### AMERADA HESS CORPORATION

Drew Hall

OFFICE 432/758-6713
FAX 432/758-6768
EMAIL drewhall@hess.com

P.O. BOX 840 SEMINOLE, TEXAS 79360 432/758-6700

June 2, 2006

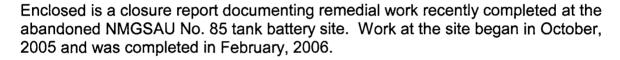
### CERTIFIED MAIL RETURN RECEIPT REQUESTED 7701 1140 0001 6063 9975

Mr. Chris Williams
District 1 Supervisor
New Mexico Oil Conservation Division
1625 North French Drive
Hobbs, New Mexico 88240

RE: ENV - STUDIES, SURVEYS & REPORTS

Site Remediation NMGSAU Battery No. 85 Closure Report

Dear Mr. Williams:



The report contains documentation of analyses for TPH, BTEX and chloride concentrations run on soil samples collected at the site prior to backfilling the excavation of a suspected evaporation pit. The report also contains documentation of NORM decontamination efforts associated with the suspected pit.

Hess Corporation would appreciate written acknowledgement from the NMOCD that the remedial work at the site satisfies current NMOCD cleanup requirements. If you have any questions or require additional information, please contact me at 432-758-6713 or at the letterhead address.

DH/sws

Sincerely,

Drew Hall

Senior Environmental Specialist

Xc: PO Environmental File Houston Environmental File

### **CLOSURE REPORT**

### NORTH MONUMENT GRAYBURG SAN ANDRES UNIT ABANDONED BATTERY SITE NO. 85 AHC HUMBLE LAUGHLIN 2 & 3

NW ¼, SE ¼, SECTION 4, TOWNSHIP 20 SOUTH, RANGE 37 EAST LEA COUNTY, NEW MEXICO

Samuel Small, PE March, 2006

### INTRODUCTION

The North Monument Grayburg San Andres Unit (NMGSAU) abandoned tank battery site No. 85 is located in the NW ¼ of the SE ¼ of Section 4, Township 20 South, Range 37 East in Lea County, New Mexico. The tank battery was formerly known as the Humble Laughlin 2 & 3 Tank Battery and was operated by Amerada Hess Corporation prior to being incorporated into the NMGSAU in 1992. The site is approximately 2 miles southeast of the town of Monument, New Mexico.

There were two areas of potential surface and/or vadose zone contamination identified at the site, at the battery tank pad and at a suspected evaporation pit north of the tank pad. Naturally occurring radioactive material (NORM) was detected in the suspected pit area during a preliminary field scan of the site. A work plan and a form C-141 were submitted to, and approved by, the Oil Conservation Division District 1 office in July, 2005. After reviewing the State Engineer's water reports, it was determined that this project has a 20 point ranking for the NMOCD clean up guidelines, based on the average depth to groundwater in the vicinity of the project.

### **SUMMARY OF ACTIVITIES**

In October, 2005 samples were collected from the suspected pit area and were analyzed for NORM concentration to determine if excavation and disposal of the pit material was required. Three of the samples exceeded the regulatory threshold of 30 Pico curies per gram of radium 226 for regulatory exemption. NORM Decon Services of Midland, Texas was contracted to remove and dispose of contaminated material from the site. During November approximately 360 yards of NORM contaminated material was removed from the pit area and taken to the Lotus NORM Disposal Facility in Andrews, Texas for disposal. A post NORM clean up survey was conducted at the site and the results are attached.

A composite sample of material from the pit area, collected off the bottom of the excavation at a maximum depth of 3 feet, was analyzed for hydrocarbon and chloride impacts. The analyses indicated that the hydrocarbon and chloride concentrations were below the OCD guideline thresholds.

Surface material from the battery pad area was removed to a depth of approximately one foot below grade. A composite sample collected from the pad area indicated a DRO concentration slightly above the OCD guideline threshold; all other hydrocarbon and chloride concentrations were below the guidelines. The surface material was blended with clean material acquired from the landowner and was used to fill the pit excavation. Clean material was then applied to the entire site. The site was seeded with native vegetation.

### SITE MAP AND PLAT

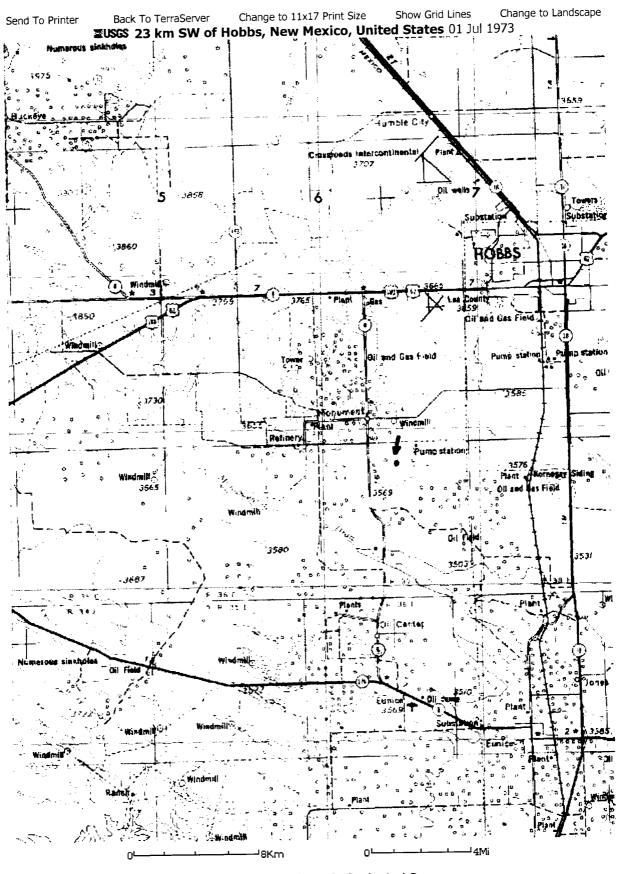
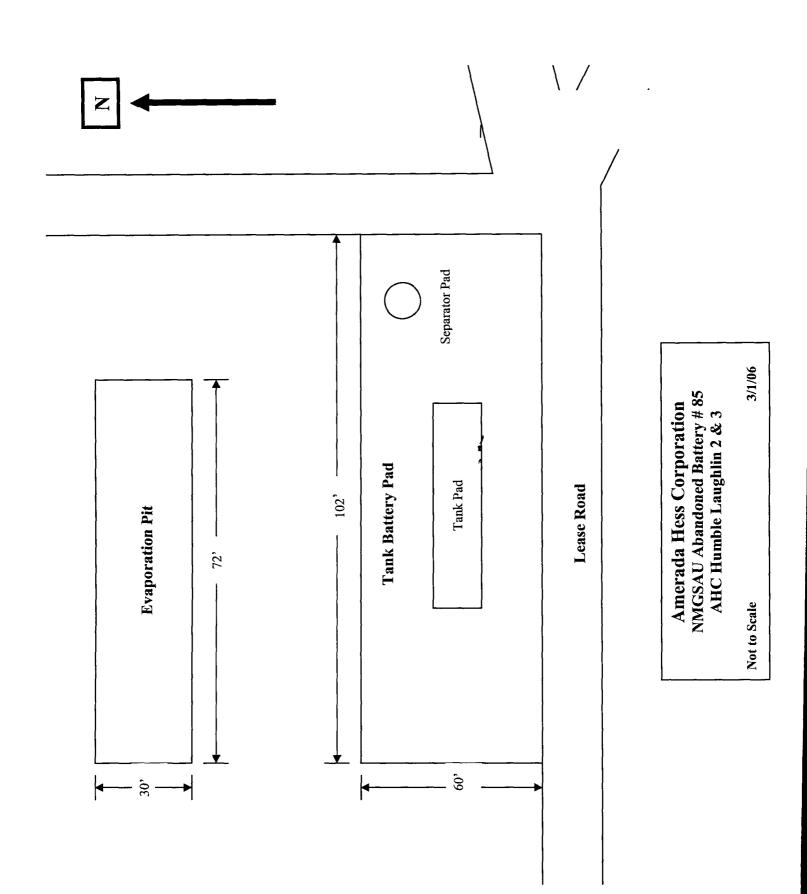


