

REMEDIATION PLAN

AMERADA HESS CORPORATION

SAMUEL W. SMALL, PE
OFFICE 915/758-6741
FAX 915/758-6768

P.O. BOX 840
SEMINOLE, TEXAS 79360
915/758-6700

September 2, 1997

Mr. Wayne Price
New Mexico Oil Conservation Division
P.O. Box 1980
Hobbs, New Mexico 88240

OLD MESS
SEP 29 1997
RECEIVED

RE: Site Reclamation
Texaco State F Battery Site
NMGSAU Batt. # 14
Sec. 24, T-19S, R-36E
Lea County, New Mexico

Amerada Hess Corporation (AHC) intends to construct a satellite facility in the North Monument Grayburg San Andres Unit (NMGSAU) at a site immediately adjacent to the location where the Texaco State F tank battery was previously situated. This site is located on State Trust Land and AHC proposes to clean up hydrocarbon contamination prior to constructing the facility. The clean-up will be performed by excavating the contaminated material until analyses performed on samples gathered from the bottom of the excavation meet state guidelines or until a maximum depth of twelve (12) feet is reached. If warranted by the amount and degree of contamination of the material excavated, the bottom of the excavation will be "lined" with approximately two (2) feet of clay. The hole will then be backfilled to grade with the excavated material, after the material has been remediated to a BTEX contamination level of 50 ppm or less and a benzene contamination level of 10 ppm or less. The method for remediating the contaminated material will be determined after the amount of material and the severity of contamination have been determined.

If you have any questions or need additional information, please contact the undersigned at (915) 758-6741 or at the letterhead address.

Sincerely,

Samuel W. Small

Samuel W. Small, PE
Environmental Coordinator

xc: State Land Office - Hobbs
Houston Environmental File
Seminole Environmental File
Monument File

APPROVED AS PER ATTACHED
OCD APPROVAL CONDITIONAL
W. PRICE - NMOC
9/29/97
J

FOR: AMERADA HESS CORP.

TEXACO ST. F. WASTE SITE

NM GSAU BHEL #14

SEC 24-T195-134E

LEA CO. NM

FROM - 2/28/77

OCD APPROVAL CONDITIONS
FOR
REMEDIATION OF LEAKS AND SPILLS

1. The following remedial actions will be performed in accordance with OCD's August 13, 1993 "GUIDELINES FOR REMEDIATION OF LEAKS, SPILLS AND RELEASES":
 - a. Vertical and horizontal extent of contamination will be determined either prior to, during or upon completion of remedial actions.

Contaminated soils will be remediated to the OCD's recommended levels or a risk assessment will be provided which shows that an alternate cleanup level is protective of surface water, ground water, human health and the environment.
 - b. Final soil contaminant concentrations will be determined upon completion of remedial actions.
 - d. Soil samples for verification of completion of remedial actions will be sampled and analyzed for benzene, toluene, ethylbenzene, xylene and total petroleum hydrocarbons.
2. All wastes removed from a specific site will be disposed of at an OCD approved facility.
3. The OCD Santa Fe Office's Environmental Bureau Chief and the OCD Hobbs District Office will be notified within 24 hours of the discovery of ground water contamination related to remedial actions.
4. Upon completion of all remedial actions, a final remedial action report containing a description and the results of all remedial actions will be submitted to the OCD for approval. The report will include the concentrations and application rates of any materials or additives used to enhance bioremediation of the contaminants and the final concentrations of any soils landfarmed onsite or the final disposition of soils removed from the site. To simplify the approval process, the OCD requests that the final remedial action report be submitted only upon completion of all remedial activities including onsite remediation or landfarming of contaminated soils.
5. All original documents will be submitted to the OCD Hobbs Office for approval with copies provided to the OCD Santa Fe Office.
6. OCD approval does not relieve you of liability should remedial activities determine that contamination exists which is beyond the scope of the work plan or if the actions fail to adequately remediate contamination related to your activities. In addition, OCD approval does not relieve you of responsibility for compliance with other federal, state or local laws and regulations.

