATTACHMENT #7 2 OF 3

SOUTHWEST ENGINEERING, INC.

■ 475 ARCHULETA ROAD ■ LAS CRUCES, NEW MEXICO 88005 ■
PHONE (505) 526-3361 ■ FAX (505) 526-1762

Bhate Environmental
Attn: Jerry Pelfrey
1110 10th Street, #480

Alamogordo, NM 88310-

TASK NO.: LM31651 PROJECT NO.: SEI23172
CONTRACTOR: Bhate Environmental
TEST CERTIFICATE NO.: BE-C1-03
PROJECT: HAFB - FT31 Land Farm
LOCATION: HAFB, NM

Density- ASTM D2922, D3017 AASHTO T238, T239

Test Location:

DATE TEST NO.	LOCATION AND DESCRIPTION SPECIAL NOTES	DEPTH	MX DRY DENS	OPT MOIS	DRY DENS	MOIS	% COMP	REMARKS
07/25/03 D001	SE Corner of Cell Berms for Cells	Final	145.4	5.7	143.2	5.9	98.5	95% Req'd
07/25/03 D002	South Cell at West End Berms for Cells	Final	145.4	5.7	141.3	4.4	97.2	95% Req'd
07/25/03 D003	West Side of Cell Berms for Cells	Final	145.4	5.7	144.5	4.0	99.4	95% Req'd
07/25/03 D004	West Side of Cell at North End Berms for Cells	Final	145.4	5.7	141.6	3.6	97.4	95% Req'd

SOUTHWEST ENGINEERING, INC.

Paul Deason

Paul Deason

ATTACHMENT #7 3 OF 3

State of New Mexico
ENVIRONMENT DEPARTMENT
Ground Water Quality Bureau
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2918 phone
(505) 827-2965 fax

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY
DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

ATTACHMENT #8 P. 1 of 2

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 22, 2003

Brigadier General James P. Hunt
Holloman Air Force Base
P.O. Box 2000
Holloman Air Force Base, New Mexico, 88330

RE: Temporary Permission for Holloman Air Force Base Hydrocarbon Landfarm, DP-1446

Dear General Hunt:

A letter from Gerald Pelfrey, Bhate Environmental Engineers and Scientists dated August 15, 2003 requested temporary permission to begin the discharge of hydrocarbon contaminated soils at a landfarm to be located on Holloman Air Force Base. The temporary permission for 120 days was requested so that soil remediation could continue on the base while the landfarm discharge permit application is being processed. The facility is located in Section 12, T17S, R8E, Otero County.

The proposed hydrocarbon landfarm is briefly described as follows.

Up to 8,000 cubic yards of hydrocarbon contaminated soils will be remediated at a time. Only soils from releases at Holloman Air Force Base will be accepted. Soils will be spread in six inch lifts for aeration in two 40,000 square foot cells (total land farm size 80,000 square feet), and disked at least once every 14 days. When the soils are remediated, they may be removed for construction use on the base or left in place and covered with a new lift of contaminated soils. Ground water below the site is at a depth of approximately 23 feet and has a total dissolved solids concentration of approximately 23,600 milligrams per liter (mg/L).

Temporary permission to discharge is hereby granted pursuant to Section 20.6.2.3106 NMAC for the above referenced discharge until December 20, 2003.

This approval is contingent on your discharging as described in your discharge permit application dated July 16, 2003 and the following conditions.

ATTACHMENT #8 P 2 of 2

General Hunt, DP-1446
August 22, 2003
Page 2

CONDITIONS FOR APPROVAL

1. Holloman Air Force Base shall segregate wastes containing different contaminants for remediation in separate cells.

2. Holloman Air Force Base shall remediate soils to the residential screening levels in accordance with the *Mexico Environment Department TPH Screening Guidelines* (copy enclosed).

3. Holloman Air Force Base shall submit to NMED analytical results of the baseline soil sampling that was performed at the landfarm within 60 days of the date of this letter.

4. Holloman Air Force Base shall perform baseline ground water sampling in monitoring wells 31-MW-10, LM-1, LM-2, LM-3 and LM-4. Ground water samples shall be analyzed for volatile organic compounds using EPA Method 8260, semi-volatile organic compounds using EPA Method 8270, and total dissolved solids. Analytical results shall be submitted to NMED within 60 days of the date of this letter.

This approval does not relieve you of your responsibility to comply with any other applicable federal, state, and/or local laws and regulations, such as zoning requirements and nuisance ordinances. Also this approval does not relieve you of liability should your operation result in actual pollution of surface or ground waters.

If you have any questions, please contact Karen Menetrey of the Ground Water Pollution Prevention Section at the above address or (505) 827-2936.

Sincerely,

Mama Fleming for J. Schoeppner

Jerry Schoeppner, Chief
Ground Water Quality Bureau

JS:KM

Enclosure: New Mexico Environment Department TPH Screening Guidelines

cc: Kenneth Smith, District Manager, NMED Dist. 3
Jerry Pelfry, Bhate Environmental Associates, 220 Eglin Parkway SE
Fort Walton Beach, FL 32548

LANDFARM
SOIL MANIFEST TRACKING SHEET (Soil from SS-17, BX Service Station)

	Manifest #	Date	Time	Truck #	CY of Soil	Holding Berm	Placement Date	Landfarm Cell Location	Placement Date	Removal Date	
1	H0001	25-Aug-03	901	214	20.0	n/a	n/a	Cell A	25-Aug-03	5-Sep-03	
2	H0002	25-Aug-03	925	84	20.0	n/a	n/a	Cell A	25-Aug-03	5-Sep-03	
3	H0003	25-Aug-03	956	205	20.0	n/a	n/a	Cell A	25-Aug-03	5-Sep-03	
4	H0004	25-Aug-03	1046	206	20.0	n/a	n/a	Cell A	25-Aug-03	5-Sep-03	
5	H0005	26-Aug-03	1015	84	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
6	H0006	26-Aug-03	1105	214	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
7	H0007	26-Aug-03	1130	206	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
8	H0008	26-Aug-03	1158	205	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
9	H0009	26-Aug-03	1220	206	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
10	H0010	26-Aug-03	1251	214	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
11	H0011	26-Aug-03	1315	84	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
12	H0012	26-Aug-03	1340	205	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
13	H0013	26-Aug-03	1357	206	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
14	H0014	26-Aug-03	1440	214	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
15	H0015	26-Aug-03	1410	84	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
16	H0016	26-Aug-03	1501	206	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
17	H0017	26-Aug-03	1515	214	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
18	H0018	26-Aug-03	1540	84	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
19	H0019	26-Aug-03	1558	206	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
20	H0020	26-Aug-03	1605	214	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
21	H0021	26-Aug-03	1608	84	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
22	H0022	26-Aug-03	1623	206	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
23	H0023	26-Aug-03	1625	214	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
24	H0024	26-Aug-03	1635	84	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
25	H0025	26-Aug-03	1645	206	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
26	H0026	26-Aug-03	1655	84	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
27	H0027	26-Aug-03	1700	214	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
28	H0028	26-Aug-03	1708	206	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
29	H0029	26-Aug-03	1712	205	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
30	H0030	26-Aug-03	1720	84	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
31	H0031	26-Aug-03	1725	214	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
32	H0032	26-Aug-03	1735	206	20.0	n/a	n/a	Cell A	26-Aug-03	5-Sep-03	
33	H0033	27-Aug-03	835	206	20.0	n/a	n/a	Cell A	27-Aug-03	5-Sep-03	
34	H0034	27-Aug-03	838	84	20.0	n/a	n/a	Cell A	27-Aug-03	5-Sep-03	
35	H0035	27-Aug-03	845	214	20.0	n/a	n/a	Cell A	27-Aug-03	5-Sep-03	
36	H0036	27-Aug-03	1025	205	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
37	H0037	27-Aug-03	1045	206	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
38	H0038	27-Aug-03	1055	84	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
39	H0039	27-Aug-03	1105	214	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
40	H0040	27-Aug-03	930	205	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
41	H0041	27-Aug-03	945	206	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
42	H0042	27-Aug-03	1000	84	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
43	H0043	27-Aug-03	1010	214	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
44	H0044	27-Aug-03	852	205	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
45	H0045	27-Aug-03	910	206	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
46	H0046	27-Aug-03	918	84	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
47	H0047	27-Aug-03	1115	214	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
48	H0048	27-Aug-03	1118	205	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
49	H0049	27-Aug-03	1140	206	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
50	H0050	27-Aug-03	1148	84	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
51	H0051	27-Aug-03	1200	214	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
52	H0052	27-Aug-03	1210	205	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
53	H0053	27-Aug-03	1225	206	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
54	H0054	27-Aug-03	1301	84	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
55	H0055	27-Aug-03	1245	214	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
56	H0056	27-Aug-03	1315	205	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
57	H0057	27-Aug-03	1320	206	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
58	H0058	27-Aug-03	1335	84	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
59	H0059	27-Aug-03	1400	214	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
60	H0060	27-Aug-03	1415	205	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
61	H0061	27-Aug-03	1430	206	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
62	H0062	27-Aug-03	1445	84	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
63	H0063	27-Aug-03	1500	214	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
64	H0064	27-Aug-03	1508	205	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
65	H0065	27-Aug-03	1522	206	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
66	H0066	27-Aug-03	1528	84	20.0	n/a	n/a	Cell B	27-Aug-03	6-Sep-03	
67	H0067	28-Aug-03	1105	206	20.0	n/a	n/a	Cell B	28-Aug-03	6-Sep-03	
68	H0068	28-Aug-03	1110	84	20.0	n/a	n/a	Cell B	28-Aug-03	6-Sep-03	
69	H0069	28-Aug-03	1120	214	20.0	n/a	n/a	Cell B	28-Aug-03	6-Sep-03	1380.0
70	H0070	28-Aug-03	1128	205	20.0	Berm 1	28-Aug-03	Cell A	6-Sep-03	10-Sep-03	
71	H0071	28-Aug-03	1135	206	20.0	Berm 1	28-Aug-03	Cell A	6-Sep-03	10-Sep-03	
72	H0072	28-Aug-03	1138	84	20.0	Berm 1	28-Aug-03	Cell A	6-Sep-03	10-Sep-03	
73	H0073	28-Aug-03	1150	214	20.0	Berm 1	28-Aug-03	Cell A	6-Sep-03	10-Sep-03	
74	H0074	28-Aug-03	1155	205	20.0	Berm 1	28-Aug-03	Cell A	6-Sep-03	10-Sep-03	
75	H0075	28-Aug-03	1200	206	20.0	Berm 1	28-Aug-03	Cell A	6-Sep-03	10-Sep-03	
76	H0076	28-Aug-03	1203	84	20.0	Berm 1	28-Aug-03	Cell A	6-Sep-03	10-Sep-03	
77	H0077	29-Aug-03	928	214	20.0	Berm 1	29-Aug-03	Cell A	6-Sep-03	10-Sep-03	