Image courtesy of the U.S. Geological Survey
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### WATER WELL INFORMATION

### New Mexico Office of the State Engineer Well Reports and Downloads

## WATER COLUMN REPORT 10/18/2001

	(quarters	are 1	ENW 2	H	are 1=NW 2=NE 3=SW 4=SE)							
	(quarters	are b	igges	to to	are biggest to smallest)			Depth	Depth	Water	<pre>u Water (in feet)</pre>	
Well Number	Tws	Rng S	ec d	ק	Zone	×	×	Well	Water	Column		
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L 05980 DCL	202	37E 0	37E 04 341	<del></del> 1				92				

Record Count: 2

### New Mexico Office of the State Engineer Well Reports and Downloads

Township: 19S Range: 37E Sections: 33,34	NAD27 X: Zone: Zone: Search Radius:	County: LE Basin: Number: Suffix:	Owner Name: (First) (Last) (Last) Owner Non-Domestic Opomestic Opomestic	Well / SurfacerData/Report  Avg Depth to Water/Report  Water/Report  Water/Report  Water/Report
závadový korta z zerozívia jam zautov z tik kom závadě ža vomeznem		County:	Owner Nam	Well (S

## WATER COLUMN REPORT 10/18/2001

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L 03993	19		6				75	29	46	
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Record Count: 27

### SAMPLE ANALYSES DOCUMENTATION

### SOIL ANALYSES

### NMGSAU Battery Site No. 85

	SAMPLE	BENZENE	TOLUENE	ETHYL - BENZENE		GRO	DRO	CHLORIDE
SAMPLE	DATE	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/kg)	(By/Bill)	(6) (6)
								0,
			2000	70005	< 0.015	< 10.0	18.6	48
Evanoration Pit (composite)	12/28/2005	< 0.005	c00.0 >	× 0.000	2000			
ראמטומווטון וו (פנויקים)								00
			7000	, 0 00E	< 0.015	< 10.0	150	080
Tank Battery Pad (composite)	12/28/2005	< 0.005	c00.0 >	70.00	2122			
Blended Fill Material				1000	7,004	100	72.2	
All A Comon of Dilo	1/10/2006	< 0.005	< 0.005	< 0.005	20.0 >		200	
IVIV COLUEI OI FIIE	00001011	200	7 0 005	< 0.005	< 0.015	< 10.0	30.5	
SW Corner of Pile	3/01//L	C00.0 >	20.5	100	,0045	/ 10 0	40.2	
OLO Service Ollo	1/10/2006	< 0.005	< 0.005	c00.0 >	20.02		000	
SE Corner of File	202/01/1	200	70005	< 0.005	< 0.015	0.01 >	70.7	
NE Corner of Pile	1/10/2006	c00.0 >	\$ 0.000					



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

ANALYTICAL RESULTS FOR AMERADA HESS CORPORATION ATTN: SAM SMALL P.O. BOX 840 SEMINOLE, TX 79360-0840 FAX TO: (432) 758-6768 &

Receiving Date: 12/21/05

(505) 393-1927

Sampling Date: 12/21/05

Reporting Date: 12/29/05

**GRO** 

 $(C_6-C_{10})$ 

(ma/Ka)

Sample Type: SOIL

CI\*

(ma/Ka)

Project Number: NOT GIVEN

Sample Condition: COOL & INTACT

Project Name: NMGSAU BATTERY 85 SITE

Sample Received By: AH

Project Location: MONUMENT, NM

LAB NUMBER SAMPLE ID

Analyzed By: BC/HM

DRO

 $(>C_{10}-C_{28})$ 

(ma/Ka)

DAD NOMBE	N GAIVII LE 18	(mg/ng)	(1119/119)	(mg/ng)
ANALYSIS D	ATE	12/28/05	12/28/05	12/22/05
H10530-1	BATTERY PAD	<10.0	150	80
H10530-2	EVAPORATION PIT AREA	<10.0	18.6	48
Quality Contr	·ol	774	741	990
True Value C	OC .	800	800	1000
% Recovery		96.8	92.6	99.0
Relative Per	cent Difference	5.2	4.2	0.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl7: Std. Methods 4500-Cl7B \*Analyses performed on 1:4 w.v aqueous extracts.



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

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SEMINOLE, TX 79360-0840 FAX TO: (432) 758-6768 &

Receiving Date: 12/21/05

(505) 393-1927

Sampling Date: 12/21/05

Reporting Date: 12/29/05

Sample Type: SOIL

Project Number: NOT GIVEN

Sample Condition: COOL & INTACT

Project Name: NMGSAU BATTERY 85 SITE

Sample Received By: AH

Project Location: MONUMENT, NM

Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DA	TE	12/28/05	12/28/05	12/28/05	12/28/05
H10530-1	BATTERY PAD	<0.005	<0.005	< 0.005	<0.015
H10530-2	EVAP, PIT AREA	<0.005	<0.005	< 0.005	<0.015
Quality Control		0.090	0.096	0.102	0.314
True Value QC		0.100	0.100	0.100	0.300
% Recovery		89.7	96.2	102	105.0
Relative Perce	nt Difference	8.8	1.7	1.7	2.3

METHOD: EPA SW-846 8260

Chemist & Caole

Date

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<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to (325) 673-7020.