OCD HOBBS
OFFICE

SEP 29 1997

RECEIVED

LABORATORY RESULTS AND CHAIN-OF-CUSTODY *

- **Initial samples were misidentified on chain-of-custody as Battery 27**



ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: DEE WHATLEY
703 E. CLINTON, SUITE 103

HOBBS, NM 88240

FAX TO:

Analysis Date: 10/06/97

Sampling Date: 10/3/97

Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

Receiving Date: 10/03/97

Reporting Date: 10/06/97

Project Number: NMGS AU #27

Project Name: AMERADA HESS

Project Location: NMGS AU #27

Sample ID: BOTTOM HOLE COMPOSITE

Lab Number: H3241-1

EPA 8015M - (mg/Kg)	Sample Result H3241-1	Method Blank	QC	%IA	True Value QC
C-8 n-Octane	<1.0	<1.0	86.1	86	100
C-9 n-Nonane	<1.0	<1.0	87.9	88	100
C-10 n-Decane	<1.0	<1.0	94.9	95	100
C-11 n-Undecane	<1.0	<1.0	94.6	95	100
C-12 n-Dodecane	<1.0	<1.0	91.4	91	100
C-13 n-Tridecane	<1.0	<1.0	82.7	83	100
C-14 n-Tetradecane	<1.0	<1.0	83.8	84	100
C-15 n-Pentadecane	<1.0	<1.0	83.7	84	100
C-16 n-Hexadecane	<1.0	<1.0	101	101	100
C-17 n-Heptadecane	<1.0	<1.0	95.2	95	100
C-18 n-Octadecane	<1.0	<1.0	98.5	99	100
C-19 n-Nonadecane	<1.0	<1.0	98.0	98	100
C-20 n-Eicosane	<1.0	<1.0	94.3	94	100
C-21 n-Heneicosane	<1.0	<1.0	96.1	96	100
C-22 n-Docosane	<1.0	<1.0	93.9	94	100
C-23 n-Tricosane	<1.0	<1.0	94.9	95	100
C-24 n-Tetracosane	<1.0	<1.0	92.6	93	100
C-25 n-Pentacosane	<1.0	<1.0	92.0	92	100
C-26 n-Hexacosane	<1.0	<1.0	98.3	98	100
C-27 n-Heptacosane	<1.0	<1.0	89.9	90	100
C-28 n-Octacosane	<1.0	<1.0	97.0	97	100
Total n-Alkanes	<1.0	<1.0	1947	93	2100
Diesel Range Organics	102	<12.0			

METHOD: EPA SW 846-8015 M (gc/ms)

Chemist

Date

H3241-1.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



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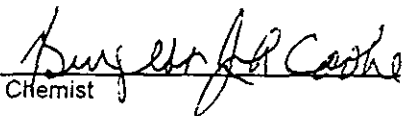
ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 10/03/97
Reporting Date: 10/06/97
Project Number: NMGSAU #27
Project Name: AMERADA HESS
Project Location: NMGSAU #27
Sample ID: SIDES COMPOSITE
Lab Number: H3241-2

Analysis Date: 10/06/97
Sampling Date: 10/3/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

EPA 8015M - (mg/Kg)	Sample Result H3241-2	Method Blank	QC	%IA	True Value QC
C-8 n-Octane	<1.0	<1.0	86.1	86	100
C-9 n-Nonane	<1.0	<1.0	87.9	88	100
C-10 n-Decane	<1.0	<1.0	94.9	95	100
C-11 n-Undecane	<1.0	<1.0	94.6	95	100
C-12 n-Dodecane	<1.0	<1.0	91.4	91	100
C-13 n-Tridecane	<1.0	<1.0	82.7	83	100
C-14 n-Tetradecane	<1.0	<1.0	83.8	84	100
C-15 n-Pentadecane	<1.0	<1.0	83.7	84	100
C-16 n-Hexadecane	<1.0	<1.0	101	101	100
C-17 n-Heptadecane	<1.0	<1.0	95.2	95	100
C-18 n-Octadecane	<1.0	<1.0	98.5	99	100
C-19 n-Nonadecane	<1.0	<1.0	98.0	98	100
C-20 n-Eicosane	<1.0	<1.0	94.3	94	100
C-21 n-Heneicosane	<1.0	<1.0	96.1	96	100
C-22 n-Docosane	<1.0	<1.0	93.9	94	100
C-23 n-Tricosane	<1.0	<1.0	94.9	95	100
C-24 n-Tetracosane	<1.0	<1.0	92.6	93	100
C-25 n-Pentacosane	<1.0	<1.0	92.0	92	100
C-26 n-Hexacosane	<1.0	<1.0	98.3	98	100
C-27 n-Heptacosane	<1.0	<1.0	89.9	90	100
C-28 n-Octacosane	<1.0	<1.0	97.0	97	100
Total n-Alkanes	<1.0	<1.0	1947	93	2100
Diesel Range Organics	58.2	<12.0			

METHOD: EPA SW 846-8015 M (gc/ms)


Chemist

10/6/97
Date

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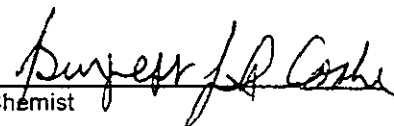
ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 10/03/97
Reporting Date: 10/06/97
Project Number: NMGSAU #27
Project Name: AMERADA HESS
Project Location: NMGSAU #27
Sample ID: BLEND PILE COMPOSITE
Lab Number: H3241-3

