

ppac 0713431734

**SITE REMEDIATION AND
CLOSURE REPORT**

RECEIVED

JAN 20 2010

HUBBARD

**ENDEAVOR ENERGY RESOURCES, LP
TERRA FEDERAL #1, API: 30-025-27245
LEA COUNTY, NEW MEXICO**

Prepared For:

**ENDEAVOR ENERGY RESOURCES, LP
110 N. MARIENFELD, SUITE 200
MIDLAND, TEXAS 79701**

Prepared By:

**SOUTH ENVIRONMENTAL SERVICES, INC
2400 S. LOOP 250 WEST
MIDLAND, TEXAS 79703**

JANUARY 2010

A Report Prepared for:

ENDEAVOR ENERGY RESOURCES, LP.
110 N. MARIENFELD, SUITE 200
MIDLAND, TEXAS 79701

SITE REMEDIATION AND
CLOSURE REPORT

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JAN 20 2010
HOBBSOCD

Prepared by:

Ronnie W. Nickell

Ronnie W. Nickell

SOUTH ENVIRONMENTAL SERVICES, INC
2400 S. LOOP 250 WEST
MIDLAND, TEXAS 79703

JANUARY 2010

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1.0 INTRODUCTION

On behalf of Endeavor Energy Resources, LP. (ENDEAVOR), South Environmental Services, Inc. (SES) is pleased to submit this Site Remediation and Closure Report for the site known as Terra Federal #1, API: 30-025-27245, Lea County, New Mexico (the site). This report presents the results of the remedial actions performed at the above referenced site.

As previously reported, the Terra Federal #1 had a 120BBL leak caused by a rancher's livestock opening a valve onto surrounding areas on March 25, 2007 operated by ENDEAVOR. ENDEAVOR personnel immediately responded to the release by initiating shut-down procedures to terminate the flow. This report is provided to document response and remediation activities conducted at the site. A site location map is included in Figure 2, Attachment 2.

1.1 Purpose of Report

The purpose of this report is to present a summary of the completed field activities and results of remedial actions performed in order to facilitate regulatory closure of this site.

2.0 PROTOCOLS AND PROCEDURES

2.1 Site Remediation and Closure Activities

As illustrated in the attached Figures, the Excavation and Backfill procedures followed all applicable protocols and rules outlined in 19.15.17.10 NMAC. All impacted soil was excavated into five piles and placed onto temporary containment. Approximately 3,921 cubic yards of impacted soil was excavated and processed through a shredder with fertilizer. South Environmental Services, Inc. took special care to ensure all impacted soils were included in the excavation. Confirmation sampling took place to ensure no impacted soil had been left in place. All backfilled material was appropriate soil, clean and compacted. Re-Vegetation and Site Remediation procedures were followed.

3.0 CONFIRMATION SAMPLING

As illustrated in the attached figures, confirmation sampling took place after impacted material had been shredded and fertilized on-site. The confirmation samples were taken for each five stock piles and as well as a Bottom Hole sample. On October 9, 2008 a confirmation sampling event was conducted consisting of the collection of four (4) samples from 24 to 30 inches in depth. The confirmation samples were analyzed for Chlorides using EPA 4500-Cl-B to confirm remediation levels. Confirmation sampling locations are depicted in Attachment 2, Figure 2.

All four (4) of the confirmation samples collected (PILE #1, PILE #2, PILE #3, PILE #4) demonstrated Chloride concentrations below OCD regulatory limits (<500ppm), ranging from 80 mg/kg to 112 mg/kg. Laboratory data is included in Attachment 1, Table 1 and Attachment 5, Laboratory Analysis.

On January 15, 2009 an additional confirmation sampling event was conducted consisting of the collection of one (1) sample (following additional remediation). The confirmation sample (Processed Soil) was analyzed for TPH using EPA SW-846 8015M. The sample demonstrated TPH concentrations of 618 mg/kg. Confirmation sampling locations are depicted in Attachment 2, Figure 2.

On January 30, 2009 an additional confirmation sampling event was conducted consisting of the collection of one (1) sample (following additional remediation). The confirmation sample (H16787-1) was analyzed for TPH using EPA SW-846-8015M. The sample demonstrated TPH concentrations of 1190 mg/kg. Confirmation sampling locations are depicted in Attachment 2, Figure 2.

On February 11, 2009 an additional confirmation sampling event was conducted consisting of the collection of one (1) sample (following additional remediation). The confirmation sample (H16876-1) was analyzed for TPH using EPA SW-846-8015M. The sample demonstrated TPH concentrations of 808 mg/kg. Confirmation sampling locations are depicted in Attachment 2, Figure 2.

On March 27, 2009 an additional confirmation sampling event was conducted consisting of the collection of one (1) sample (following additional remediation). The confirmation sample (H17140-1 SM1) was analyzed for TPH using EPA SW-846-8015M. The sample demonstrated TPH concentrations of 272 mg/kg.