Sampling Date: 12/15/05



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

ANALYTICAL RESULTS FOR AMERADA HESS CORP. ATTN: RANDY BARNES P.O. DRAWER D MONUMENT, NM 88265

FAX TO: (505) 393-1927

Receiving Date: 12/15/05 & (505) 391-9895

Reporting Date: 12/19/05 Sample Type: SOIL

Project Number: NOT GIVEN Sample Condition: COOL & INTACT
Project Name: NSGALI# Sample Received By: NF

Project Name: NSGAU # Sample Received By: NF Project Location: NOT GIVEN Analyzed By: BC/HM

		GRO	DRO	
		$(C_6-C_{10})$	(>C <sub>10</sub> -C <sub>28</sub> )	Cl*
LAB NUMBE	R SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)
			· · · · · · · · · · · · · · · · · · ·	<del></del>
ANALYSIS D		12/17/05	12/17/05	12/16/05
H10509-1	TANK GRADE	<10.0	151	16
H10509-2	TANK GRADE	<10.0	47.1	16
H10509-3	TANK GRADE	<10.0	36.8	96
H10509-4	TANK GRADE 3' SEC	<10.0	43.5	128
H10509-5	TANK GRADE 3' C WEST	<10.0	27.5	32
H10509-6	TANK GRADE 3' N CENTER	<10.0	<10.0	16
H10509-7	BATTERY SEPARATOR	<10.0	63.7	80
Quality Cont	rol	827	806	1000
True Value C	)C	800	800	1000
% Recovery		103	101	100
Relative Per	cent Difference	12.4	1.6	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl<sup>-</sup>: Std. Methods 4500-Cl<sup>-</sup>B \*Analyses performed on 1:4 w:v aqueous extracts.

Chemist

Date

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<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to (325) 673-7020.





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

ANALYTICAL RESULTS FOR AMERADA HESS CORP. ATTN: RANDY BARNES P.O. DRAWER D MONUMENT, NM 88265 FAX TO: (505) 393-1927

Receiving Date: 01/06/06
Reporting Date: 01/11/06
Project Number: NMGSALL

Project Number: NMGSAU
Project Name: BATTERY #85

Project Location: S-22 R37E LEA CO., NM

Sampling Date: 01/06/06 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

LAB NUMBE	R SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS D	ATE:	01/10/06	01/10/06	01/10/06	01/10/06	01/10/06	01/10/06
H10571-1	NW CORNER	<10.0	72.2	<0.005	<0.005	<0.005	<0.015
H10571-2	SW CORNER	<10.0	38.5	<0.005	< 0.005	<0.005	<0.015
H10571-3	SE CORNER	<10.0	40.2	<0.005	<0.005	<0.005	<0.015
H10571-4	NE CORNER	<10.0	26.2	<0.005	<0.005	<0.005	<0.015
		•					
Quality Contr	rol	766	789	0.102	0.095	0.095	0.287
True Value C		800	800	0.100	0.100	0.100	0.300
% Recovery		95.8	98.7	102	94.7	95.0	95.7
Relative Pero	cent Difference	2.0	1.7	2.2	5.6	5.2	4.5

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

Confort Parkty

H10571.XLS

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC.
2111 Beechwood, Abliene, TX 79603 101 East Marland, Hobbs, NM 88240

1x (505) 393-2476	
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193-232	
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x (325) 673-7020 (505) 393-2326 Fa	
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(325) 673-7001 F	
(32)	ĺ

Pageof	ANALYSIS REQUEST				*						98 <sup>1</sup> X2L ¶	$\lambda$	٨.	大	\(\lambda\)			Terms and Conditions: Interest will be charged on all accounts more than	30 days past due at the rate of 24% per amum from the original date of invoice, and all costs of collections, including attorney's bes.		☐ Yes ☐ No ☐			
505) 393-2476	BILL TO	P.O. #:	Company: America HOSS	Attn: RANDS BANNES	Address: MONUM WAY		State: State: Syc25	~	₩ X#.	PRESERV. SAMPLING	АСПО/ВАЅЕ: СЕ / СООС ТНЕЯ : ОАТП	,			>			based in contract or tort, shall be limited to the amount paid by the client for the	iting and received by Cardinal within 30 days after completen of the applicable states, or lose of portile factured by classical framework in ambidiale fee, the states of portile factured by classical framework or define it beautiful to the above and cardinal factors.		Fax Result; REMARKS:	Cart 1	Checked	Γ
(325) 673-7001 Fax (325) 673-7020 (505) 393-2326 Fax (505) 393-2476	\$ 5.5	ARMAS	0 3	State: 1-12 Zip: 8-86.25	Fax#: Gos - 343-1827	Project Owner:	35	E Leder		MATRIX	G)RAB OR (C)OMP. GONTAINERS GROUNDWATER WASTEWATER SOIL SOIL	X	*	X	\(\lambda\)				analyses. All dates houldn't those for realgence and any other cause what be desired within under an and service and within 30 days after completion of the ap- service. In no event for Curdinal Public his production of compact public metalogia, busined invited by the service of the service of the service beautified in the service of services beautiful to Curdinal services of the service of services beautiful to Curdinal services and the service of the service of services beautiful to Curdinal services of the services of services beautiful to Curdinal services of the services of services beautiful to Curdinal services of the services of services beautiful to Curdinal services of the services of services beautiful to Curdinal services of the services of services beautiful to Curdinal services of the services of services beautiful to Curdinal services of the services of services beautiful to Curdinal services of the services of services beautiful to the services of services beautiful to the services of services beautiful to Curdinal services of the services of services beautiful to the services of services and services of services of services are services of services and services of services are services as the s	Date: Received By:	Time:	lived By:	Sample Condition Temp, °C Intract?	Z
(325) 673-70	Y		nn	CIty: Maximent N.n.	Phone #: (3/ - 4875	Project #: NMGSAU	Project Name: Baryeas +85	Project Location: 5-22 R 37 E		FOR LAB USE ONLY	Lab I.D. Sample I.D.	HINSTI-I NO CAMA	2 641 0000	-2 5/2 Con 110/4	Is No come			PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any claim arising whether	analyses. All claims individing those for neglescos and any other cause whatecover that he deemed waked unless made in we service, in no security all cardinal he labels for indicated in consequental lamanges, hadron when cardinal he labels for middless in the more consequental lamanges, the labels when the consequental lamanges in the modern consequence of modern to made modern can be made to the consequence of services and the modern consequence of the modern consequences.	Sampler Relinquished: Received By:	Budg of ander	Relinquished By:	Delivered By: (Circle One)	Sampler - UPS - Bus - Other:

† Cardinal cannot accept verbal changes. Please fax written changes to (325) 673-7020.

### NORM CLEAN UP DOCUMENTTION

### NYRM DECON SERVICES, LLC

2809 S. County Rd. #1257 • Midland, Texas 79706 • 432-563-1123 • Fax 432-563-1823

### April 30, 2005

Mr. Sam Small Amerada Hess Corporation P.O. Box 840 Seminole, TX 79630 Fax: (432) 758-6741

RE: Naturally Occurring Radioactive Materials (NORM) decontamination of equipment and soils at the Amerada Hess Corp yard in Monument, New Mexico.