Analysis Date: 10/06/97
Sampling Date: 10/3/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

EPA 8015M - (mg/Kg)	Sample Result H3241-3	Method Blank	QC	True Value	
				%IA	QC
C-8 n-Octane	<1.0	<1.0	86.1	86	100
C-9 n-Nonane	<1.0	<1.0	87.9	88	100
C-10 n-Decane	<1.0	<1.0	94.9	95	100
C-11 n-Undecane	<1.0	<1.0	94.6	95	100
C-12 n-Dodecane	<1.0	<1.0	91.4	91	100
C-13 n-Tridecane	<1.0	<1.0	82.7	83	100
C-14 n-Tetradecane	1.9	<1.0	83.8	84	100
C-15 n-Pentadecane	<1.0	<1.0	83.7	84	100
C-16 n-Hexadecane	<1.0	<1.0	101	101	100
C-17 n-Heptadecane	2.4	<1.0	95.2	95	100
C-18 n-Octadecane	<1.0	<1.0	98.5	99	100
C-19 n-Nonadecane	<1.0	<1.0	98.0	98	100
C-20 n-Eicosane	<1.0	<1.0	94.3	94	100
C-21 n-Heneicosane	<1.0	<1.0	96.1	96	100
C-22 n-Docosane	<1.0	<1.0	93.9	94	100
C-23 n-Tricosane	<1.0	<1.0	94.9	95	100
C-24 n-Tetracosane	<1.0	<1.0	92.6	93	100
C-25 n-Pentacosane	<1.0	<1.0	92.0	92	100
C-26 n-Hexacosane	1.3	<1.0	98.3	98	100
C-27 n-Heptacosane	<1.0	<1.0	89.9	90	100
C-28 n-Octacosane	<1.0	<1.0	97.0	97	100
Total n-Alkanes	5.6	<1.0	1947	93	2100
Diesel Range Organics	589	<12.0			

METHOD: EPA SW 846-8015 M (gc/ms)


Chemist

10/6/97
Date

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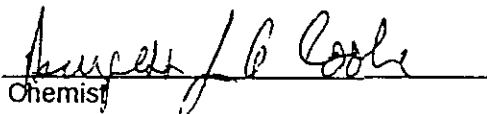
ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 10/03/97
Reporting Date: 10/09/97
Project Number: NMGSAU #27
Project Name: AMERADA HESS
Project Location: NMGSAU #27

Sampling Date: 10/3/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		10/09/97	10/09/97	10/09/97	10/09/97
H3241-1	BTM. HOLE COMP.	<0.020	<0.020	<0.020	<0.060
H3241-2	SIDES COMPOSITE	<0.020	<0.020	<0.020	<0.060
H3241-3	BLEND PILE COMP.	<0.020	<0.020	<0.020	<0.060
Quality Control		0.087	0.093	0.092	0.278
True Value QC		0.100	0.100	0.100	0.300
% Accuracy		87.3	93.3	92.0	92.7
Relative Percent Difference		3.7	2.7	2.7	0.8

METHOD: EPA SW 846-8260 (gc/ms)


Chemist

10/9/97
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or third parties arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

(505)397-0510

CITIZEN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

2020074 1001000

Phone #: 397-0510

AKE DROWING - SEST

FAX# 393-4358

Company Name & Address:

Ameacadi Hess

संज्ञा/वर्ण

PR-45-3755 AFE 97623

Project Name:

NMGS AU # 27 (Cooper side)

אנחנו מודים לך על כל מה שאתה עושה בשבילנו.

Sampler-Signature:

[illegible]

Religionsherkunft:

Celling washed by: John Bean

Date: 10/30/97

Tim:

Received by:

Received by:
Benson J. Cole

Relinquished by:

11

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Relinquished by

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REMARKS

Witnessed by Mark Vinson AHC

10/30/97



ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DYKE BROWNING
703 E. CLINTON, SUITE 103
HOBBS, NM 88240

Receiving Date: 10/20/97

Reporting Date: 10/23/97

Project Number: PR-45-3755 AFE 97623

Project Name: NMGSAU #27 (COOPER SIDE)

Project Location: BATTERY NMGSAU #27 (COOPER SIDE)

Sample ID: BOTTOM HOLE COMPOSITE

Lab Number: H3276-1

FAX TO: 505-393-4388

Analysis Date: 10/20/97

Sampling Date: 10/20/97

Sample Type: SOIL

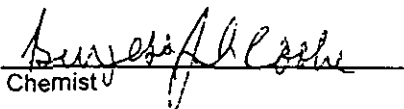
Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