ATTACHMENT #9 1 OF 5

ATTACHMENT #5 2 of 5

LANDFARM
SOIL MANIFEST TRACKING SHEET (Soil from SS-17, BX Service Station)

	Manifest #	Date	Time	Truck #	CY of Soil	Holding Berm	Placement Date	Landfarm Cell Location	Placement Date	Removal Date		
78	H0078	29-Aug-03	931	84	20.0	Berm 1	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
79	H0079	29-Aug-03	936	206	20.0	Berm 1	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
80	H0080	29-Aug-03	945	205	20.0	Berm 1	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
81	H0081	29-Aug-03	1013	214	20.0	Berm 1	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
82	H0082	29-Aug-03	1015	84	20.0	Berm 1	29-Aug-03	Cell A	6-Sep-03	10-Sep-03	260.0	
83	H0083	29-Aug-03	1020	206	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
84	H0084	29-Aug-03	1025	205	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
85	H0085	29-Aug-03	1040	214	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
86	H0086	29-Aug-03	1043	84	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
87	H0087	29-Aug-03	1046	206	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
88	H0088	29-Aug-03	1055	205	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
89	H0089	29-Aug-03	1105	214	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
90	H0090	29-Aug-03	1109	84	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
91	H0091	29-Aug-03	1115	206	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
92	H0092	29-Aug-03	1120	205	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
93	H0093	29-Aug-03	1132	214	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
94	H0094	29-Aug-03	1135	84	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
95	H0095	29-Aug-03	1145	206	20.0	Berm 2	29-Aug-03	Cell A	6-Sep-03	10-Sep-03	260.0	
96	H0096	29-Aug-03	1150	205	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
97	H0097	29-Aug-03	1204	214	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
98	H0098	29-Aug-03	1205	84	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
99	H0099	29-Aug-03	1210	206	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
100	H0100	29-Aug-03	1217	205	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
101	H0101	29-Aug-03	1230	214	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
102	H0102	29-Aug-03	1240	206	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
103	H0103	29-Aug-03	1310	205	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
104	H0104	29-Aug-03	1315	214	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
105	H0105	29-Aug-03	1320	206	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
106	H0106	29-Aug-03	1332	84	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
107	H0107	29-Aug-03	1342	205	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
108	H0108	29-Aug-03	1350	214	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03		
109	H0109	29-Aug-03	1355	206	20.0	Berm 3	29-Aug-03	Cell A	6-Sep-03	10-Sep-03	280.0	
110	H0110	2-Sep-03	900	84	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
111	H0111	2-Sep-03	905	206	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
112	H0112	2-Sep-03	910	214	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
113	H0113	2-Sep-03	935	214	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
114	H0114	2-Sep-03	940	206	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
115	H0115	2-Sep-03	947	84	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
116	H0116	2-Sep-03	1005	214	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
117	H0117	2-Sep-03	1005	206	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
118	H0118	2-Sep-03	1012	84	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
119	H0119	2-Sep-03	1035	214	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
120	H0120	2-Sep-03	1044	206	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
121	H0121	2-Sep-03	1047	84	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
122	H0122	2-Sep-03	1050	84	20.0	Berm 4	2-Sep-03	Cell B	7-Sep-03	10-Sep-03	260.0	
123	H0123	2-Sep-03	1055	205	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
124	H0124	2-Sep-03	1108	214	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
125	H0125	2-Sep-03	1110	206	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
126	H0126	2-Sep-03	1116	84	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
127	H0127	2-Sep-03	1135	214	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
128	H0128	2-Sep-03	1143	206	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
129	H0129	2-Sep-03	1146	84	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
130	H0130	2-Sep-03	1234	214	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
131	H0131	2-Sep-03	1234	84	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
132	H0132	2-Sep-03	1243	210	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
133	H0133	2-Sep-03	1300	214	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
134	H0134	2-Sep-03	1305	84	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
135	H0135	2-Sep-03	1315	205	20.0	Berm 5	2-Sep-03	Cell B	7-Sep-03	10-Sep-03	260.0	
136	H0136	2-Sep-03	1320	210	20.0	Berm 6	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
137	H0137	2-Sep-03	1325	214	20.0	Berm 6	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
138	H0138	2-Sep-03	1330	84	20.0	Berm 6	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
139	H0139	2-Sep-03	1340	205	20.0	Berm 6	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
140	H0140	2-Sep-03	1347	210	20.0	Berm 6	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
141	H0141	2-Sep-03	1356	214	20.0	Berm 6	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
142	H0142	2-Sep-03	1400	84	20.0	Berm 6	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
143	H0143	2-Sep-03	1405	205	20.0	Berm 6	2-Sep-03	Cell B	7-Sep-03	10-Sep-03		
144	H0144	3-Sep-03	900	210	20.0	Berm 6	3-Sep-03	Cell B	7-Sep-03	10-Sep-03		
145	H0145	3-Sep-03	907	214	20.0	Berm 6	3-Sep-03	Cell B	7-Sep-03	10-Sep-03		
146	H0146	3-Sep-03	908	84	20.0	Berm 6	3-Sep-03	Cell B	7-Sep-03	10-Sep-03		
147	H0147	3-Sep-03	915	205	20.0	Berm 6	3-Sep-03	Cell B	7-Sep-03	10-Sep-03		
148	H0148	3-Sep-03	930	210	20.0	Berm 6	3-Sep-03	Cell B	7-Sep-03	10-Sep-03	260.0	**1580**
149	H0149	3-Sep-03	933	214	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03		
150	H0150	3-Sep-03	937	84	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03		
151	H0151	3-Sep-03	942	205	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03		
152	H0152	3-Sep-03	955	210	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03		
153	H0153	3-Sep-03	1000	214	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03		
154	H0154	3-Sep-03	1004	84	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03		

LANDFARM
SOIL MANIFEST TRACKING SHEET (Soil from SS-17, BX Service Station)