On April 6, 2009 an additional confirmation sampling event was conducted consisting of the collection of one (1) sample (following additional remediation). The confirmation sample (H17198-1) was analyzed for TPH using EPA SW-846-8015M. The sample demonstrated TPH concentrations of 822 mg/kg.

On May 13, 2009 an additional confirmation sampling event was conducted consisting of the collection of two (2) samples (following additional remediation). The confirmation samples (TC-1 and BG-1) was analyzed for TPH using EPA method SW-846-8015M and Chlorides using Method 4500-CIB. The samples demonstrated TPH concentrations of 457 mg/kg and 10.9 mg/kg and Chloride concentrations of 400 mg/kg and <16 mg/kg.

On July 22, 2009 an additional confirmation sampling event was conducted consisting of the collection of five (5) samples (following additional remediation). The confirmation samples (#1, #2, #3, #4, and #5) were analyzed for TPH using EPA method SW-846-8015M. The samples demonstrated TPH concentrations ranging from 231 mg/kg to 750 mg/kg.

The final confirmation samples (#1, #2, #3, #4, and #5) was collected on September 4, 2009, following additional remediation. The confirmation samples were analyzed for TPH using EPA method SW-846-8015M. The samples demonstrated TPH concentrations of 135 mg/kg to 328 mg/kg. Laboratory data is included in Attachment 1, Table 1, and Attachment 5, Laboratory analysis reports.

4.0 RE-VEGETATION

As illustrated, the re-vegetation took place with a minimum of 70% native perennial vegetative cover consisted of at least 3 native plant species, including at least one grass and no noxious weeds. Cover will be maintained through 2 successive growing seasons.

5.0 RECOMMENDATIONS

Based on the findings and results of the remedial actions described herewith, South Environmental request the OCD's concurrence that the site meets the conditions for final site closure, thus requiring no further corrective action by ENDEAVOR ENERGY. Upon OCD approval, the site will be restored as near as possible to the original site conditions as set out below.

- Remediated soils will be used in the construction of tank battery firewalls/containment berms and will be used to backfill excavation areas.
- The disturbed soils will be tilled and seeded to help minimize erosion and re-establish natural plant growth.

6.0 QA/QC PROCEDURES

6.1 Soil Sampling

Samples of subsurface soils were obtained utilizing proper EPA protocols and/or standards. Representative soil samples were collected using clean, disposable gloves and clean sampling tools. The soil sample was then placed in a sterile glass container equipped with a Teflon-lined lid furnished by the analytical laboratory. The container was filled to capacity to limit the amount of head-space present. Each container was labeled and placed on ice in an insulated cooler. Upon selection of samples for analysis, the cooler will be sealed for shipment to the laboratory. Proper chain-of-custody documentation will be maintained throughout the sampling and transportation process.

Soil samples were delivered to Cardinal Laboratories in Hobbs, NM for TPH and Chloride analyses using the methods described below. Soil samples were analyzed for TPH and Chloride within fourteen days following the collection date.

The soil samples were analyzed as follows:

1. TPH concentrations in accordance with modified Method SW-846 8015 M.
2. Chloride concentrations in accordance with Method 4500-Cl-B.

6.2 Laboratory Protocol

The laboratory will be responsible for proper QA/QC procedures. These procedures will either be transmitted with the laboratory reports or on file at the laboratory.

7.0 LIMITATIONS

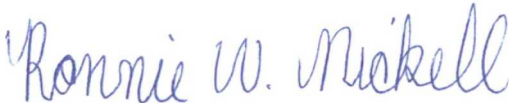
South Environmental Services, Inc. has prepared this Site Remediation and Closure Report to the best of its ability. No other warranty, expressed or implied, is made or intended.

South Environmental Services, Inc. has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. South Environmental Services, Inc. has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. South Environmental Services, Inc. has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. South Environmental Services, Inc. also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of ENDEAVOR ENERGY RESOURCES, LP. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of South Environmental Services, Inc. and/or ENDEAVOR ENERGY RESOURCES, LP.

Thank you for the assistance in this matter. If you have any questions or require additional information, please contact me at 432-425-8454.

Sincerely,
SOUTH ENVIRONMENTAL SERVICES, INC.