EPA 8015M - (mg/Kg)	Sample Result H3276-1	Method Blank	True Value			
			QC	%IA	QC	
C-8 n-Octane	<1.0	<1.0	84.0	84	100	
C-9 n-Nonane	<1.0	<1.0	87.0	87	100	
C-10 n-Decane	<1.0	<1.0	90.6	91	100	
C-11 n-Undecane	<1.0	<1.0	87.5	88	100	
C-12 n-Dodecane	<1.0	<1.0	87.8	88	100	
C-13 n-Tridecane	<1.0	<1.0	81.0	81	100	
C-14 n-Tetradecane	<1.0	<1.0	82.7	83	100	
C-15 n-Pentadecane	<1.0	<1.0	80.9	81	100	
C-16 n-Hexadecane	<1.0	<1.0	81.8	82	100	
C-17 n-Heptadecane	<1.0	<1.0	91.4	91	100	
C-18 n-Octadecane	<1.0	<1.0	89.4	89	100	
C-19 n-Nonadecane	<1.0	<1.0	80.3	80	100	
C-20 n-Eicosane	<1.0	<1.0	82.0	82	100	
C-21 n-Heneicosane	<1.0	<1.0	86.4	86	100	
C-22 n-Docosane	<1.0	<1.0	83.0	83	100	
C-23 n-Tricosane	<1.0	<1.0	86.6	87	100	
C-24 n-Tetracosane	<1.0	<1.0	89.0	89	100	
C-25 n-Pentacosane	<1.0	<1.0	80.7	81	100	
C-26 n-Hexacosane	<1.0	<1.0	83.1	83	100	
C-27 n-Heptacosane	<1.0	<1.0	86.9	87	100	
C-28 n-Octacosane	<1.0	<1.0	104	104	100	
Total n-Alkanes	<1.0	<1.0	1806	86	2100	
Diesel Range Organics	48.9	<15.0				
(TPH by 8015 modified)						

METHOD: EPA SW 846-8015 M (gc/ms)


Chemist

10/23/97
Date

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DYKE BROWNING
703 E. CLINTON, SUITE 103
HOBBS, NM 88240

Receiving Date: 10/20/97
Reporting Date: 10/23/97
Project Number: PR-45-3755 AFE 97623
Project Name: NMGS AU #27 (COOPER SIDE)
Project Location: BATTERY NMGS AU #27 (COOPER SIDE)
Sample ID: SIDES COMPOSITE
Lab Number: H3276-2

FAX TO: 505-393-4388

Analysis Date: 10/20/97
Sampling Date: 10/20/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

EPA 8015M - (mg/Kg)	Sample Result H3276-2	Method Blank	True Value		
			QC	%IA	QC
C-8 n-Octane	<1.0	<1.0	84.0	84	100
C-9 n-Nonane	<1.0	<1.0	87.0	87	100
C-10 n-Decane	<1.0	<1.0	90.6	91	100
C-11 n-Undecane	<1.0	<1.0	87.5	88	100
C-12 n-Dodecane	<1.0	<1.0	87.8	88	100
C-13 n-Tridecane	<1.0	<1.0	81.0	81	100
C-14 n-Tetradecane	<1.0	<1.0	82.7	83	100
C-15 n-Pentadecane	<1.0	<1.0	80.9	81	100
C-16 n-Hexadecane	<1.0	<1.0	81.8	82	100
C-17 n-Heptadecane	<1.0	<1.0	91.4	91	100
C-18 n-Octadecane	<1.0	<1.0	89.4	89	100
C-19 n-Nonadecane	<1.0	<1.0	80.3	80	100
C-20 n-Eicosane	<1.0	<1.0	82.0	82	100
C-21 n-Heneicosane	<1.0	<1.0	86.4	86	100
C-22 n-Docosane	<1.0	<1.0	83.0	83	100
C-23 n-Tricosane	<1.0	<1.0	86.6	87	100
C-24 n-Tetracosane	<1.0	<1.0	89.0	89	100
C-25 n-Pentacosane	<1.0	<1.0	80.7	81	100
C-26 n-Hexacosane	<1.0	<1.0	83.1	83	100
C-27 n-Heptacosane	<1.0	<1.0	86.9	87	100
C-28 n-Octacosane	<1.0	<1.0	104	104	100
Total n-Alkanes	<1.0	<1.0	1806	86	2100
Diesel Range Organics	208	<15.0			

METHOD: EPA SW 846-8015 M (gc/ms)

Chemist

Date

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DYKE BROWNING
703 E. CLINTON, SUITE 103
HOBBS, NM 88240

Receiving Date: 10/20/97

Reporting Date: 10/23/97

Project Number: PR-45-3755 AFE 97623

Project Name: NMGSAU #27 (COOPER SIDE)

Project Location: BATTERY NMGSAU #27 (COOPER SIDE)

Sample ID: SPOILS PILE FROM SHREDDER-COMP.