ATTACHMENT A9 3 of 5

	Manifest #	Date	Time	Truck #	CY of Soil	Holding Berm	Placement Date	Landfarm Cell Location	Placement Date	Removal Date	
155	H0155	3-Sep-03	1010	205	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
156	H0156	3-Sep-03	1020	210	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
157	H0157	3-Sep-03	1027	214	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
158	H0158	3-Sep-03	1031	84	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
159	H0159	3-Sep-03	1035	205	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
160	H0160	3-Sep-03	1040	210	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
161	H0161	3-Sep-03	1052	84	20.0	Berm 7	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	260.0
162	H0162	3-Sep-03	1055	214	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
163	H0163	3-Sep-03	1059	205	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
164	H0164	3-Sep-03	1103	210	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
165	H0165	3-Sep-03	1117	84	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
166	H0166	3-Sep-03	1135	214	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
167	H0167	3-Sep-03	1140	205	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
168	H0168	3-Sep-03	1145	210	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
169	H0169	3-Sep-03	1150	84	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
170	H0170	3-Sep-03	1247	205	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
171	H0171	3-Sep-03	1250	210	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
172	H0172	3-Sep-03	1255	214	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
173	H0173	3-Sep-03	1300	84	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
174	H0174	3-Sep-03	1311	205	20.0	Berm 8	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	260.0
175	H0175	3-Sep-03	1310	210	20.0	Berm 9	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
176	H0176	3-Sep-03	1320	214	20.0	Berm 9	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
177	H0177	3-Sep-03	1323	84	20.0	Berm 9	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
178	H0178	3-Sep-03	1340	205	20.0	Berm 9	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
179	H0179	3-Sep-03	1345	210	20.0	Berm 9	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
180	H0180	3-Sep-03	1350	214	20.0	Berm 9	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
181	H0181	3-Sep-03	1405	205	20.0	Berm 9	3-Sep-03	Cell A	10-Sep-03	16-Sep-03	
182	H0182	4-Sep-03	835	206	20.0	Berm 9	4-Sep-03	Cell A	10-Sep-03	16-Sep-03	
183	H0183	4-Sep-03	840	214	20.0	Berm 9	4-Sep-03	Cell A	10-Sep-03	16-Sep-03	
184	H0184	4-Sep-03	855	84	20.0	Berm 9	4-Sep-03	Cell A	10-Sep-03	16-Sep-03	
185	H0185	4-Sep-03	900	205	20.0	Berm 9	4-Sep-03	Cell A	10-Sep-03	16-Sep-03	
186	H0186	4-Sep-03	905	206	20.0	Berm 9	4-Sep-03	Cell A	10-Sep-03	16-Sep-03	
187	H0187	4-Sep-03	910	214	20.0	Berm 9	4-Sep-03	Cell A	10-Sep-03	16-Sep-03	260 0
188	H0188	4-Sep-03	917	84	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
189	H0189	4-Sep-03	924	205	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
190	H0190	4-Sep-03	929	206	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
191	H0191	4-Sep-03	936	214	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
192	H0192	4-Sep-03	941	84	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
193	H0193	4-Sep-03	950	205	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
194	H0194	4-Sep-03	954	206	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
195	H0195	4-Sep-03	1000	214	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
196	H0196	4-Sep-03	1003	84	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
197	H0197	4-Sep-03	1012	205	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
198	H0198	4-Sep-03	1015	206	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
199	H0199	4-Sep-03	1023	214	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	
200	H0200	4-Sep-03	1027	84	20.0	Berm 10	4-Sep-03	Cells A/B	10-Sep-03	17-Sep-03	260 0
201	H0201	4-Sep-03	1035	205	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
202	H0202	4-Sep-03	1036	206	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
203	H0203	4-Sep-03	1055	214	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
204	H0204	4-Sep-03	1108	84	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
205	H0205	4-Sep-03	1115	205	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
206	H0206	4-Sep-03	1120	206	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
207	H0207	4-Sep-03	1128	214	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
208	H0208	4-Sep-03	1132	84	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
209	H0209	4-Sep-03	1139	205	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
210	H0210	4-Sep-03	1158	84	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
211	H0211	4-Sep-03	1204	214	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
212	H0212	4-Sep-03	1205	205	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
213	H0213	4-Sep-03	1255	84	20.0	Berm 11	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	260.0
214	H0214	4-Sep-03	1300	206	20.0	Berm 12	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
215	H0215	4-Sep-03	1312	214	20.0	Berm 12	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
216	H0216	4-Sep-03	1322	205	20.0	Berm 12	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
217	H0217	4-Sep-03	1325	206	20.0	Berm 12	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
218	H0218	4-Sep-03	1340	214	20.0	Berm 12	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
219	H0219	4-Sep-03	1345	205	20.0	Berm 12	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
220	H0220	4-Sep-03	1345	206	20.0	Berm 12	4-Sep-03	Cell B	10-Sep-03	17-Sep-03	
221	H0221	5-Sep-03	912	214	20.0	Berm 12	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	
222	H0222	5-Sep-03	916	206	20.0	Berm 12	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	
223	H0223	5-Sep-03	925	84	20.0	Berm 12	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	
224	H0224	5-Sep-03	934	205	20.0	Berm 12	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	
225	H0225	5-Sep-03	945	206	20.0	Berm 12	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	
226	H0226	5-Sep-03	949	84	20.0	Berm 12	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	260.0
227	H0227	5-Sep-03	1130	206	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	
228	H0228	5-Sep-03	1150	214	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	
229	H0229	5-Sep-03	1211	84	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	
230	H0230	5-Sep-03	1250	205	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	
231	H0231	5-Sep-03	1258	84	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	

LANDFARM

SOIL MANIFEST TRACKING SHEET (Soil from SS-17, BX Service Station)

	Manifest #	Date	Time	Truck #	CY of Soil	Holding Berm	Placement Date	Landfarm Cell Location	Placement Date	Removal Date		
232	H0232	5-Sep-03	1307	214	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03		
233	H0233	5-Sep-03	1310	206	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03		
234	H0234	5-Sep-03	1325	205	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03		
235	H0235	5-Sep-03	1332	84	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03		
236	H0236	5-Sep-03	1338	214	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03		
237	H0237	5-Sep-03	1345	206	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03		
238	H0238	5-Sep-03	1354	205	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03		
239	H0239	5-Sep-03	1358	84	20.0	Berm 13	5-Sep-03	Cell B	10-Sep-03	17-Sep-03	260.0	1820
240	H0240	5-Sep-03	1405	214	20.0	Berm 14	5-Sep-03	Cell A	16-Sep-03	22-Sep-03		
241	H0241	5-Sep-03	1520	84	20.0	Berm 14	5-Sep-03	Cell A	16-Sep-03	22-Sep-03		
242	H0242	5-Sep-03	1605	84	20.0	Berm 14	5-Sep-03	Cell A	16-Sep-03	22-Sep-03		
243	H0243	5-Sep-03	1635	84	20.0	Berm 14	5-Sep-03	Cell A	16-Sep-03	22-Sep-03		
244	H0244	8-Sep-03	900	214	18.0	Berm 14	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
245	H0245	8-Sep-03	900	216	18.0	Berm 14	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
246	H0246	8-Sep-03	905	84	18.0	Berm 14	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
247	H0247	8-Sep-03	908	205	18.0	Berm 14	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
248	H0248	8-Sep-03	925	214	18.0	Berm 14	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
249	H0249	8-Sep-03	932	216	18.0	Berm 14	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
250	H0250	8-Sep-03	935	84	18.0	Berm 14	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
251	H0251	8-Sep-03	938	205	18.0	Berm 14	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
252	H0252	8-Sep-03	953	214	18.0	Berm 14	8-Sep-03	Cell A	16-Sep-03	22-Sep-03	242.0	
253	H0253	8-Sep-03	1005	84	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
254	H0254	8-Sep-03	1010	205	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
255	H0255	8-Sep-03	1017	214	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
256	H0256	8-Sep-03	1021	216	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
257	H0257	8-Sep-03	1023	84	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
258	H0258	8-Sep-03	1036	205	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
259	H0259	8-Sep-03	1040	214	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
260	H0260	8-Sep-03	1045	216	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
261	H0261	8-Sep-03	1050	84	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
262	H0262	8-Sep-03	1101	205	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
263	H0263	8-Sep-03	1108	214	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
264	H0264	8-Sep-03	1112	216	18.0	Berm 15	8-Sep-03	Cell A	16-Sep-03	22-Sep-03	216.0	
265	H0265	8-Sep-03	1117	84	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
266	H0266	8-Sep-03	1127	205	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
267	H0267	8-Sep-03	1132	214	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
268	H0268	8-Sep-03	1135	216	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
269	H0269	8-Sep-03	1142	84	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
270	H0270	8-Sep-03	1230	205	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
271	H0271	8-Sep-03	1235	214	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
272	H0272	8-Sep-03	1238	216	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
273	H0273	8-Sep-03	1240	84	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
274	H0274	8-Sep-03	1252	205	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
275	H0275	8-Sep-03	1253	214	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
276	H0276	8-Sep-03	1302	216	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03		
277	H0277	8-Sep-03	1305	84	18.0	Berm 16	8-Sep-03	Cell A	16-Sep-03	22-Sep-03	234.0	
278	H0278	8-Sep-03	1314	205	18.0	Berm 17	8-Sep-03	Cell B	17-Sep-03	22-Sep-03		
279	H0279	8-Sep-03	1320	214	18.0	Berm 17	8-Sep-03	Cell B	17-Sep-03	22-Sep-03		
280	H0280	8-Sep-03	1325	216	18.0	Berm 17	8-Sep-03	Cell B	17-Sep-03	22-Sep-03		
281	H0281	8-Sep-03	1330	84	18.0	Berm 17	8-Sep-03	Cell B	17-Sep-03	22-Sep-03		
282	H0282	8-Sep-03	1335	205	18.0	Berm 17	8-Sep-03	Cell B	17-Sep-03	22-Sep-03		
283	H0283	8-Sep-03	1343	214	18.0	Berm 17	8-Sep-03	Cell B	17-Sep-03	22-Sep-03		
284	H0284	8-Sep-03	1346	216	18.0	Berm 17	8-Sep-03	Cell B	17-Sep-03	22-Sep-03		
285	H0285	8-Sep-03	1353	84	18.0	Berm 17	8-Sep-03	Cell B	17-Sep-03	22-Sep-03		
286	H0286	8-Sep-03	1400	205	18.0	Berm 17	8-Sep-03	Cell B	17-Sep-03	22-Sep-03		
287	H0287	9-Sep-03	850	84	18.0	Berm 17	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
288	H0288	9-Sep-03	950	214	18.0	Berm 17	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
289	H0289	9-Sep-03	900	211	18.0	Berm 17	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
290	H0290	9-Sep-03	910	205	18.0	Berm 17	9-Sep-03	Cell B	17-Sep-03	22-Sep-03	234.0	
291	H0291	9-Sep-03	920	84	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
292	H0292	9-Sep-03	925	214	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
293	H0293	9-Sep-03	927	211	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
294	H0294	9-Sep-03	940	205	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
295	H0295	9-Sep-03	943	84	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
296	H0296	9-Sep-03	945	214	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
297	H0297	9-Sep-03	950	211	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
298	H0298	9-Sep-03	1002	205	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
299	H0299	9-Sep-03	1008	84	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
300	H0300	9-Sep-03	1012	214	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
301	H0301	9-Sep-03	1018	211	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
302	H0302	9-Sep-03	1026	205	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
303	H0303	9-Sep-03	1031	84	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
304	H0304	9-Sep-03	1037	214	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
305	H0305	9-Sep-03	1042	211	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
306	H0306	9-Sep-03	1050	205	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
307	H0307	9-Sep-03	1055	84	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
308	H0308	9-Sep-03	1059	214	18.0	Berm 18	9-Sep-03	Cell B	17-Sep-03	22-Sep-03	324.0	