Ronnie W. Nickell
Sr. Project Manager

Cc: Endeavor Energy Resources, LP, Midland, Texas

Table 1

CONCENTRATIONS OF TPH, & CHLORIDES SOIL

Terra Federal #1

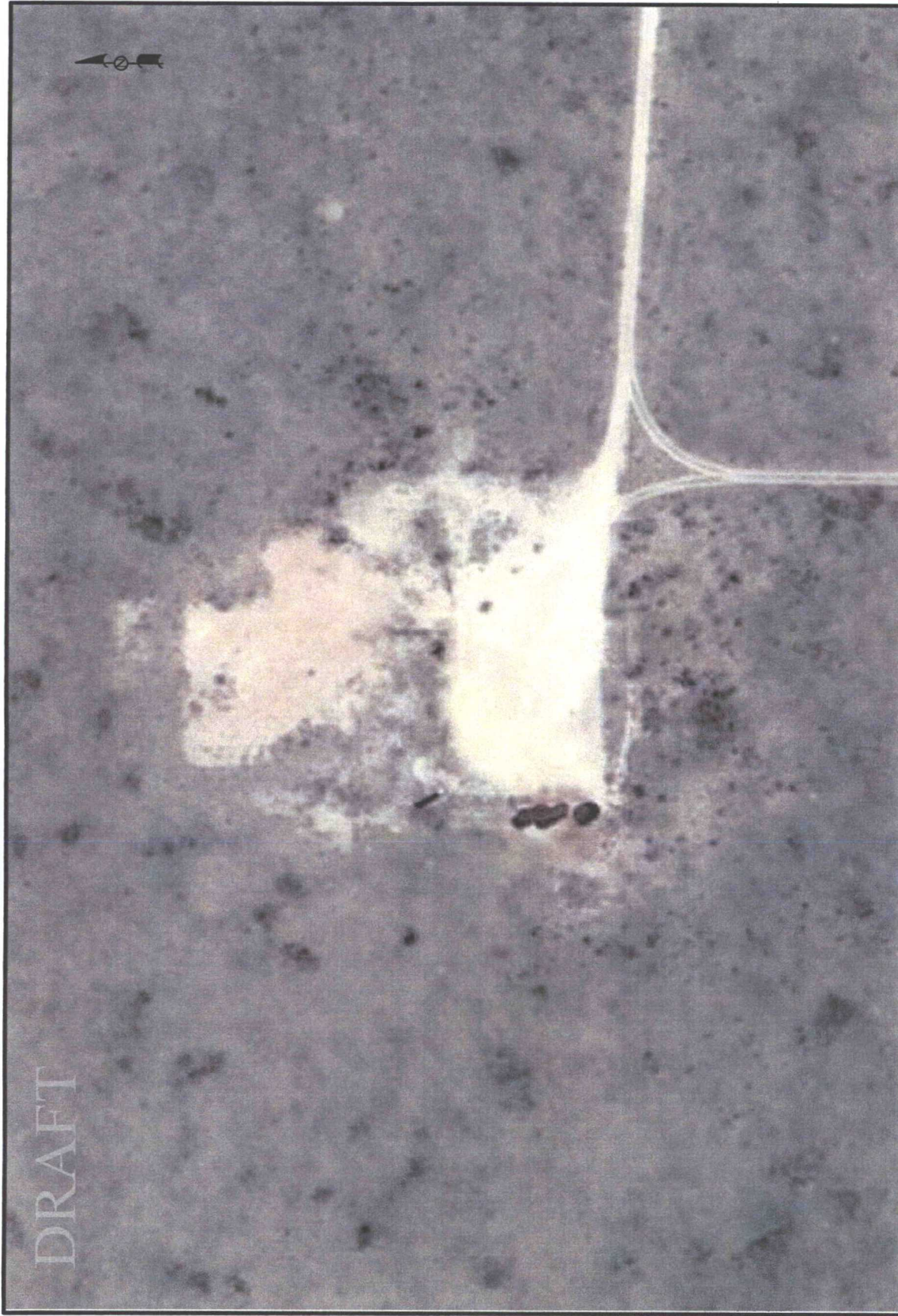
Endeavor Energy Resources, LP

Lea County, NM

All concentrations are in mg/kg

SAMPLE DATE	SAMPLE LOCATION	SW 846 8015M		4500-CL-B CHLORIDES
		TPH C ₆ -C ₁₂	TPH C ₁₂ -C ₂₈	
10/9/2008	H16086-1 PILE #1			112
	H16086-2 PILE #2			96
	H16086-3 PILE #3			112
	H16086-4 PILE #4			80
1/15/2009	H16694-1 (Processed Soil)	<10.0	618	
1/30/2009	H16787-1	<10.0	1190	
2/11/2009	H16876-1	<10.0	808	
3/27/2009	H17140-1 SM1	<10.0	272	
4/6/2009	H17198-1	<10.0	822	
5/13/2009	H17417-1 TC-1	<10.0	457	400
	H17417-2 BG-1	<10.0	10.9	<16
7/22/2009	H17857-1 #1	<10.0	231	
	H17857-2 #2	<10.0	294	
	H17857-3 #3	<10.0	226	
	H17857-4 #4	<10.0	750	
	H17857-5 #5	<10.0	537	
9/4/2009	H18187-1 #1	<10.0	135	
	H18187-2 #2	<10.0	300	
	H18187-3 #3	<10.0	273	
	H18187-4 #4	<10.0	326	
	H18187-5 #5	<10.0	328	