Lab Number: H3276-3

FAX TO: 505-393-4388

Analysis Date: 10/20/97

Sampling Date: 10/20/97

Sample Type: SOIL

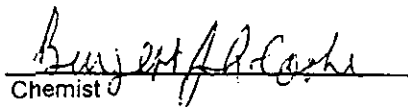
Sample Condition: COOL & INTACT

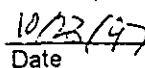
Sample Received By: BC

Analyzed By: BC

EPA 8015M - (mg/Kg)	Sample Result H3276-3	Method Blank	QC	%IA	True Value QC
C-8 n-Octane	<1.0	<1.0	84.0	84	100
C-9 n-Nonane	<1.0	<1.0	87.0	87	100
C-10 n-Decane	<1.0	<1.0	90.6	91	100
C-11 n-Undecane	<1.0	<1.0	87.5	88	100
C-12 n-Dodecane	<1.0	<1.0	87.8	88	100
C-13 n-Tridecane	<1.0	<1.0	81.0	81	100
C-14 n-Tetradecane	2.5	<1.0	82.7	83	100
C-15 n-Pentadecane	<1.0	<1.0	80.9	81	100
C-16 n-Hexadecane	<1.0	<1.0	81.8	82	100
C-17 n-Heptadecane	<1.0	<1.0	91.4	91	100
C-18 n-Octadecane	<1.0	<1.0	89.4	89	100
C-19 n-Nonadecane	1.0	<1.0	80.3	80	100
C-20 n-Eicosane	<1.0	<1.0	82.0	82	100
C-21 n-Heneicosane	<1.0	<1.0	86.4	86	100
C-22 n-Docosane	<1.0	<1.0	83.0	83	100
C-23 n-Tricosane	<1.0	<1.0	86.6	87	100
C-24 n-Tetracosane	<1.0	<1.0	89.0	89	100
C-25 n-Pentacosane	1.0	<1.0	80.7	81	100
C-26 n-Hexacosane	<1.0	<1.0	83.1	83	100
C-27 n-Heptacosane	<1.0	<1.0	86.9	87	100
C-28 n-Octacosane	<1.0	<1.0	104	104	100
Total n-Alkanes	4.5	<1.0	1806	86	2100
Diesel Range Organics	857	<15.0			
(TPH by 8015 modified)					

METHOD: EPA SW 846-8015 M (gc/ms)


Chemist


Date

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DYKE BROWNING
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO: 505-393-4388

Receiving Date: 10/20/97

Reporting Date: 10/23/97

Project Number: PR-45-3755 AFE 97623

Project Name: NMGSAU #27 (COOPER SIDE)

Project Location: BATTERY NMGSAU #27 (COOPER SIDE)

Sampling Date: 10/20/97

Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		10/22/97	10/22/97	10/22/97	10/22/97
H3276-1	BOTTOM HOLE COMP.	<0.020	<0.020	<0.020	<0.060
H3276-2	SIDES COMPOSITE	<0.020	0.065	<0.020	0.070
H3276-3	SPOILS PILE FROM	<0.020	<0.020	<0.020	<0.060
	SHREDDER-COMP.				
Quality Control		0.091	0.088	0.088	0.277
True Value QC		0.100	0.100	0.100	0.300
% Accuracy		90.6	88.3	87.5	92.3
Relative Percent Difference		0.2	2.0	0.6	0.7

METHOD: EPA SW 846-8260 (gc-ms)

Chemist

Date

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO: 505-393-4388

Receiving Date: 10/21/97
Reporting Date: 10/23/97
Project Number: NOT GIVEN
Project Name: AMERADA HESS
Project Location: NMGS AU #27
Sample ID: SIDE COMPOSITE
Lab Number: H3278-1

Analysis Date: 10/21/97
Sampling Date: 10/21/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