ATTACHMENT #6 4 of 5

LANDFARM
SOIL MANIFEST TRACKING SHEET (Soil from SS-17, BX Service Station)

	Manifest #	Date	Time	Truck #	CY of Soil	Holding Berm	Placement Date	Landfarm Cell Location	Placement Date	Removal Date		
309	H0309	9-Sep-03	1102	211	14.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
310	H0310	9-Sep-03	1115	205	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
311	H0311	9-Sep-03	1118	84	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
312	H0312	9-Sep-03	1125	214	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
313	H0313	9-Sep-03	1130	211	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
314	H0314	9-Sep-03	1142	205	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
315	H0315	9-Sep-03	1145	84	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
316	H0316	9-Sep-03	1153	214	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
317	H0317	9-Sep-03	1157	211	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
318	H0318	9-Sep-03	1253	84	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
319	H0319	9-Sep-03	1300	214	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
320	H0320	9-Sep-03	1304	211	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
321	H0321	9-Sep-03	1308	205	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
322	H0322	9-Sep-03	1315	84	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
323	H0323	9-Sep-03	1325	211	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
324	H0324	9-Sep-03	1332	205	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
325	H0325	9-Sep-03	1336	84	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03		
326	H0326	9-Sep-03	1350	211	18.0	Berm 19	9-Sep-03	Cell B	17-Sep-03	22-Sep-03	320.0	**1570**
327	H0327	12-Sep-03	913	84	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
328	H0328	12-Sep-03	915	214	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
329	H0329	12-Sep-03	920	211	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
330	H0330	12-Sep-03	926	205	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
331	H0331	12-Sep-03	936	84	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
332	H0332	12-Sep-03	940	214	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
333	H0333	12-Sep-03	945	211	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
334	H0334	12-Sep-03	955	205	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
335	H0335	12-Sep-03	958	84	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
336	H0336	12-Sep-03	1005	214	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
337	H0337	12-Sep-03	1010	211	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
338	H0338	12-Sep-03	1021	205	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
339	H0339	12-Sep-03	1024	84	18.0	Berm 20	12-Sep-03	Cell A	23-Sep-03	28-Oct-03	234.0	
340	H0340	12-Sep-03	1025	214	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
341	H0341	12-Sep-03	1034	211	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
342	H0342	12-Sep-03	1044	205	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
343	H0343	12-Sep-03	1050	84	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
344	H0344	12-Sep-03	1055	214	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
345	H0345	12-Sep-03	1100	211	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
346	H0346	12-Sep-03	1109	205	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
347	H0347	12-Sep-03	1117	84	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
348	H0348	12-Sep-03	1125	214	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
349	H0349	12-Sep-03	1130	211	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
350	H0350	12-Sep-03	1136	205	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
351	H0351	12-Sep-03	1143	84	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
352	H0352	12-Sep-03	1156	214	18.0	Berm 21	12-Sep-03	Cell A	23-Sep-03	28-Oct-03	234.0	
353	H0353	12-Sep-03	1158	211	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
354	H0354	12-Sep-03	1238	205	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
355	H0355	12-Sep-03	1241	84	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
356	H0356	12-Sep-03	1250	214	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
357	H0357	12-Sep-03	1255	211	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
358	H0358	12-Sep-03	1303	205	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
359	H0359	12-Sep-03	1305	84	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
360	H0360	12-Sep-03	1310	214	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
361	H0361	12-Sep-03	1315	211	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
362	H0362	12-Sep-03	1324	205	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03		
363	H0363	12-Sep-03	1338	84	18.0	Berm 22	12-Sep-03	Cell A	23-Sep-03	28-Oct-03	198.0	**666**
	Totals				**7016.0**							

ATTACHMENT #5 5 OF 5

Soil Treatment Sampling Locations and Landfarm Pre-Treatment Data from SS-17 (BX)

HYDROCARBON CONTAMINATED SOIL PLACEMENT

Petroleum Hydrocarbons in Soil Before Treatment

Lift 1 **Approx. 1: 380 yds**

Installed: 8/25-8/28
Sampled: 9/2
Removed A&B: 9/5-9/6

Total retention time: 268 Hrs
Total tilling time: 27 Hrs
Water added: None

A	B

Lift 2 **Approx. 1357 yds**

Installed A: 9/6
Installed B: 9/7
Sampled: 9/9
Removed: 9/10

Total retention time: 96 Hrs
Total tilling time: 24 hrs
Water added: None

A	B
Berm 1 G-934 D-186 O-<100	Berm 4 G-84 D-16 O-<5
Berm 2 G-490 D-70 O-<100	Berm 5 G-135 D-28 O-5
Berm 3 G-362 D-58 O-<50	Berm 6 G-490 D-87 O-<100

Lift 3 **Approx. 1431 yds**

Installed: 9/10
Sampled: 9/15
Removed: 9/16-9/17

Total retention time: 168 Hrs
Total tilling time:
Water added: None

A		B
Berm 7 G-93 D-49 O-<5		Berm 11 G-107 D-11.6 O-<5
Berm 8 G-39 D-12 O-<5	Berm 10 G-47 D-4.6 O-<5	Berm 12 G-175 D-35 O-<5
Berm 9 G-1,226 D-105 O-<250		Berm 13 G-206 D-36 O-<5

Lift 4 **Approx. 1404 yds**

Installed A: 9/16
Installed B: 9/17
Sampled: 9/22
Removed: 9/22

Total retention time:
Total tilling time:
Water added: None

Berm 24 consists of spoils from previous berm removals.