DRAFT

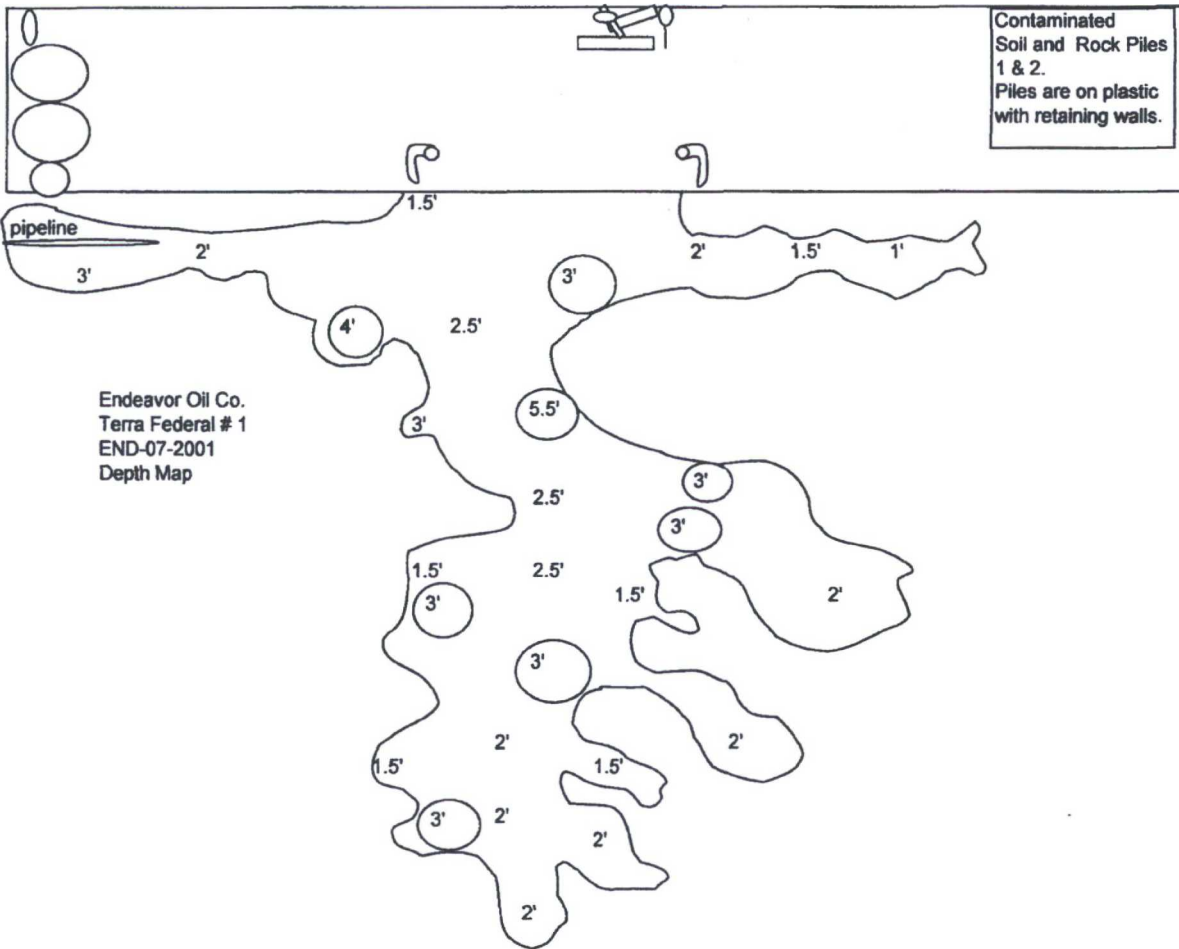


Terra Federal #1		Endeavor Energy		Figure 1	
Lea County, NM		Lat. N 32.113980°		Aerial Photo	
		Long. W 103.151782°			
Drawn By: JDJ		Rev: A-2			
January 16, 2010		Scale: 1" = 200'			
				South Environmental Services, Inc.	



Figure 2 Street Atlas Map		Endeavor Energy	
Terra Federal #1	Lea County, NM	Lat. N 32.113980°	Long. W 103.151782°
Drawn By: JDJ	January 16, 2010	Rev: A-2	Scale: 1" = 2000'