EPA 8015M - (mg/Kg)	Sample Result H3278-1	Method Blank	True Value		
			QC	%IA	QC
C-8 n-Octane	<1.0	<1.0	96.3	96	100
C-9 n-Nonane	<1.0	<1.0	92.2	92	100
C-10 n-Decane	<1.0	<1.0	91.5	92	100
C-11 n-Undecane	<1.0	<1.0	90.8	91	100
C-12 n-Dodecane	<1.0	<1.0	92.9	93	100
C-13 n-Tridecane	<1.0	<1.0	86.2	86	100
C-14 n-Tetradecane	<1.0	<1.0	86.2	86	100
C-15 n-Pentadecane	<1.0	<1.0	85.1	85	100
C-16 n-Hexadecane	<1.0	<1.0	94.4	94	100
C-17 n-Heptadecane	<1.0	<1.0	93.4	93	100
C-18 n-Octadecane	<1.0	<1.0	94.0	94	100
C-19 n-Nonadecane	<1.0	<1.0	87.1	87	100
C-20 n-Eicosane	<1.0	<1.0	87.0	87	100
C-21 n-Heneicosane	<1.0	<1.0	89.5	90	100
C-22 n-Docosane	<1.0	<1.0	88.7	89	100
C-23 n-Tricosane	<1.0	<1.0	96.1	96	100
C-24 n-Tetracosane	<1.0	<1.0	89.1	89	100
C-25 n-Pentacosane	<1.0	<1.0	89.8	90	100
C-26 n-Hexacosane	<1.0	<1.0	89.6	90	100
C-27 n-Heptacosane	<1.0	<1.0	92.9	93	100
C-28 n-Octacosane	<1.0	<1.0	91.3	91	100
Total n-Alkanes	<1.0	<1.0	1818	87	2100
Diesel Range Organics	<15.0	<15.0			
(TPH by 8015 modified)					

METHOD: EPA SW 846-8015 M (gc/ms)

Berry H. H. Cook
Chemist

10/23/97
Date

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ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: DEE WHATLEY
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO: 505-393-4388

Receiving Date: 10/21/97
Reporting Date: 10/23/97
Project Number: NOT GIVEN
Project Name: AMERADA HESS
Project Location: NMGSAU #27

Sampling Date: 10/21/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		10/22/97	10/22/97	10/22/97	10/22/97
H3278-1	SIDE COMPOSITE	<0.020	<0.020	<0.020	<0.060
Quality Control		0.091	0.088	0.088	0.277
True Value QC		0.100	0.100	0.100	0.300
% Accuracy		90.6	88.3	87.5	92.3
Relative Percent Difference		0.2	2.0	0.6	0.7

METHOD: EPA SW 846-8260 (gc-ms)

Dee Whatley
Chemist

10/23/97
Date

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703 E. Clinton, Suite 103, Hobbs, New Mexico 88240
(505)397-0510

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30/4/20

Company Name & Address:

my Name & Address:
ALEXANDER

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Project Location:

Sampler Signature:

Battery 14 / Cooper:

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Relinquished by:

Unquished by:
Bill

Date:

10/30/97

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Received by:

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Relinquished by:

Date _____

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Revised by:

Date _____

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Received by Laboratory:

REMARKS

[illegible]



CARDINAL LABORATORIES

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

Receiving Date: 10/30/97
Reporting Date: 10/31/97
Project Number: NOT GIVEN
Project Name: AMERADA HESS
Project Location: BATTERY 14/COOPER
Sample ID: #1 NORTH SIDE
Lab Number: H3293-1

Analysis Date: 10/30/97
Sampling Date: 10/30/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

EPA 8015M - (mg/Kg)	Sample Result H3293-1	Method Blank	QC	%IA	True Value QC
C-8 n-Octane	<1.0	<1.0	80.7	81	100
C-9 n-Nonane	<1.0	<1.0	83.8	84	100
C-10 n-Decane	<1.0	<1.0	86.5	87	100
C-11 n-Undecane	<1.0	<1.0	86.7	87	100
C-12 n-Dodecane	<1.0	<1.0	81.4	81	100
C-13 n-Tridecane	<1.0	<1.0	81.9	82	100
C-14 n-Tetradecane	<1.0	<1.0	84.8	85	100
C-15 n-Pentadecane	<1.0	<1.0	82.7	83	100
C-16 n-Hexadecane	<1.0	<1.0	103	103	100
C-17 n-Heptadecane	<1.0	<1.0	102	102	100
C-18 n-Octadecane	<1.0	<1.0	106	106	100
C-19 n-Nonadecane	<1.0	<1.0	97.7	98	100
C-20 n-Eicosane	<1.0	<1.0	99.6	100	100
C-21 n-Heneicosane	<1.0	<1.0	107	107	100
C-22 n-Docosane	<1.0	<1.0	106	106	100
C-23 n-Tricosane	<1.0	<1.0	109	109	100
C-24 n-Tetracosane	<1.0	<1.0	90.8	91	100
C-25 n-Pentacosane	<1.0	<1.0	95.2	95	100
C-26 n-Hexacosane	<1.0	<1.0	98.8	99	100
C-27 n-Heptacosane	<1.0	<1.0	102	102	100
C-28 n-Octacosane	<1.0	<1.0	112	112	100
Total n-Alkanes	<1.0	<1.0	1998	95	2100
Diesel Range Organics	88.8	<1.0			