A		B
Berm 14 G-<3 D-<3 O-<5		Berm 17 G-37 D-5.8 O-15
Berm 15 G-73 D-10 O-19	Berm 24 G-133 D-9.3 O-5.9	Berm 18 G-23 D-3.7 O-<5
Berm 16 G-45 D-7 O-<5		Berm 19 G-899 D-38 O-<100

Lift 5 **Approx. 1444 yds**

Installed: 9/23
Sampled: 9/29
Removed: ??

Total retention time:
Total tilling time:
Water added: None

Berms 23, 25, 26 and 27 consist of spoils from previous berm removals.

A		B
Berm 20 G-152 D-58 O-<5		Berm 23 G-1,331 D-151 O-<100
Berm 21 G-2,744 D-350 O-<250	Berm 27 G- D- O-	Berm 25 G-46 D-38 O-12
Berm 22 G-655 D-110 O-<100		Berm 26 G- D- O-

RANDOM SAMPLING LOCATIONS

Landfarm Treatment Sample Locations

A		B	
A1	A8	B1	B8
A2	A9	B2	B9
A3	A10	B3	A10
A4	A11	B4	B11
A5	A12	B5	B12
A6	A13	B6	B13
A7	A14	B7	B14

A		B	
A1	A2	B1	B2
A3	A4	B3	B4
A5	A6	B5	A6
A7	A8	B7	B8
A9	A10	B9	B10
A11	A12	B11	B12
A13	A14	B13	B14

A		B	
A1	A2	B1	B2
A3	A4	B3	B4
A5	A6	B5	A6
A7	A8	B7	B8
A9	A10	B9	B10
A11	A12	B11	B12
A13	A14	B13	B14

A		B	
A1	A2	B1	B2
A3	A4	B3	B4
A5	A6	B5	A6
A7	A8	B7	B8
A9	A10	B9	B10
A11	A12	B11	B12
A13	A14	B13	B14

A		B	
A1	A2	B1	B2
A3	A4	B3	B4
A5	A6	B5	A6
A7	A8	B7	B8
A9	A10	B9	B10
A11	A12	B11	B12
A13	A14	B13	B14

ATTACHMENT #10

Soil Analytical Results for Landfarm Treatment Samples LR#116299
Date Sampled: September 2, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	LF-01-A3	LF-01-A8	LF-01-B8	LF-01-A5	LF-01-B6	LF-01-A7	LF-01-B10	Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	49,045	190,342	142,465	73,568	42,039	19,852	22,187	NA	NA
C10 - C22	46,710	50,213	130,787	58,387	30,361	10,510	25,690		
C22 - C32	51,381	7,006	23,355	36,200	9,342	17,516	36,200		
Total (C10 - C32)	98,090	57,219	154,142	94,587	39,703	28,026	61,890	893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	<5	81	7,170	<5	15	<5	<5	5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	242	447	5,161	273	121	<5	41	2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<5	<5	<5	<5	<5	<5	<5	1.92E+06	7.00E+06*
Acetone	<5	<5	<5	<5	<5	<5	<5	2.84E+06	1.35E+07
Benzene	<5	<5	<5	<5	<5	<5	<5	1.12E+04	2.45E+04
Ethylbenzene	<5	<5	11.2	<5	<5	<5	<5	8.66E+04*	8.66E+04*
Isopropylbenzene	<5	5.5 J	35	<5	<5	<5	<5	2.65E+05	3.69E+05*
Methacrylonitrile	<5	<5	<5	<5	<5	<5	<5	3.41E+03	1.79E+04
MTBE	<5	<5	<5	<5	<5	<5	<5	3.34E+05	1.13E+06
Naphthalene	8.9	64	2,733 (827)	28	11	7.5	5.4 J	6.12E+04*	6.12E+04*
Toluene	<5	<5	88	<5	<5	<5	<5	2.19E+05*	2.19E+05*
Xylenes, total	<5	<5	7,450	<5	2.8 J	<5	<5	8.12E+04*	8.12E+04*
n-Buthylbenzene	125	321	677	146	70	7.4	40	6.21E+04*	6.21E+04*
n-Propylbenzene	<5	5.1	12	<5	<5	<5	5.0 J	6.21E+04*	6.21E+04*
p-Isopropyltoluene	20	44	84	22	12	<5	<5	6.30E+04*	6.30E+04*
sec-Butylbenzene	<5	<5	<5	<5	<5	<5	<5	6.05E+04*	6.05E+04*
2-Methylnaphthalene	<333	437	1,378	<333	<333	<333	<333	1.71E+05*	1.71E+05*
Acenaphthene	<333	<333	<333	<333	<333	<333	<333	3.16E+04*	3.16E+04*
Anthracene	<333	<333	<333	<333	<333	<333	<333	1.56E+03*	1.56E+03*
Benzo(a)anthrene	<333	<333	<333	<333	<333	<333	<333	6.19E+03	2.10E+04*
Benzo(a)pyrene	<333	<333	<333	<333	<333	<333	<333	6.19E+02	2.10E+03
Benze(b)fluoranthene	<333	<333	<333	<333	<333	<333	<333	1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<333	<333	<333	<333	<333	<333	<333	4.54E+02*	4.54E+02*
Chrysene	<333	<333	<333	<333	<333	<333	<333	9.60E+02*	9.60E+02*
Dibenzofuran	<333	<333	<333	<333	<333	<333	<333	3.68E+04*	3.68E+04*
Diethylphthalate	<333	<333	<333	<333	<333	<333	<333	4.32E+05*	4.32E+05*
Fluoranthene	<333	<333	<333	<333	<333	<333	<333	1.49E+04*	1.49E+04*
Fluorene	<333	<333	<333	<333	<333	<333	<333	2.28E+04*	2.28E+04*
Phenanthrene	<333	<333	<333	<333	<333	<333	<333	2.10E+04*	2.10E+04*
Pyrene	<333	<333	<333	<333	<333	<333	<333	1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

Soil Analytical Results for Landfarm Treatment Samples LR#116299
Date Sampled: September 2, 2003
(Note: Concentrations are on Dry-Wt. Basis)

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Chemical	Samples							SSL (µg/kg)	
	LF-01-B12							Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	39,703							NA	NA
C10 - C22	28,026								
C22 - C32	19,852								
Total (C10 - C32)	47,877							893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	<5							5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	220							2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<5							1.92E+06	7.00E+06*
Acetone	<5							2.84E+06	1.35E+07
Benzene	<5							1.12E+04	2.45E+04
Ethylbenzene	<5							8.66E+04*	8.66E+04*
Isopropylbenzene	<5							2.65E+05	3.69E+05*
Methacrylonitrile	<5							3.41E+03	1.79E+04
MTBE	<5							3.34E+05	1.13E+06
Naphthalene	<5							6.12E+04*	6.12E+04*
Toluene	<5							2.19E+05*	2.19E+05*
Xylenes, total	<5							8.12E+04*	8.12E+04*
n-Buthylbenzene	140							6.21E+04*	6.21E+04*
n-Propylbenzene	<5							6.21E+04*	6.21E+04*
p-Isopropyltoluene	23							6.30E+04*	6.30E+04*
sec-Butylbenzene	<5							6.05E+04*	6.05E+04*
2-Methylnaphthalene	<333							1.71E+05*	1.71E+05*
Acenaphthene	<333							3.16E+04*	3.16E+04*
Anthracene	<333							1.56E+03*	1.56E+03*
Benzo(a)anthrene	<333							6.19E+03	2.10E+04*
Benzo(a)pyrene	<333							6.19E+02	2.10E+03
Benze(b)fluoranthene	<333							1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<333							4.54E+02*	4.54E+02*
Chrysene	<333							9.60E+02*	9.60E+02*
Dibenzofuran	<333							3.68E+04*	3.68E+04*
Diethylphthalate	<333							4.32E+05*	4.32E+05*
Fluoranthene	<333							1.49E+04*	1.49E+04*
Fluorene	<333							2.28E+04*	2.28E+04*
Phenanthrene	<333							2.10E+04*	2.10E+04*
Pyrene	<333							1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1+\frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