Distance in Feet





New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00121	COM	LE		3	4	2	20	25S	37E	671745	3554823*	2620	510		
CP 00124	COM	LE		1	4	2	20	25S	37E	671745	3555023*	2648	530		
CP 00506	DOM	LE				2	29	25S	37E	671673	3553509*	2871	425	200	225
CP 00120	COM	LE		1	3	2	20	25S	37E	671343	3555016*	3044	460		
CP 00426	DOM	LE					20	25S	37E	671257	3554701*	3097	235	70	165
CP 00387 1	DOM	LE		3	2	29	25S	37E	671472	3553308*	3133	305	250	55	
CP 00387 REPAR 1	DOM	LE		3	2	29	25S	37E	671472	3553308*	3133	305			
CP 00387 REPAR 2	DOM	LE		3	2	29	25S	37E	671472	3553308*	3133	422	210	212	
CP 00777	DOM	LE		4	2	3	20	25S	37E	671148	3554407*	3205	100	28	72
CP 00487	DOM	LE		2	1	29	25S	37E	671063	3553703*	3393	421	250	171	
CP 00428	DOM	LE				1	20	25S	37E	670841	3555104*	3553	90	60	30
CP 00619	DOM	LE		1	3	20	25S	37E	670647	3554501*	3703	48	25	23	
CP 00638	DOM	LE		1	1	29	25S	37E	670661	3553696*	3786	380	187	193	
CP 00620	DOM	LE		3	3	1	20	25S	37E	670539	3554802*	3820	59	25	34
CP 00661	DOM	LE		3	3	1	20	25S	37E	670539	3554802*	3820	38	23	15
CP 00557	DOM	LE		3	3	3	20	25S	37E	670553	3553997*	3837	350	42	308
CP 00844	STK	LE		3	3	17	25S	37E	670626	3555707*	3901				

Average Depth to Water: **114 feet**

Minimum Depth: **23 feet**

Maximum Depth: **250 feet**

Record Count: 17

UTMNAD83 Radius Search (in meters):

Easting (X): 674350.6

Northing (Y): 3554546

Radius: 4000

***UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

1/8/10 3:23 PM

Page 1 of 1

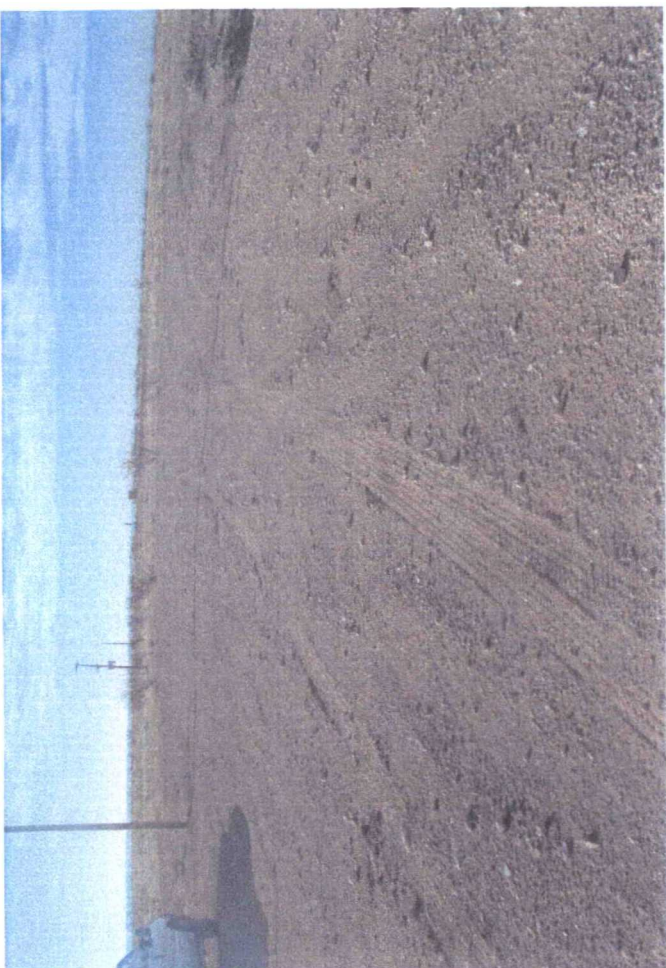
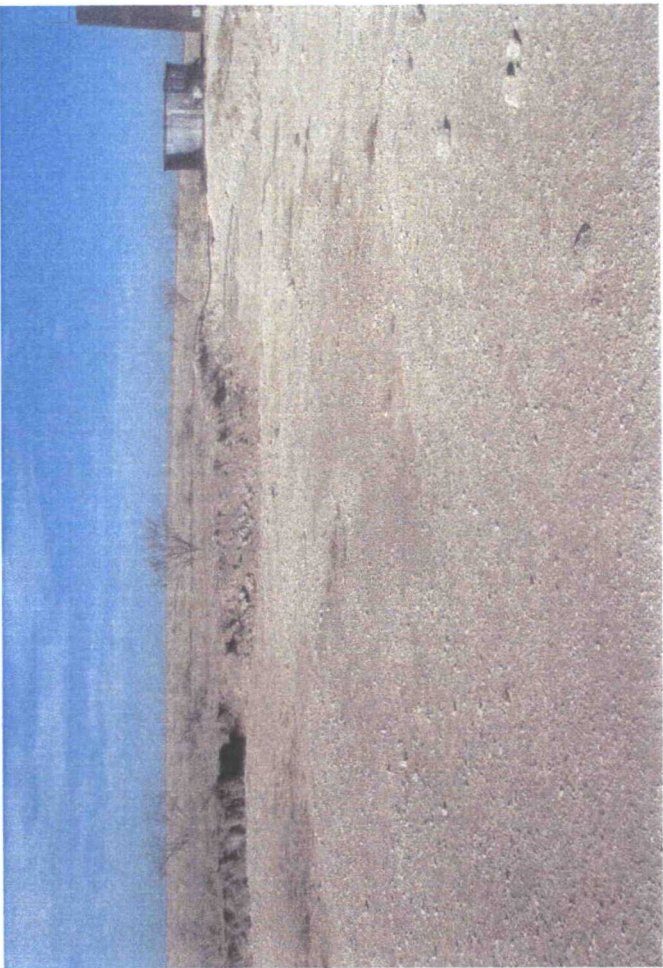
WATER COLUMN/ AVERAGE
DEPTH TO WATER