Dear Mr. Small:

On October 24, 2005 NORM Decon Services, LLC (NDS) personnel began excavation of a former pit area on the north side of the Amerada Hess Corporation abandoned tank battery NMGSAU #85 located approximately 2 miles south of Monument in Lea County, New Mexico. All work was performed under our Texas Radioactive Materials License (No. L04917) with reciprocity from the New Mexico Environment.

- A 10' x 10' gridded survey was performed over the pit and adjacent area (Figure No. 1) prior to excavation.
- The soils were excavated to depth of 2-5 feet over an area approximately 70' x 40'. Continuous surveying was performed during the excavation.
- All soils were placed into approximately 25 yd<sup>3</sup> stockpiles and composite samples collected and analyzed via Gamma-Spectroscopy to determine the waste volumes to be disposed of and disposal options. The laboratory analysis and disposal volumes are shown in Table Number 1 below.
- A total of 360 yds<sup>3</sup> of NORM contaminated soil was transported to Lotus, LLC's licensed NORM disposal facility in Andrews County, TX.
- A total of 60 yds<sup>3</sup> of Non-NORM contaminated soil was transported to Sundance Services, Inc. licensed disposal facility near Eunice, NM.
- The pit area was re-surveyed and composite confirmation samples were collected. Laboratory analysis is shown in Table Number 2 below.

### Table Number 1

Sample ID	Radium-226 (pCi/gm)	Radium-228 (pCi/gm)	Total Activity
			(pCi/gm)
Stockpile #1	102.90	<1.33	295.16
Stockpile #2	80.50	<1.22	237.60

Stockpile #3	141.20	<1.62	408.73
Stockpile #4	86.27	<1.26	250.62
Stockpile #5	51.85	< 0.92	149.01
Stockpile #6	70.01	<1.13	212.93
Stockpile #7	62.46	<1.08	184.92
Stockpile #8	59.15	<1.00	171.54
Stockpile #9	60.12	<1.15	209.76
Stockpile #10	115.60	<1.35	336.00
Stockpile #11	59.84	<1.03	175.20
Stockpile #12	66.30	<1.20	192.60
Stockpile #13	40.16	< 0.87	119.76
Stockpile #14	45.26	< 0.87	131.01
Stockpile #15	25.20	< 0.70	51.22
Stockpile #16	24.60	<0.62	53.51

### Table Number 2

Sample ID	Radium-226 (pCi/gm)	Radium-228 (pCi/gm)	Total Activity (pCi/gm)
Bttm-1	<4.12	<0.53	5.57
Bttm-2	16.74	<0.62	28.36
West wall	32.63	<0.74	72.48
North-1	32.24	<0.76	69.64
West wall-2	<4.32	< 0.52	6.61
North-2	16.01	<0.56	27.37
North NE	21.45	< 0.52	67.72

As shown in Table Number 2 above, samples West wall and North-1 exceeded the 30 pCi/gm of Radium-226 limits set forth by the NMED. Additional excavation was performed in those areas and the soils were surveyed and sampled again. After the additional excavation, all areas of the pit had Radium-226 and Radium-228 levels below 30 pCi/gm. The site may be released for unrestricted use. A copy of the survey and sample locations is attached as Figure Number 1.

If you have any questions or comments, please call me at (432) 563-1123.

Sincerely,

Robert C. Parten

President, Corp. RSO

NORM Decon Services, LLC



NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-16

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 17:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 15:31 Field Code: Bttm- 1

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technician
Ra-226	<4.12	N/A	<0.15	N/A	EPA 901.1M	I.
Ra-228	<0.53	N/A	<0.13	N/A N/A	EPA 901.1M	MC MC
Pb-210	<3.14	N/A	<0.12	N/A N/A	EPA 901.1M	ML ME
Th-228	<4.08	N/A	<0.12	N/A	EPA 901.1M	MC
Total Activity	5.57	N/A	0.21	N/A	EPA 901.1M	MC

Notes:

Quality Assurance Review

Environmental Lab of Texas I, LTD. Assumes no liability for the use or interpretation of any analytical results other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client:



NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-17

Project Name: NMGSAU #85 Pit

Project # None Given

Sample Date: 10/25/05 Sample Time: 17:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 15:44

Project Location: Lea Co., NM Field Code: Bttm- 2

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technician
Ra-226	16.74	2.28	0.62	0.08	EPA 901.1M	JM
Ra-228	<0.62	N/A	< 0.02	N/A	EPA 901.1M	) JM
Pb-210	<4.22	N/A	<0.16	N/A	EPA 901.1M	JM
Th-228	<6.11	N/A	<0.23	N/A	EPA 901.1M	ML
Total Activity	28.36	N/A	1.05	N/A	EPA 901.1M	MC

Notes:

Quality Assurance Review

Environmental Lab of Texas I, LTD. Assumes no liability for the use or interpretation of any analytical results other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.



NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-18

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 17:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 16:00 Field Code: Westwall

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/-2σ	Analysis Test Method	Analysis Techniciar
Ra-226	32.63	3.89	1.21	0.14	EPA 901.1M	MC
Ra-228	< 0.74	N/A	<0.03	N/A	EPA 901.1M	JM
Pb-210	15.55	2.18	0.56	0.78	EPA 901.1M	MĽ
Th-228	<7.48	N/A	<0.28	N/A	EPA 901.1M	MC
Total Activity	72.48	N/A	2.68	N/A	EPA 901.1M	јМ
						:

Notes:

Quality Assurance Review

Environmental Lab of Texas I, LTD. Assumes no liability for the use or interpretation of any analytical results other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.



NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-19

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 17:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 16:36 Field Code: North- 1

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technician
Ra-226	32,24	3.89	1.19	0.14	EPA 901.1M	ME
Ra-228	<0.76	N/A	<0.03	N/A	EPA 901.1M	ML
Pb-210	14.34	2.32	0.53	0.08	EPA 901.1M	ј зм
Th-228	<7.80	N/A	<0.29	N/A	EPA 901.1M	MC
Total Activity	69.64	N/A	2.58	N/A	EPA 901.1M	ML

Notes

Quality Assurance Review

Environmental Lab of Texas I, LTD. Assumes no liability for the use or interpretation of any analytical results other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: NMCSAU #85

Project Loc: Lea Co.