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Soil Analytical Results for Landfarm Treatment Samples (309061)
Date Sampled: September 10, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	LFA1	LFA5	LFA11	LFA13	LFB3	LFB8	LFB11	Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	NA	NA
C10 - C22	<100,000	186,839	128,452	<100,000	<100,000	<100,000	175,161		
C22 - C32	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000	<100,000		
Total (C10 - C32)	<100,000	245,226	186,839	<100,000	<100,000	<100,000	233,548	893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	105	210	2,686	70	<50	82	1,635	5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	631	887	2,335	490	105	362	1,285	2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<500	<500	<500	<500	<500	<500	<500	1.92E+06	7.00E+06*
Acetone	<500	<500	<500	<500	<500	<500	<500	2.84E+06	1.35E+07
Benzene	<50	<50	<50	<50	<50	<50	<50	1.12E+04	2.45E+04
Ethylbenzene	<50	<50	<50	<50	<50	<50	199	8.66E+04*	8.66E+04*
Isopropylbenzene	<50	<50	<50	<50	<50	<50	70	2.65E+05	3.69E+05*
Methacrylonitrile	NA	NA	NA	NA	NA	NA	NA	3.41E+03	1.79E+04
MTBE	<50	<50	<50	<50	<50	<50	<50	3.34E+05	1.13E+06
Naphthalene	175	561	2,219 (712)	934 (327)	<150	619 (175)	362	6.12E+04*	6.12E+04*
Toluene	<50	<50	<50	<50	<50	<50	<50	2.19E+05*	2.19E+05*
Xylenes, total	<50	128	1,518	105	<50	<50	771	8.12E+04*	8.12E+04*
n-Buthylbenzene	<50	<50	<50	<50	<50	<50	222	6.21E+04*	6.21E+04*
n-Propylbenzene	<50	<50	105	<50	<50	<50	292	6.21E+04*	6.21E+04*
p-Isopropyltoluene	<50	<50	82	<50	<50	<50	<50	6.30E+04*	6.30E+04*
sec-Butylbenzene	<50	<50	58	<50	<50	<50	<50	6.05E+04*	6.05E+04*
1-Methylnaphthalene	2,102	2,102	2,335	1,868	<250	1,752	1,635	1.01E+05*	1.01E+05*
2-Methylnaphthalene	969 (117)	3,036 (1.401)	4,671 (1,401)	3,270 (1,401)	<67	2,686 (864)	1,074 (339)	1.71E+05*	1.71E+05*
Acenaphthene	<67	<67	<67	<67	<67	<67	<67	3.16E+04*	3.16E+04*
Anthracene	<67	<67	<67	<67	<67	<67	<67	1.56E+03*	1.56E+03*
Benzo(a)anthrene	<67	<67	<67	<67	<67	<67	<67	6.19E+03	2.10E+04*
Benzo(a)pyrene	<67	<67	<67	<67	<67	<67	<67	6.19E+02	2.10E+03
Benze(b)fluoranthene	<67	<67	<67	<67	<67	<67	<67	1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<67	<67	<67	<67	<67	<67	<67	4.54E+02*	4.54E+02*
Bis(2-ethylhexyl)phthalate	<67	<67	<67	<67	<67	<67	<67	3.04E+05*	3.04E+05*
Chrysene	<67	<67	<67	<67	<67	<67	<67	9.60E+02*	9.60E+02*
Dibenzofuran	<67	<67	<67	<67	<67	<67	<67	3.68E+04*	3.68E+04*
Diethylphthalate	<67	<67	<67	<67	<67	<67	<67	4.32E+05*	4.32E+05*
Fluoranthene	<67	<67	<67	<67	<67	<67	<67	1.49E+04*	1.49E+04*
Fluorene	<67	<67	<67	<67	<67	<67	<67	2.28E+04*	2.28E+04*
N-Decane	<67	<67	<67	<67	<67	199	234		
Phenanthrene	<67	<67	<67	88	<67	<67	<67	2.10E+04*	2.10E+04*
Pyrene	<67	<67	<67	<67	<67	<67	<67	1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

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Soil Analytical Results for Landfarm TreatmentSamples (309061)
Date Sampled: September 10, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	LFB14							Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<100,000							NA	NA
C10 - C22	210,194								
C22 - C32	151,806								
Total (C10 - C32)	362,000							893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	6,306							5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	3,737							2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<500							1.92E+06	7.00E+06*
Acetone	<500							2.84E+06	1.35E+07
Benzene	<50							1.12E+04	2.45E+04
Ethylbenzene	<50							8.66E+04*	8.66E+04*
Isopropylbenzene	70							2.65E+05	3.69E+05*
Methacrylonitrile	NA							3.41E+03	1.79E+04
MTBE	<50							3.34E+05	1.13E+06
Naphthalene	3,270 (981)							6.12E+04*	6.12E+04*
Toluene	<50							2.19E+05*	2.19E+05*
Xylenes, total	3,854							8.12E+04*	8.12E+04*
n-Buthylbenzene	<50							6.21E+04*	6.21E+04*
n-Propylbenzene	117							6.21E+04*	6.21E+04*
p-Isopropyltoluene	117							6.30E+04*	6.30E+04*
sec-Butylbenzene	152							6.05E+04*	6.05E+04*
1-Methylnaphthalene	2,919							1.01E+05*	1.01E+05*
2-Methylnaphthalene	6,189 (1,985)							1.71E+05*	1.71E+05*
Acenaphthene	<67							3.16E+04*	3.16E+04*
Anthracene	<67							1.56E+03*	1.56E+03*
Benzo(a)anthrene	<67							6.19E+03	2.10E+04*
Benzo(a)pyrene	<67							6.19E+02	2.10E+03
Benze(b)fluoranthene	<67							1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<67							4.54E+02*	4.54E+02*
Bis(2-ethylhexyl)phthalate	<67							3.04E+05*	3.04E+05*
Chrysene	<67							9.60E+02*	9.60E+02*
Dibenzofuran	<67							3.68E+04*	3.68E+04*
Diethylphthalate	<67							4.32E+05*	4.32E+05*
Fluoranthene	<67							1.49E+04*	1.49E+04*
Fluorene	<67							2.28E+04*	2.28E+04*
N-Decane	432								
Phenanthrene	<67							2.10E+04*	2.10E+04*
Pyrene	<67							1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

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Soil Analytical Results for Landfarm Treament Samples (309083)
Date Sampled: September 15, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	LFA-1	LFA-6	LFA-11	LFA-14	LFB-2	LFB-6	LFB-11	Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	NA	NA
C10 - C22	<10,000	<10,000	17,516	22,187	<10,000	<10,000	11,677		
C22 - C32	14,013	57,219	<10,000	15,181	<10,000	<10,000	14,013		
Total (C10 - C32)	19,852	63,058	23,355	37,368	<10,000	<10,000	25,690	893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	<50	<50	<50	<50	<50	<50	70	5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	<50	<50	140	82	<50	<50	140	2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<500	<500	<500	<500	<500	<500	<500	1.92E+06	7.00E+06*
Acetone	<500	<500	<500	<500	<500	<500	<500	2.84E+06	1.35E+07
Benzene	<50	<50	<50	<50	<50	<50	<50	1.12E+04	2.45E+04
Ethylbenzene	<50	<50	<50	<50	<50	<50	<50	8.66E+04*	8.66E+04*
Isopropylbenzene	<50	<50	<50	<50	<50	<50	<50	2.65E+05	3.69E+05*
Methacrylonitrile	NA	NA	NA	NA	NA	NA	NA	3.41E+03	1.79E+04
MTBE	<50	<50	<50	<50	<50	<50	<50	3.34E+05	1.13E+06
Naphthalene	<150	<150	<150	<150	<150	<150	<150	6.12E+04*	6.12E+04*
Toluene	<50	<50	<50	<50	<50	<50	<50	2.19E+05*	2.19E+05*
Xylenes, total	<50	<50	58	<50	<50	<50	<50	8.12E+04*	8.12E+04*
n-Buthylbenzene	<50	<50	<50	<50	<50	<50	<50	6.21E+04*	6.21E+04*
n-Propylbenzene	<50	<50	<50	<50	<50	<50	<50	6.21E+04*	6.21E+04*
p-Isopropyltoluene	<50	<50	<50	<50	<50	<50	<50	6.30E+04*	6.30E+04*
sec-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	6.05E+04*	6.05E+04*
1-Methylnaphthalene	<250	<250	<250	<250	<250	<250	<250		
2-Methylnaphthalene	<67	<67	<67	<67	<67	<67	<67	1.71E+05*	1.71E+05*
Acenaphthene	<67	<67	<67	<67	<67	<67	<67	3.16E+04*	3.16E+04*
Anthracene	<67	<67	<67	<67	<67	<67	<67	1.56E+03*	1.56E+03*
Benzo(a)anthrene	<67	<67	<67	<67	<67	<67	<67	6.19E+03	2.10E+04*
Benzo(a)pyrene	<67	<67	<67	<67	<67	<67	<67	6.19E+02	2.10E+03
Benze(b)fluoranthene	<67	<67	<67	<67	<67	<67	<67	1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<67	<67	<67	<67	<67	<67	<67	4.54E+02*	4.54E+02*
Bis(2-ethylhexyl)phthalate	<67	<67	<67	<67	210	<67	<67		
Chrysene	<67	<67	<67	<67	<67	<67	<67	9.60E+02*	9.60E+02*
Dibenzofuran	<67	<67	<67	<67	<67	<67	<67	3.68E+04*	3.68E+04*
Diethylphthalate	<67	292	<67	152	<67	841	<67	4.32E+05*	4.32E+05*
Fluoranthene	<67	<67	<67	<67	<67	<67	<67	1.49E+04*	1.49E+04*
Fluorene	<67	<67	<67	<67	<67	<67	<67	2.28E+04*	2.28E+04*
N-Decane	<67	<67	<67	<67	<67	<67	92		
Phenanthrene	<67	<67	<67	<67	<67	<67	<67	2.10E+04*	2.10E+04*
Pyrene	<67	<67	<67	<67	<67	<67	<67	1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