ENDEAVOR ENERGY RESOURCES, L.P.

TERRA FEDERAL #1

UNIT K, SEC. 22-T25S-R37E

API #30-025-27245





**ANALYTICAL RESULTS FOR
SOUTH ENVIRONMENTAL SERVICES
ATTN: MIKE NICHOLS
P.O. BOX 11322
MIDLAND, TX 79702
FAX TO: (575) 578-1031 & (432) 682-4182**

Analysis Date: 10/10/08
Sampling Date: NOT GIVEN
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: ML
Analyzed By: HM

METHOD: Standard Methods **4500-CrB**

Jose L. Moreno
Chemist

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ANALYTICAL RESULTS FOR
ENDEVOR ENERGY RESOURCES
ATTN: RONNIE PRIOR
P.O. BOX 11322
MIDLAND, TX 79702
FAX TO: (432) 682-3547

Receiving Date: 01/15/09
Reporting Date: 01/20/09
Project Owner: ENDEVOR
Project Name: TERRA FEDERAL #1
Project Location: LEA, NM

Sampling Date: 01/15/09
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: ML
Analyzed By: AB

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/kg)	DRO (C ₁₀ -C ₂₈) (mg/kg)
		01/19/09	01/19/09
H16694-1	PROCESSED SOIL	<10.0	618
Quality Control		440	490
True Value QC		500	500
% Recovery		88.0	98.0
Relative Percent Difference		8.3	19.7

METHODS: TPH GRO & DRO: EPA SW-846 8015 M


Lab Director


Date

H16694 T ENDEVOR

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ANALYTICAL RESULTS FOR
SOUTH ENVIRONMENTAL SERVICES
ATTN: MIKE NICHOLS
P.O. BOX 11322
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 746-6534

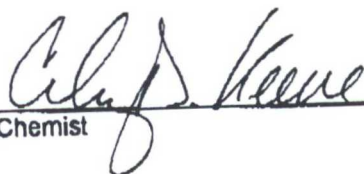
Receiving Date: 01/30/09
Reporting Date: 02/02/09
Project Owner: ENDEAVOR (1)
Project Name: TERRA FEDERAL
Project Location: LEA COUNTY, NM

Sampling Date: 01/30/09
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: CK
Analyzed By: AB

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/kg)	DRO (C ₁₀ -C ₂₈) (mg/kg)
------------	-----------	--	---

ANALYSIS DATE	01/30/09	01/30/09
H16787-1 TERRA FEDERAL	<10.0	1,190
Quality Control	467	547
True Value QC	500	500
% Recovery	93.4	109
Relative Percent Difference	14.6	3.3

METHODS: TPH GRO & DRO: EPA SW-846 8015 M


Chemist

02/03/09
Date

H16787 T SES

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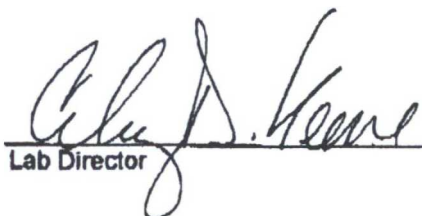
ANALYTICAL RESULTS FOR
ENDEAVOR ENERGY RESOURCES
ATTN: RONNIE PRIOR
P.O. BOX 11322
MIDLAND, TX 79702
FAX TO: (432) 682-3547 & (432) 682-4182

Receiving Date: 02/11/09
Reporting Date: 02/12/09
Project Number: FED #1
Project Name: TERRA
Project Location: LEA, NM

Sampling Date: 02/11/09
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: ML
Analyzed By: AB

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/kg)	DRO (C ₁₀ -C ₂₈) (mg/kg)
		02/11/09	02/11/09
H16876-1	TERRA FED #1	<10.0	808
Quality Control		532	535
True Value QC		500	500
% Recovery		106	107
Relative Percent Difference		3.0	6.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M