METHOD: EPA SW 846

Amber J. Allen
Chemist

*Tph
Bottom hole
of Cooper North
side*

10/31/97
Date



ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

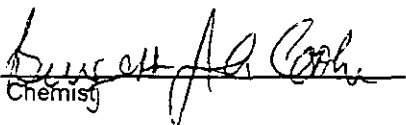
ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

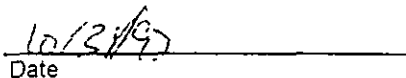
Receiving Date: 10/30/97
Reporting Date: 10/31/97
Project Number: NOT GIVEN
Project Name: AMERADA HESS
Project Location: BATTERY 14/COOPER
Sample ID: #2 SOUTH SIDE
Lab Number: H3293-2

Analysis Date: 10/30/97
Sampling Date: 10/30/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

EPA 8015M - (mg/Kg)	Sample Result H3293-2	Method Blank	QC	%IA	True Value QC
C-8 n-Octane	<1.0	<1.0	80.7	81	100
C-9 n-Nonane	<1.0	<1.0	83.8	84	100
C-10 n-Decane	<1.0	<1.0	86.5	87	100
C-11 n-Undecane	<1.0	<1.0	86.7	87	100
C-12 n-Dodecane	<1.0	<1.0	81.4	81	100
C-13 n-Tridecane	<1.0	<1.0	81.9	82	100
C-14 n-Tetradecane	<1.0	<1.0	84.8	85	100
C-15 n-Pentadecane	<1.0	<1.0	82.7	83	100
C-16 n-Hexadecane	<1.0	<1.0	103	103	100
C-17 n-Heptadecane	<1.0	<1.0	102	102	100
C-18 n-Octadecane	<1.0	<1.0	106	106	100
C-19 n-Nonadecane	<1.0	<1.0	97.7	98	100
C-20 n-Eicosane	<1.0	<1.0	99.6	100	100
C-21 n-Heneicosane	<1.0	<1.0	107	107	100
C-22 n-Docosane	<1.0	<1.0	106	106	100
C-23 n-Tricosane	<1.0	<1.0	109	109	100
C-24 n-Tetracosane	<1.0	<1.0	90.8	91	100
C-25 n-Pentacosane	<1.0	<1.0	95.2	95	100
C-26 n-Hexacosane	<1.0	<1.0	98.8	99	100
C-27 n-Heptacosane	<1.0	<1.0	102	102	100
C-28 n-Octacosane	<1.0	<1.0	112	112	100
Total n-Alkanes	<1.0	<1.0	1998	95	2100
Diesel Range Organics	28.3	<10.0			

METHOD: EPA SW 846-8015 M (gc/ms)


Chemist


Date



ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

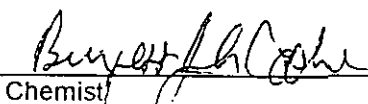
ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, SUITE 103
HOBBS, NM 88240
FAX TO:

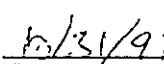
Receiving Date: 10/30/97
Reporting Date: 10/31/97
Project Number: NOT GIVEN
Project Name: AMERADA HESS
Project Location: BATTERY 14/COOPER

Sampling Date: 10/30/97
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		10/31/97	10/31/97	10/31/97	10/31/97
H3293-1	#1 NORTH SIDE	<0.020	<0.020	<0.020	<0.060
H3293-2	#2 SOUTH SIDE	<0.020	<0.020	<0.020	<0.060
Quality Control		0.098	0.101	0.102	0.312
True Value QC		0.100	0.100	0.100	0.300
% Accuracy		99.7	101	102	104
Relative Percent Difference		4.3	4.8	6.2	4.8

METHOD: EPA SW 846-8260 (gc-ms)


Chemist


Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates, or third parties out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