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Soil Analytical Results for Landfarm Treament Samples (309083)
Date Sampled: September 15, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	LFB-13							Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<10,000							NA	NA
C10 - C22	102,761								
C22 - C32	<10,000								
Total (C10 - C32)	108,600							893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	199							5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	736							2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<500							1.92E+06	7.00E+06*
Acetone	<500							2.84E+06	1.35E+07
Benzene	<50							1.12E+04	2.45E+04
Ethylbenzene	<50							8.66E+04*	8.66E+04*
Isopropylbenzene	<50							2.65E+05	3.69E+05*
Methacrylonitrile	NA							3.41E+03	1.79E+04
MTBE	<50							3.34E+05	1.13E+06
Naphthalene	1,086 (490)							6.12E+04*	6.12E+04*
Toluene	<50							2.19E+05*	2.19E+05*
Xylenes, total	187							8.12E+04*	8.12E+04*
n-Buthylbenzene	<50							6.21E+04*	6.21E+04*
n-Propylbenzene	<50							6.21E+04*	6.21E+04*
p-Isopropyltoluene	<50							6.30E+04*	6.30E+04*
sec-Butylbenzene	<50							6.05E+04*	6.05E+04*
1-Methylnaphthalene	1,868							1.01E+05*	1.01E+05*
2-Methylnaphthalene	3,270 (1,868)							1.71E+05*	1.71E+05*
Acenaphthene	<67							3.16E+04*	3.16E+04*
Anthracene	<67							1.56E+03*	1.56E+03*
Benzo(a)anthrene	<67							6.19E+03	2.10E+04*
Benzo(a)pyrene	<67							6.19E+02	2.10E+03
Benze(b)fluoranthene	<67							1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<67							4.54E+02*	4.54E+02*
Bis(2-ethylhexyl)phthalate	99							3.04E+05*	3.04E+05*
Chrysene	<67							9.60E+02*	9.60E+02*
Dibenzofuran	<67							3.68E+04*	3.68E+04*
Diethylphthalate	<67							4.32E+05*	4.32E+05*
Fluoranthene	<67							1.49E+04*	1.49E+04*
Fluorene	<67							2.28E+04*	2.28E+04*
N-Decane	187								
Phenanthrene	128							2.10E+04*	2.10E+04*
Pyrene	<67							1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

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Soil Analytical Results for Landfarm Treatment Samples (309117)
Date Sampled: September 22, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	LFA-2	LFA-6	LFA-11	LFA-13				Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<10,000	<10,000	<10,000	<10,000				NA	NA
C10 - C22	<10,000	16,348	<10,000	<10,000					
C22 - C32	<10,000	68,897	31,529	45,542					
Total (C10 - C32)	<10,000	85,245	37,368	51,381				893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	<50	93	<50	<50				5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	<50	444	<50	<50				2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<500	<500	<500	<500				1.92E+06	7.00E+06*
Acetone	<500	<500	<500	<500				2.84E+06	1.35E+07
Benzene	<50	<50	<50	<50				1.12E+04	2.45E+04
Ethylbenzene	<50	<50	<50	<50				8.66E+04*	8.66E+04*
Isopropylbenzene	<50	<50	<50	<50				2.65E+05	3.69E+05*
Methacrylonitrile	NA	NA	NA	NA				3.41E+03	1.79E+04
MTBE	<50	<50	<50	<50				3.34E+05	1.13E+06
Naphthalene	<150	<150	<150	<150				6.12E+04*	6.12E+04*
Toluene	<50	<50	<50	<50				2.19E+05*	2.19E+05*
Xylenes, total	<50	<50	<50	<50				8.12E+04*	8.12E+04*
n-Buthylbenzene	<50	<50	<50	<50				6.21E+04*	6.21E+04*
n-Propylbenzene	<50	<50	<50	<50				6.21E+04*	6.21E+04*
p-Isopropyltoluene	<50	<50	<50	<50				6.30E+04*	6.30E+04*
sec-Butylbenzene	<50	<50	<50	<50				6.05E+04*	6.05E+04*
1-Methylnaphthalene	<250	<250	<250	<250				1.01E+05*	1.01E+05*
2-Methylnaphthalene	<67	<67	<67	<67				1.71E+05*	1.71E+05*
Acenaphthene	<67	<67	<67	<67				3.16E+04*	3.16E+04*
Anthracene	<67	<67	<67	<67				1.56E+03*	1.56E+03*
Benzo(a)anthrene	<67	<67	<67	<67				6.19E+03	2.10E+04*
Benzo(a)pyrene	<67	<67	<67	<67				6.19E+02	2.10E+03
Benze(b)fluoranthene	<67	<67	<67	<67				1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<67	<67	<67	<67				4.54E+02*	4.54E+02*
Bis(2-ethylhexyl)phthalate	<67	<67	<67	<67				3.04E+05*	3.04E+05*
Chrysene	<67	<67	<67	<67				9.60E+02*	9.60E+02*
Dibenzofuran	<67	<67	<67	<67				3.68E+04*	3.68E+04*
Diethylphthalate	<67	<67	<67	187				4.32E+05*	4.32E+05*
Fluoranthene	<67	<67	<67	<67				1.49E+04*	1.49E+04*
Fluorene	<67	<67	<67	<67				2.28E+04*	2.28E+04*
N-Decane	<67	<67	<67	<67					
Phenanthrene	<67	<67	<67	<67				2.10E+04*	2.10E+04*
Pyrene	<67	<67	<67	<67				1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

ATTACHMENT #11

Soil Analytical Results for Landfarm Treatment Samples (309132)
Date Sampled: September 22, 2003
(Note: Concentrations are on Wet-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	LFB-2	LFB-13	LFB-10	LFB-6				Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<10,000	<10,000	<10,000	<10,000				NA	NA
C10 - C22	15,181	<10,000	<10,000	<10,000					
C22 - C32	116,774	<10,000	31,529	57,219					
Total (C10 - C32)	131,955	<10,000	37,368	63,058				893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	<50	852	<50	<50				5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	<50	397	<50	<50				2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<500	<500	<500	<500				1.92E+06	7.00E+06*
Acetone	<500	<500	<500	<500				2.84E+06	1.35E+07
Benzene	<50	<50	<50	<50				1.12E+04	2.45E+04
Ethylbenzene	<50	82	<50	<50				8.66E+04*	8.66E+04*
Isopropylbenzene	<50	<50	<50	<50				2.65E+05	3.69E+05*
Methacrylonitrile	NA	NA	NA	NA				3.41E+03	1.79E+04
MTBE	<50	<50	<50	<50				3.34E+05	1.13E+06
Naphthalene	<150	292	<150	<150				6.12E+04*	6.12E+04*
Toluene	<50	<50	<50	<50				2.19E+05*	2.19E+05*
Xylenes, total	<50	222	<50	<50				8.12E+04*	8.12E+04*
n-Buthylbenzene	<50	<50	<50	<50				6.21E+04*	6.21E+04*
n-Propylbenzene	<50	128	<50	<50				6.21E+04*	6.21E+04*
p-Isopropyltoluene	<50	<50	<50	<50				6.30E+04*	6.30E+04*
sec-Butylbenzene	<50	70	<50	<50				6.05E+04*	6.05E+04*
1-Methylnaphthalene	<250	292	<250	<250				1.01E+05*	1.01E+05*
2-Methylnaphthalene	<67	374	<67	<67				1.71E+05*	1.71E+05*
Acenaphthene	<67	<67	<67	<67				3.16E+04*	3.16E+04*
Anthracene	<67	<67	<67	<67				1.56E+03*	1.56E+03*
Benzo(a)anthrene	<67	<67	<67	<67				6.19E+03	2.10E+04*
Benzo(a)pyrene	<67	<67	<67	<67				6.19E+02	2.10E+03
Benze(b)fluoranthene	<67	<67	<67	<67				1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<67	<67	<67	<67				4.54E+02*	4.54E+02*
Bis(2-ethylhexyl)phthalate	<67	<67	<67	<67				3.04E+05*	3.04E+05*
Chrysene	<67	<67	<67	<67				9.60E+02*	9.60E+02*
Dibenzofuran	<67	<67	<67	<67				3.68E+04*	3.68E+04*
Diethylphthalate	<67	<67	<67	689				4.32E+05*	4.32E+05*
Fluoranthene	<67	<67	<67	<67				1.49E+04*	1.49E+04*
Fluorene	<67	<67	<67	<67				2.28E+04*	2.28E+04*
N-Decane	<67	<67	<67	<67					
Phenanthrene	<67	<67	<67	<67				2.10E+04*	2.10E+04*
Pyrene	<67	<67	<67	<67				1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