Project #:

Services

NORM Decon

PO #

## Environmental Lab of Texas

12600 Wes. 1-20 East Odessa, Texas 79765

Phone: 432-563-1800 Fax: 432-563-1713

Kit Parten

Company Address:

Company Name

Project Manager:

Telephone No: 562-112 City/State/Zip:

Sampler Signature:

Fax No: 5637823

Email: [CDartenalorMalecon, con

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CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

## Environmental Lab of Texas

12600 W. -20 East Odessa, Texas 79765

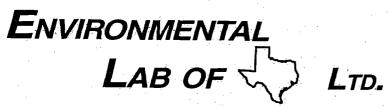
Phone: 432-563-1800 Fax: 432-563-1713

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### Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

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Client: NOKN Lector				
Pate/Time: 10/210/05 14:00				
Order #: 5526008				
nitials:				
Sample Receipt				
emperature of container/cooler?	Yes	. No	30,0 C	
hipping container/cooler in good condition?	Yes	No		
ustody Seals intact on shipping container/cooler?	Yes	No	Not presen>	
ustody Seals intact on sample bottles?	Yes	No	Not present	
hain of custody present?	Yes	No		
ample Instructions complete on Chain of Custody?	Yes	No_		
hain of Custody signed when relinquished and received?	Yes	No		
hain of custody agrees with sample label(s)	Yes	No	ID on bogs	
ontainer labels legible and intact?	Yes	No_	n/a	
ample Matrix and properties same as on chain of custody?	¥ <b>£9</b>	No	<u> </u>	
amples in proper container/bottle?	Yes	No		
amples properly preserved?	YE3	No		
ample bottles intact?	Yes.	No		
reservations documented on Chain of Custody?	Yes	No		
ontainers documented on Chain of Custody?	<b>₹</b>	No	·	
ufficient sample amount for indicated test?	Yæs	No		
I samples received within sufficient hold time?	<b>AGS</b>	No		
C samples have zero headspace?	<b>Y</b> es	No	Not Applicable	
Other observations:				
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NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706

FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 8.0 deg C

ELT # 5L08008-02

Project Name: Amerada Hess/ NMGSAU #85 Pit

Project # None Given Project Location: None Given

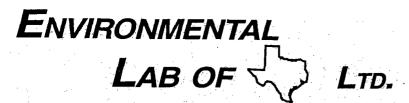
Sample Date: 12/08/05 Sample Time: None Given Receiving Date: 12/08/05 Analysis Date: 12/13/05 Analysis Time: 13:35 Field Code: West Wall #2

Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia
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		1	1		JM
			1 '		JM
<3.22	N/A	<0.12	N/A	EPA 901.1M	. JM
<4.51	N/A	< 0.17	N/A	EPA 901.1M	JM
6.61	N/A	0.24	N/A	EPA 901.1M	MC
		to the state of th			· ·
	Results pCi/gm <4.32 <0.52 <3.22 <4.51	Results pCi/gm         Error +/- 2σ           <4.32	Results pCi/gm         Error +/- 2σ         Results Bq/gm           <4.32	Results pCi/gm         Error H-2σ         Results Bq/gm         Error H-2σ           <4.32	Results pCi/gm         Error H-2σ         Results Bq/gm         Error H-2σ         Test Method           <4.32

Notes:

Quality Assurance Review

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NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 8.0 deg C

ELT # 5L08008-03

Project Name: Amerada Hess/ NMGSAU #85 Pit

Project # None Given Project Location: None Given Sample Date: 12/08/05 Sample Time: None Given Receiving Date: 12/08/05 Analysis Date: 12/13/05 Analysis Time: 13:54 Field Code: North #2

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/~ 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	16.01	2.23	0.59	0.08	EPA 901.1M	JM
Ra-228	<0.56	N/A	<0.02	N/A	EPA 901.1M	MC
Pb-210	<3.88	N/A	<0.14	N/A	EPA 901.1M	MC
Th-228	<5.82	N/A	<0.22	N/A	EPA 901.1M	JM
Total Activity	27.37	N/A	1.01	N/A	EPA 901.1M	MC
	,					

Notes:

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NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 8.0 deg C

ELT # 5L08008-04

Project Name: Amerada Hess/ NMGSAU #85 Pit

Project # None Given
Project Location: None Given

Sample Date: 12/08/05 Sample Time: None Given Receiving Date: 12/08/05 Analysis Date: 12/13/05 Analysis Time: 14:07 Field Code: North NE

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	21.45	2.63	0.79	0.10	EPA 901.1M	JΜ
Ra-228	< 0.52	N/A	<0.02	N/A	EPA 901.1M	JM
Pb-210	9.28	1.40	0.34	0.05	EPA 901.1M	ML
Th-228	<5.42	N/A	<0.20	N/A	EPA 901.1M	JM
Total Activity	67.72	N/A	2.51	N/A	EPA 901.1M	ME
				73 · 1.		

Notes:

Quality Assurance Review

Environmental Lab of Texas I, LTD. Assumes no liability for the use or interpretation of any analytical results other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.

### Notes:

### Comments:

- 1. Soil and Sludge analysis results are reported on a wet basis or as received basis unless otherwise indicated.
- 2. The data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- 3. Modified analysis procedures are procedures that are modified to meet certain specifications. An example would be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix.
- 4. Derived Air Concentrations and Effluent Release Concentrations are obtained from 10 CFR 20 Appendix B.
- Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring decay chains and other prominent radioactive isotopes. Total activity may be lower than actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of isotopes that emit solely alpha or beta radiation.
- 6. Ra-228 is determined via secular equilibrium with its daughter, Actinium 228. (Gamma Spectroscopy only)
- 7. U-238 is determined via secular equilibrium with its daughter, Thorium 234. (Gamma Spectroscopy only).
- 8. All Gamma Spectroscopy was performed using high purity germanium detectors (HPGE).

### Method References:

- EPA 600/4-80-032, Prescribed Procedures for the Measurement of Radioactivity in Drinking Water, August 1980. Standard Methods for the Examination of Water and Waste Water, 18<sup>th</sup>, 1992.
- 3. EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, (9/86). (Updated through 1995)
- 4. EPA 600/4/79-020, Methods for Chemical Analysis of Water and Waste, March 1983.
- 5. HASL 300

**MDA** 

12.

### Definitions:

1.	BDL	Analyte not detected because the value was below the detection limit.
2.,	ND	Not detected above the detection limit.
3.	Detection Limit	The minimum amount of the analyte that can be detected utilizing the specific analysis.
4.	<b>B</b>	Method Blank
5.	D	Method Duplicate
6.	MS .	Matrix Spike
7.	<b>S</b> . *	Spike
8.	RS	Reference Spike
9.	SC	Subcontracted to qualified laboratory
10.	NR	Not Referenced
11.	N/A	Not applicable

Minimum detectable activity

Environmental Lab of Texas I, Ltd. assumes no liability for the use or interpretation of any analytical results other than the cost of the performed analysis itself.