PICTURES



14
AMERADA HESS NMGSAU BATTERY #~~14~~ PRIOR TO PROJECT



14
AMERADA HESS NMGSAU BATTERY #~~14~~ PRIOR TO PROJECT



14/
AMERADA HESS NMGSAU BATTERY #1 FIRST STAGE OF PROJECT



14/
AMERADA HESS NMGSAU BATTERY #1 FIRST STAGE OF PROJECT



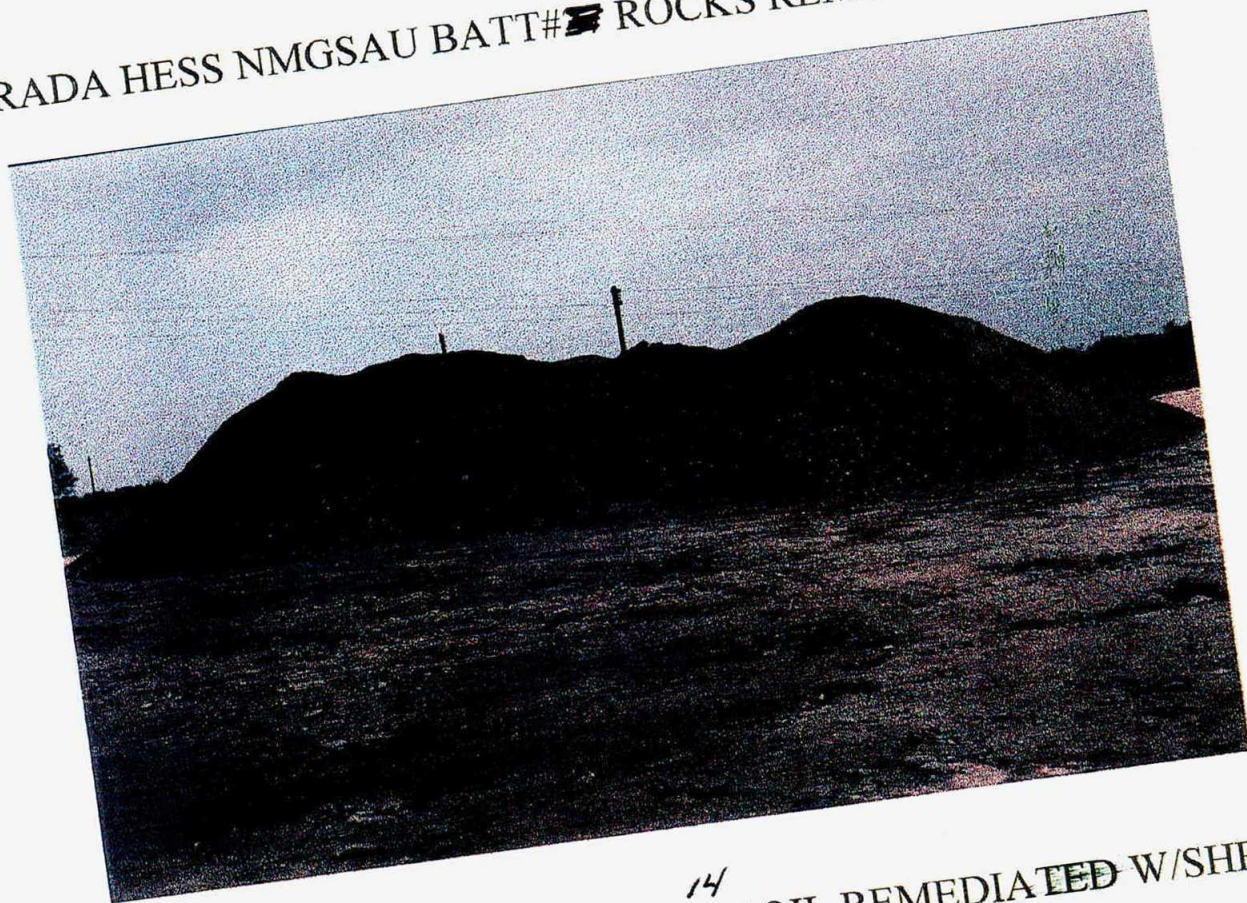
AMERADA HESS NMGSAU BATT. #¹⁴~~2~~ RIPPING CONTAMINATED SOIL



AMERADA HESS NMGSAU BATTERY #¹⁴~~2~~
 PRESHREDDED CONTAMINATED SOIL



AMERADA HESS NMGSAU BATT#¹⁴ ~~14~~ ROCKS REMOVED @ SHREDDING



AMERADA HESS NMGSAU BATT#¹⁴ ~~14~~ SOIL REMEDIATED W/SHREDDER



AMERADA HESS NMGSAU BATT#¹⁴~~37~~ CLEAN BOTTOM - SOUTH END



AMERADA HESS NMGSAU BATT#¹⁴~~37~~ CLEAN BOTTOM - SOUTH END



AMERADA HESS NMGSAU BATT#¹⁴~~3~~ CLEAN BOTTOM - NORTH END



AMERADA HESS NMGSAU BATT#¹⁴~~3~~ AFTER REMEDIATION