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Soil Analytical Results for Landfarm Treatment Samples (309146)
Date Sampled: September 29, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	LFA-2	LFA-7	LFA-9	LFA-14	LFB-3	LFB-6	LFB-11	Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	12,845	21,019	32,697	<10,000	<10,000	<10,000	<10,000	NA	NA
C10 - C22	50,213	100,426	128,452	87,581	14,013	88,748	15,181		
C22 - C32	35,032	25,690	14,013	23,355	18,684	19,852	21,019		
Total (C10 - C32)	85,245	126,116	142,465	110,935	32,697	108,600	36,200	893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	689	117	1,168	<50	<50	<50	<50	5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	514	923	946	222	<50	117	<50	2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<500	<500	<500	<500	<500	<500	<500	1.92E+06	7.00E+06*
Acetone	<500	<500	<500	<500	<500	<500	<500	2.84E+06	1.35E+07
Benzene	<50	<50	<50	<50	<50	<50	<50	1.12E+04	2.45E+04
Ethylbenzene	90	<50	<50	<50	<50	<50	<50	8.66E+04*	8.66E+04*
Isopropylbenzene	<50	<50	<50	<50	<50	<50	<50	2.65E+05	3.69E+05*
Methacrylonitrile	NA	NA	NA	NA	NA	NA	NA	3.41E+03	1.79E+04
MTBE	<50	<50	<50	<50	<50	<50	<50	3.34E+05	1.13E+06
Naphthalene	292	1,752 (654)	1,868 (467)	580 (69)	<150	<150 (117)	<150	6.12E+04*	6.12E+04*
Toluene	<50	<50	<50	<50	<50	<50	<50	2.19E+05*	2.19E+05*
Xylenes, total	619	<50	479	<50	<50	<50	<50	8.12E+04*	8.12E+04*
n-Buthylbenzene	<50	<50	<50	<50	<50	<50	<50	6.21E+04*	6.21E+04*
n-Propylbenzene	100	<50	<50	<50	<50	<50	<50	6.21E+04*	6.21E+04*
p-Isopropyltoluene	<50	<50	<50	<50	<50	<50	<50	6.30E+04*	6.30E+04*
sec-Butylbenzene	<50	<50	<50	<50	<50	<50	<50	6.05E+04*	6.05E+04*
1-Methylnaphthalene	817	1,985	1,985	2,219	<250	631	<250	1.01E+05*	1.01E+05*
2-Methylnaphthalene	666 (864)	3,737 (1,518)	3,970	3,270 (374)	(163)	(432)	<67	1.71E+05*	1.71E+05*
Acenaphthene	<67	<67	<67	<67	<67	<67	<67	3.16E+04*	3.16E+04*
Anthracene	<67	<67	<67	<67	<67	<67	<67	1.56E+03*	1.56E+03*
Benzo(a)anthrene	<67	<67	<67	<67	<67	<67	<67	6.19E+03	2.10E+04*
Benzo(a)pyrene	<67	<67	<67	<67	<67	<67	<67	6.19E+02	2.10E+03
Benze(b)fluoranthene	<67	<67	<67	<67	<67	<67	<67	1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<67	<67	<67	<67	<67	<67	<67	4.54E+02*	4.54E+02*
Bis(2-ethylhexyl)phthalate	<67	<67	<67	<67	<67	<67	<67	3.04E+05*	3.04E+05*
Chrysene	<67	<67	<67	<67	<67	<67	<67	9.60E+02*	9.60E+02*
Dibenzofuran	<67	<67	<67	<67	<67	<67	<67	3.68E+04*	3.68E+04*
Diethylphthalate	<67	<67	887	631	<67	<67	<67	4.32E+05*	4.32E+05*
Fluoranthene	<67	<67	<67	<67	<67	<67	<67	1.49E+04*	1.49E+04*
Fluorene	<67	<67	<67	<67	<67	<67	<67	2.28E+04*	2.28E+04*
N-Decane	<67	113	82	<67	<67	<67	<67	4.82E+04*	4.82E+04*
Phenanthrene	<67	91	<67	<67	<67	<67	<67	2.10E+04*	2.10E+04*
Pyrene	<67	<67	<67	<67	<67	<67	<67	1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

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Soil Analytical Results for Landfarm Treatment Samples (309146)
Date Sampled: September 29, 2003
(Note: Concentrations are on Dry-Wt. Basis)

Chemical	Samples							SSL (µg/kg)	
	LFB-14							Residential	Commercial
Carbon Chain (µg/kg)									
C06 - C10	<10,000							NA	NA
C10 - C22	35,032								
C22 - C32	17,516								
Total (C10 - C32)	52,548							893,333	2,233,333
VOCs (µg/kg)									
1,2,4-Trimethylbenzene	<50							5.96E+04	1.97E+05
1,3,5-Trimethylbenzene	<50							2.56E+04	6.91E+04*
4-Methyl-2-Pentanone	<500							1.92E+06	7.00E+06*
Acetone	<500							2.84E+06	1.35E+07
Benzene	<50							1.12E+04	2.45E+04
Ethylbenzene	<50							8.66E+04*	8.66E+04*
Isopropylbenzene	<50							2.65E+05	3.69E+05*
Methacrylonitrile	NA							3.41E+03	1.79E+04
MTBE	<50							3.34E+05	1.13E+06
Naphthalene	<150							6.12E+04*	6.12E+04*
Toluene	<50							2.19E+05*	2.19E+05*
Xylenes, total	<50							8.12E+04*	8.12E+04*
n-Buthylbenzene	<50							6.21E+04*	6.21E+04*
n-Propylbenzene	<50							6.21E+04*	6.21E+04*
p-Isopropyltoluene	<50							6.30E+04*	6.30E+04*
sec-Butylbenzene	<50							6.05E+04*	6.05E+04*
1-Methylnaphthalene	<250								
2-Methylnaphthalene	<67							1.71E+05*	1.71E+05*
Acenaphthene	<67							3.16E+04*	3.16E+04*
Anthracene	<67							1.56E+03*	1.56E+03*
Benzo(a)anthrene	<67							6.19E+03	2.10E+04*
Benzo(a)pyrene	<67							6.19E+02	2.10E+03
Benze(b)fluoranthene	<67							1.24E+03*	1.24E+03*
Benzo(k)fluoranthene	<67							4.54E+02*	4.54E+02*
Bis(2-ethylhexyl)phthalate	<67								
Chrysene	<67							9.60E+02*	9.60E+02*
Dibenzofuran	<67							3.68E+04*	3.68E+04*
Diethylphthalate	<67							4.32E+05*	4.32E+05*
Fluoranthene	<67							1.49E+04*	1.49E+04*
Fluorene	<67							2.28E+04*	2.28E+04*
N-Decane	<67								
Phenanthrene	<67							2.10E+04*	2.10E+04*
Pyrene	<67							1.43E+05*	1.43E+05*

J denotes value between MDL and Detection Limit for Reporting (DLR).

SSL for C10 - C32 are averaged TPH values of Diesel#2/crankcase oil, #3 and #6 fuel oil, and Kerosene and jet fuel in the NMED TPH Screening Guidelines.

SSL for VOCs are calculated values using the data and equations provided in the NMED, Technical Background Document for Development of Soil Screening Levels.

Values in ( ) are results by Method 8270C.

* Saturated concentration was used.

Note: The lab concentrations were on wet-wt.basis. The detected concentrations were converted to dry-wt. bases using the following relationship.

$$C_d = C_w\left(1 + \frac{\theta_w}{\rho_b}\right)$$

where,

C_d = concentrations on dry-wt. basis

C_w = concentrations on wet-wt. basis

θ_w = water content (0.26 g/cm^3-soil)

ρ_b = bulk density of soil (1.55 g/cm^3)

ATTACHMENT A11