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### Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

Olient: NORM Decon				
J. Time: $12/8/05$ 2.15				
Order #: 5108008			-	
Initials:				
Sample Receipt	Checki	ist		
Temperature of container/cooler?	Yes	No	7,0 C	
Shipping container/cooler in good condition?	(Pes)	No		,
Custody Seals intact on shipping container/cooler?	Yes	No	Not present	
Custody Seals intact on sample bottles?	Yes	No	Mot present	
Chain of custody present?	(Yes	No	- OC Process	
Sample Instructions complete on Chain of Custody?	( <del>2</del> 5)	No		
Chain of Custody signed when relinquished and received?	(ES)	No		
Chain of custody agrees with sample label(s)	Yes	No	TD on bear	
Container labels legible and intact?	Yes	No	na	
Sample Matrix and properties same as on chain of custody?	YES	No		
Samples in proper container/bottle?	YES	No		
Samples properly preserved?	Yes	No		
Sample bottles intact?	Yes	No		
Preservations documented on Chain of Custody?	YBS	No		
Containers documented on Chain of Custody?	Yeş	No		
Sufficient sample amount for indicated test?	Yes	No		
amples received within sufficient hold time?	Yes	No		
VOC samples have zero headspace?	Yes	No.	Not Applicable	
Other observations:				
Variance Docum Contact Person: Date/Time: Regarding:			Contacted by:	
Corrective Action Taken:		<del></del>	· · · · · · · · · · · · · · · · · · ·	
Confedure / Colon Talken.			<del> </del>	
			<del></del>	



### NARM DECON SERVICES, LLC

2809 S. County Rd. #1257 • Midland, TX 79706 • 432-563-1123 • Fax 432-563-1823

### **ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**

Page\_\_\_\_\_ of \_\_\_\_

ent: A	MECADA HIES	5			Project Manager: KIT PART	EN				
Project No.	:				Project Manager: KIT PART Project Name: NMG SHU	#85- 4	2,5			
							Ar	nalysis	Reque	∍st
Date	5L08008 Time Duration in Minutes	Matrix	Composite	Grab	Sample Identification		Gamma/Spec	Alpha/Beta	Radio Chem	
12-805	-0		$\sqrt{}$		STOCKPILE #16		V			
12-8-05	02		$\sqrt{}$		WEST WALL #2		V			
12805	-03		<u> </u>		NORTH #2		V			
12-8-05 128-05 12-8-05	-01 -02 -03 -04				STOCKPILE #16 WEST WALL #2 NORTH #2 NORTH - NE		V			
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							+			
Remarks:	RE	TURN	ALL A	VR S	SAMPLES TO NORM DECON S	ERVICES, L	LC	1		
					·					
Results by:					Sampled By: LIT PARTEN			Date: Time:		
Rush Charges	<u> </u>	Yes	No						1 - 2	
Receiving Lab	ooratory:				Relinquished by: (Signature)				17-8-	
					Joseph Jan Jan Jan Jan Jan Jan Jan Jan Jan Jan		-	Fime: - C	7.001	M
,					Received by: (Signature)	8.0	ī	Date: j	2/8/	05
	one:				Corres Illex	Hastie	bogs	Time:	1.116	
Matrix:		- Water	(s	- Soj	SL - Sludge SC - Scale	O - Other	<u> </u>			
Shipped via:	Fedex A	irborne		UPS	Bus Hand Delivered	Other:				

Original: Return to NORM Decon Services

Yellow: Laboratory

Pink: Project Manager

### ENVIRONMENTAL LAB OF \( \triangle \) LTD.

"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-01

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 09:07

Analysis Time: 09:07 Field Code: Stockpile #1

Analysis Description	Analysis Results pCi/gm	Analysis Error +/-2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia
Ra-226	102.90	11.08	3.81	0.41	ÈPA 901.1M	JM
Ra-228	<1.33	N/A	<0.05	0.41 N/A	EPA 901.1M	JM JM
Pb-210		5.08	1.46	0.19	EPA 901.1M	1
;	39.60	1.			1	JM
Th-228	<13.78	N/A	<0.51	N/A	EPA 901.1M	JM
Total Activity	295.16	N/A	10.92	N/A	EPA 901.1M	JM
	•					

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NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-02

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 10:00 Field Code: Stockpile #2

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 20	Analysis Test Method	Analysis Technicia
Ra-226	80.50	8.85	2.98	0.33	EPA 901.1M	JM
Ra-228	<1.22	N/A	<0.04	N/A	EPA 901.1M	MC
Pb-210	32.64	4.26	1.21	0.16	EPA 901.1M	JM
Th-228	<12.38	N/A	<0.46	N/A	EPA 901.1M	JM
Total Activity	237.60	N/A	8.79	N/A	EPA 901.1M	MC
	;					

Rosandk J. Quality Assurance Review



"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-03

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 10:18 Field Code: Stockpile #3

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia
Ra-226	141.20	14.86	5.22	0.55	EPA 901.1M	JM
Ra-228	<1.62	N/A	<0.06	N/A	EPA 901.1M	JM
Pb-210	46.53	5.84	1.72	0.22	EPA 901.1M	ЭМ
Th-228	<15.84	N/A	<0.59	N/A	EPA 901.1M	MC
Total Activity	408.73	N/A	15.12	N/A	EPA 901.1M	JM
		)				
Notes:						<u> </u>

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"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-04

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 11:03 Field Code: Stockpile #4

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia
Ra-226	86.27	9.40	3.19	0.35	EPA 901.1M	104
Ra-228	<1.26		<0.05	1	EPA 901.1M	MC MC
	1	, N/A	5 14 5	N/A		
Pb-210	35.34	4.43	1.31	0.16	EPA 901.1M	JM
Th-228	<13.11	N/A	<0.49	N/A	EPA 901.1M	M.
Total Activity	250.62	N/A	9.27	N/A	EPA 901.1M	MC
Notes:			<u> </u>		L	

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"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-05

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 11:15 Field Code: Stockpile #5

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	51.85	5.99	1.92	0.22	EPA 901.1M	MC
Ra-228	<0.92	N/A	<0.03	N/A	EPA 901.1M	MC M
Pb-210	25.04	3.38	0.93	0.12	EPA 901.1M	JM
Th-228	<10.01	N/A	<0.37	N/A	EPA 901.1M	MC
Total Activity	149.01	N/A	5.51	N/A	EPA 901.1M	MC

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NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-06

Project Name: NMGSAU #85 Pit

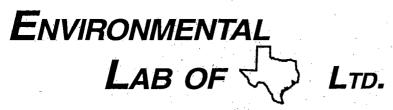
Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 11:35 Field Code: Stockpile #6

Analysis Description	Analysis Results pCi/gm	Analysis Error +/ 20	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia
n	70.01	7.07	2.50	0.70	EDA 001 1M	754
Ra-226	70.01	7.87	2.59	0.29	EPA 901.1M	JM.
Ra-228	<1.13	N/A	<0.04	N/A	EPA 901.1M	MC
Pb-210	33.61	4.17	1.24	0.15	EPA 901.1M	JM
Th-228	<12.07	N/A	<0.45	N/A	EPA 901.1M	JM
Total Activity	212.93	N/A	7.88	N/A	EPA 901.1M	JM
Notes:						11 1

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NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-07

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 12:03 Field Code: Stockpile #7

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia
Ra-226	62.46	7.06	2.31	0.26	EPA 901.1M	MC
Ra-228	<1.08	N/A	<0.04	N/A	EPA 901.1M	JM
Pb-210	26.04	3.48	0.96	0.13	EPA 901.1M	<b>Ј</b> М
Th-228	<11.13	N/A	<0.41	N/A	EPA 901.1M	JM
Total Activity	184.92	N/A	6.84	N/A	EPA 901.1M	MC
				la de la companya de la companya de la companya de la companya de la companya de la companya de la companya de		

Quality Assurance Review

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"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-08

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 12:25 Field Code: Stockpile #8

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	59.15	6.65	2.19	0.25	EPA 901.1M	MC
Ra-228	<1.00	N/A	<0.04	N/A	EPA 901.1M	JM
Pb-210	24.30	3.49	0.90	0.13	EPA 901.1M	MC
Th-228	<10.76	N/A	<0.40	N/A	EPA 901.1M	MC
Total Activity	171.54	N/A	6.35	N/A	EPA 901.1M	MĽ

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"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-09

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 12:44 Field Code: Stockpile #9

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia:
5 226	60.43	6.00	2.22	0.26	EDA 001 1M	73.4
Ra-226	60.12	6.90	2.22	0.26	EPA 901.1M	JM
Ra-228	<1.15	N/A	<0.04	N/A	EPA 901.1M	JM
Pb-210	27.98	3.78	1.04	0.14	EPA 901.1M	JM
Th-228	<10.97	N/A	<0.41	N/A	EPA 901.1M	JM
Total Activity	209.76	N/A	7.76	N/A	EPA 901.1M	MC
- 1 / / / ·	•					
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Notes:						

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NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-10

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 16:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 13:12 Field Code: Stockpile #10

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia:
Ra-226	115.60	12.31	4.28	0.46	EPA 901.1M	1M
					1	JM 304
Ra-228	<1.35	N/A	<0.05	N/A	EPA 901.1M	JM
Pb-210	46.93	5.71	1.74	0.21	EPA 901.1M	MC
Th-228	<14.49	N/A	<0.54	N/A	EPA 901.1M	JM <sup>,</sup>
Total Activity	336.00	N/A	12.43	N/A	EPA 901.1M	JM
,			l y			

Quality Assurance Review

"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-11

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 17:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 13:26 Field Code: Stockpile #11

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia
Ra-226	59.84	6.80	2.21	0.25	EPA 901.1M	JM:
Ra-228	<1.03	N/A	<0.04	N/A	EPA 901.1M	JM
Pb-210	26.67	3.68	0.99	0.14	EPA 901.1M	JM.
Th-228	<10.76	N/A	<0.40	N/A	EPA 901.1M	ME
Total Activity	175.20	N/A	6.48	N/A	EPA 901.1M	JM
			*			
•	. *			•		
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Quality Assurance Review

"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-12

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 17:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 13:40 Field Code: Stockpile #12

5.30 1.20 3.66	7.38 N/A 3.83	2.45 <0.04 1.06	0.27 N/A 0.14	EPA 901.1M EPA 901.1M EPA 901.1M	JM MC MC
1.20 3.66	N/A	<0.04	N/A	EPA 901.1M	MC
1 .		1.06		FPA 901 1M	! : 1м
1 '			,!	1,	] )!'
1.34	N/A	<0.42	N/A	EPA 901.1M	MC
2.60	N/A	7.13	N/A	EPA 901.1M	MC
. :					
		er e e e			
	2.60	2.60 N/A	2.60 N/A 7.13	2.60 N/A 7.13 N/A	2.60 N/A 7.13 N/A EPA 901.1M

Ralamaka Quality Assurance Review

"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-13

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 17:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 14:09 Field Code: Stockpile #13

Analysis Description	Analysis Results pCi/gm	Analysis Error +/2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia
Ra-226	40.16	4.78	1.48	0.18	EPA 901.1M	MC
Ra-228	< 0.87	N/A	< 0.03	N/A	EPA 901.1M	JM
Pb-210	19.64	2.75	0.73	0.10	EPA 901.1M	MC
Th-228	<8.60	N/A	<0.32	N/A	EPA 901.1M	ML
Total Activity	119.76	N/A	4.43	N/A	EPA 901.1M	MC
	·				<u> </u>	

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"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-14

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 17:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 14:28 Field Code: Stockpile #14

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/-2σ	Analysis Test Method	Analysis Technicia
D 226	45.26	5.21	1.67	0.19	EPA 901.1M	ЭМ
Ra-226 Ra-228	45.26 <0.87	N/A	<0.03	0.19 N/A	EPA 901.1M	JM
Pb-210	20.56	2.90	0.76	0.11	EPA 901.1M	
Th-228	<9.41	N/A	<0.35	N/A	EPA 901.1M	JM
Total Activity	131.01	N/A	4.84	N/A	EPA 901.1M	ЭМ
Votes:				·	***	

Quality Assurance Review



"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 30.0 deg C

ELT # 5J26008-15

Project Name: NMGSAU #85 Pit

Project # None Given

Project Location: Lea Co., NM

Sample Date: 10/25/05 Sample Time: 17:00 Receiving Date: 10/26/05 Analysis Date: 10/31/05 Analysis Time: 14:49 Field Code: Stockpile #15

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technicia
D 000	05.00	2.00	0.00		EDA 004 4M	71.6
Ra-226	25.20	3.08	0.93	0.11	EPA 901.1M	JM
Ra-228	<0.70	N/A	<0.02	N/A	EPA 901.1M	MC
Pb-210	10.46	1.74	0.39	0.06	EPA 901.1M	JM
Th-228	<6.63	N/A	<0.24	N/A	EPA 901.1M	MC
Total Activity	51.22	N/A	1.89	N/A	EPA 901.1M	MĽ
						ļ
Notes:						

Quality Assurance Review



"Don't Treat Your Soil Like Dirt!"

NORM DECON ATTN: Kit Parten 2809 SCR 1257 Midland, TX 79706 FAX: 432-563-1823

Sample Type: Soil

Sample Condition: Intact/ 8.0 deg C

ELT # 5L08008-01

Project Name: Amerada Hess/ NMGSAU #85 Pit

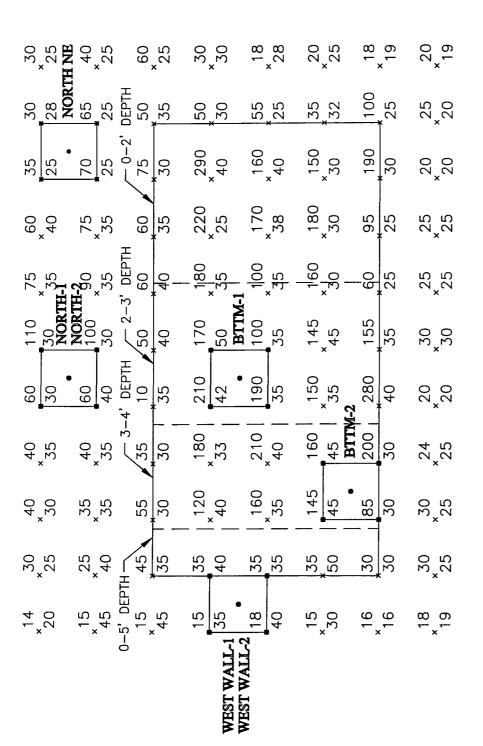
Project # None Given

Project Location: None Given

Sample Date: 12/08/05 Sample Time: None Given Receiving Date: 12/08/05 Analysis Date: 12/13/05 Analysis Time: 12:59

Field Code: Stockpile #16

Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
-					
24.60	3.10	0.91	0.11	EPA 901.1M	JM.
< 0.62	N/A	<0.02	N/A	EPA 901.1M	MC
10.88	1.70	0.40	0.06	EPA 901.1M	MC
<6.57	N/A	<0.24	N/A	EPA 901.1M	JM
53.51	N/A	1.98	N/A	EPA 901.1M	MC
	,				}
	, ,		·		
	Results pCi/gm 24.60 <0.62 10.88 <6.57	Results pCi/gm         Error +/- 2σ           24.60         3.10           <0.62	Results pCi/gm         Error +/-2σ         Results Bq/gm           24.60         3.10         0.91           <0.62	Results pCi/gm         Error +/- 2σ         Results Bq/gm         Error +/- 2σ           24.60         3.10         0.91         0.11           <0.62	Results pCi/gm         Error +/-2σ         Results Bq/gm         Error +/-2σ         Test Method           24.60         3.10         0.91         0.11         EPA 901.1M           <0.62



Sample ID	Ra-226*	Ra-228*	Ra-226* Ra-228* Total Activity*	
BTTM-1	<4.12	<0.53	5.57	
BTTM-2	16.74	<0.62	28.36	
WEST WALL	32.63	<0.74	72.48	
NORTH-1	32.24	<0.76	69.64	
WEST WALL-2 <4.32	<4.32	<0.52	6.61	
NORTH-2	16.61	<0.56	27.37	ON
NORTH NE	21.45	<0.52	67.62	
* pCi/qm				

PATT-JOB SURVEY

PRE-JOB SURVEY

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TE: ALL READINGS ARE RECORDED IN UR/HR ON A 10' GRID BACKGROUND: 14 UR/HR

Lea County, New Mexico
Amerada Hess Corporation

NMGSAU #85 Pit Area Pre and Post Job NORM Surveys

NORM Decon Service LLC

P.O. Box 1277 Andrews, Texas 79714 (432) 523-3320 Office (432) 524-4993 Fax gcooley@lotuslic.com



**December 13, 2005** 

Amerada Hess PO Box 840 Seminole, TX 79630

#### Re: Certification of Disposal Compliance

I hereby certify that the Lotus Disposal Facility received 1964 bbls of NORM/NOW, a non-hazardous oil field waste, designated as an exempt waste stream under the Resource Conservation and Recovery Act, containing naturally occurring radioactive materials. This material was generated from NORM contaminated soil removed from NMGSAU # 85. The material met the criteria for disposal by injection under RRC Permit Nos. 10799, 11239 and 11240, in accordance with the Railroad Commission of Texas.

Geri Cooley, MS, REM, RSO

Regulatory Affairs & HES Manager / Corporate RSO

P.O. Box 1277 Andrews, Texas 79714 (432) 523-3320 Office (432) 524-4993 Fax gcooley@lotuslic.com



January 13, 2006

Amerada Hess Corp. PO Box 840 Seminole, TX 79630

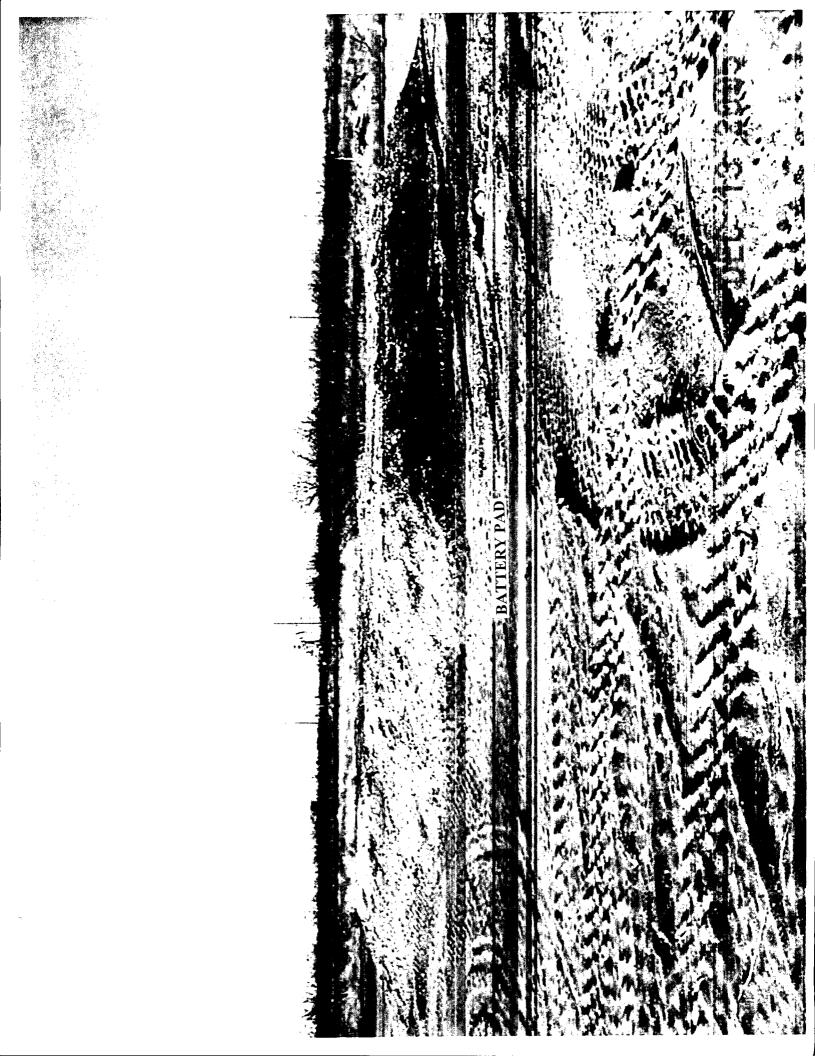
#### Re: Certification of Disposal Compliance

I hereby certify that the Lotus Disposal Facility received 77 bbls of NORM/NOW, a non-hazardous oil field waste, designated as an exempt waste stream under the Resource Conservation and Recovery Act, containing naturally occurring radioactive materials. This material was generated from NORM contaminated soil and scale removed from the Monument Yard. The material met the criteria for disposal by injection under RRC Permit Nos. 10799, 11239 and 11240, in accordance with the Railroad Commission of Texas.

Geri Cooley, MS, REMARSO

Regulatory Affairs & HES Manager / Corporate RSO

#### **PHOTOGRAPHS**







# REMEDIATED BATTERY PAD