Lab Director


Date

H16876 T ENDEAVOR

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(575) 393-2326 Fax (575) 393-2476

(575) 393-2326 Fax (575) 393-2476

Page 10 of 10

ANALYSIS REQUEST

Company Name:	ENDAVOR ENERGY	BILL TO
Project Manager:		P.O. #: 11064
Address:		Company: North American Minerals Service
City:		Attn: Laura
State:		Address:
Zip:		City: Midland
Phone #:		State: TX Zip: 79701
Project #:	Feb 83	Phone #: 432-682-3547
Project Name:	TERPA	Fax #: 432-682-4182
Well Location:	led, NM	
Sampler Name:	JANE MAINE	

[illegible]

1. **RESEARCH DESIGN AND PARTICIPANTS.** Eighty-four students (42 females and 42 males) from a large, public university in the United States participated in the study. The students were recruited from introductory psychology courses and received partial credit for their participation. The study was approved by the Institutional Review Board at the university.

Mica
Fox

Phone Result:	No	Add'l Phone #:	575 420-1942
Fax Result:	No	Add'l Fax #:	432-652-4182

REMARKS:

Not furnished By: _____
Date Rec'd: 2-11-0A
Time: 9:30

Date Rec'd: _____
Time: _____

Received By: _____
[Signature]

Sampler - UPS - Bus - Other: _____

Temp. _____

Samples Condition:
Cool ☐ Intact ☐
Yes ☒ No ☐
No ☐ Yes ☐

CHECKED BY: _____
(Initials) UCB

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ANALYTICAL RESULTS FOR
ENDEAVOR ENERGY RESOURCES

ATTN: RONNIE PRIOR

P.O. BOX 11322

MIDLAND, TX 79702

FAX TO: (432) 682-3547 & (432) 682-4182

Receiving Date: 03/27/09

Reporting Date: 03/30/09

Project Number: 1

Project Name: TERRA

Project Location: LEA COUNTY, NM

Sampling Date: 03/27/09

Sample Type: SOIL

Sample Condition: INTACT

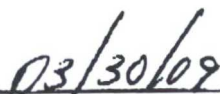
Sample Received By: ML

Analyzed By: AB

LAB NUMBER	SAMPLE ID	GRO	DRO
		(C ₈ -C ₁₀) (mg/kg)	(>C ₁₀ -C ₂₈) (mg/kg)
ANALYSIS DATE		03/28/09	03/28/09
H17140-1	SM 1	<10.0	272
Quality Control		439	461
True Value QC		500	500
% Recovery		87.8	92.2
Relative Percent Difference		1.3	1.3

METHODS: TPH GRO & DRO: EPA SW-846 8015 M


Lab Director


Date

H17140 T ENDEAVOR

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PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

FAX TO: (432) 682-4182 & (575) 746-6534

Project Location: LEA COUNTY, NM

Analyzed By: AB

GRO	DRO
(C ₆ -C ₁₀)	(>C ₁₀ -C ₂₈)
(mg/kg)	(mg/kg)

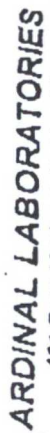
ANALYSIS DATE		04/07/09	04/07/09
H17198-1	TERRA FED	<10.0	822
Quality Control		547	542
True Value QC		500	500
% Recovery		109	108
Relative Percent Difference		3.5	3.5

METHODS: TPH GRO & DRO: EPA SW-846 8015 M

Date _____

H17198 T ENDEAVOR

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ARDINAL LABORATORIES

101 East Marlond, Hobbs, NM 88240

(575) 393-2326 Fax (575) 393-2476

(575) 393-2326 Fax (575) 393-2476

Page ___ of ___

[illegible]

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice and all costs of collections, including attorney's fees.

Date:	<u>9/16/09</u>	Received By:	<u>[Signature]</u>	Phone Result:	<u>OK</u>	No Add'l Phone #:	
Time:	<u>12:30</u>			Fax Result:	<u>OK</u>	No Add'l Fax #:	
Requisitioned By:	<u>[Signature]</u>	Received By:	<u>[Signature]</u>	REMARKS:	<u>Fax 575-746-6534</u> <u>Fax 8432-682-4182</u> <u>Phone: B.I.I. Box</u> <u>S 75-910-6120 Rysk!! Please!!</u>		
Delivered By: (Circle One)		Temp.	<u>18°C</u>	Sample Condition			
Sampler - UPS - Bus - Other:		Cool Intake		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
		Dries <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					

* not enough time to reach temperature

† Cardinal cannot accept verbal changes. Please fax written changes to 576-393-2475.



ARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENDEAVOR ENERGY RESOURCES
ATTN: MIKE NICKELL
P.O. BOX 11322
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 746-6534

Receiving Date: 05/13/09
Reporting Date: 05/15/09
Project Number: 1
Project Name: TERRA FED 1
Project Location: LEA COUNTY, NM

Sampling Date: 05/13/09
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: AB/HM

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/kg)	DRO (C ₁₀ -C ₂₈) (mg/kg)	Cl ⁻ (mg/kg)
		05/14/09	05/14/09	05/14/09
H17417-1	TC-1	<10.0	457	400
H17417-2	BG-1	<10.0	10.9	<16
Quality Control		525	524	500
True Value QC		500	500	500
% Recovery		105	105	100
Relative Percent Difference		3.0	0.4	<0.1

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


Lab Director


Date

H17417 TCL ENDEAVOR

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, affiliate 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. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



101 East Marland, Hobbs, NM 88240
(675) 393-2326 Fax (576) 393-2476

ANALYSIS REQUEST		BILL TO	
Company Name: Endeavor Energy Project Manager: M. K. N. Kelly Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____ Project #: _____ Project Owner: Endeavor Project Name: TERRA FSD Project Location: Sea County Sampler Name: Wendell Wilson		P.O. #: _____ Company: _____ Attn: Endeavor Address: Endeavor City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____	
Lab I.D. _____ Sample I.D. _____ H17417.1 2 TC 1 Paved Road Site BG-1		MATRIX GROUNDWATER _____ WASTEWATER _____ SOIL _____ OIL _____ SLUDGE _____ OTHER: _____ ACIDBASE: _____ ICE/COOL _____ OTHER: _____ PRESERV: _____ SAMPLING _____ DATE _____ TIME _____ 5-13-04 1130 X Chlorides TAP	
TERMS AND CONDITIONS: Payment will be charged on all accounts based on the 30 day past due at the rate of 2% per annum from the date of invoice and all costs of collection, including attorney's fees.			
Relinquished By: Wendell Wilson Date: 5-13-04 Received By: Wendell Wilson Date: 5-13-04		Phone Result: _____ Fax Result: _____ REMARKS: Sample Relinquished: 5-13-04 575-744-4534 432-682-4182 Comp. Pos. 7p Sample B. 7/1 Box Phone 575-910-6120 M. K. E. Nickells	

† Cardinal cannot accept verbal changes. Please fax written changes to 675-383-2476.



ARDINAL LABORATORIES

PHONE (575) 393-2928 • 101 E. MARLAND • HOBBS, NM 88240

July 27, 2009

Bill Box
Endeavor Energy Resources
P.O. Box 11322
Midland, TX 79702

Re: Terra Federal

Enclosed are the results of analyses for sample number H17857, received by the laboratory on 07/22/09 at 11:59 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D. Keene
Laboratory Director

This report conforms with NELAP requirements.



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENDEAVOR ENERGY RESOURCES
ATTN: BILL BOX
P.O. BOX 11322
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 746-6534

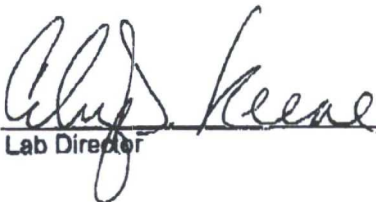
Receiving Date: 07/22/09
Reporting Date: 07/27/09
Project Number: 1 (ENDEAVOR)
Project Name: TERRA FEDERAL
Project Location: LEA COUNTY, NM

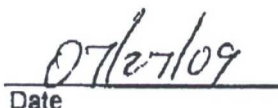
Sampling Date: 07/22/09
Sample Type: SOIL
Sample Condition: COOL & INTACT @ 5°C
Sample Received By: ML
Analyzed By: AB

LAB NUMBER	SAMPLE ID	GRO	DRO
		(C ₆ -C ₁₀)	(>C ₁₀ -C ₂₈)
		(mg/kg)	(mg/kg)

ANALYSIS DATE		07/23/09	07/23/09
H17857-1	#1	<10.0	231
H17857-2	#2	<10.0	294
H17857-3	#3	<10.0	226
H17857-4	#4	<10.0	750
H17857-5	#5	<10.0	537
Quality Control		528	541
True Value QC		500	500
% Recovery		106	108
Relative Percent Difference		6.3	2.9

METHODS: TPH GRO & DRO: EPA SW-846 8015 M
Reported on wet weight.


Lab Director


Date

H17857 T ENDEAVOR

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(575) 393-2326 Fax (575) 393-2476

ANALYSIS REQUEST

Company Name:	ENDEAVOR ENERGY		
Project Manager:			
Address:			
City:	State:	Zip:	
Phone #:	Fax #:	Project Owner:	ENDEAVOR
Project #:	1		
Project Name:	TERRA FEDERAL		
Project Location:	Ken, CO		
Sampler Name:			

FOR USE ONLY	Lab I.D.#	Sample I.D.	(G)RAB OR (C)ONTAINER	MATRIX	PRESERV	SAMPLING
				GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	ACID/BASE ICE/COOL OTHER:	DATE TIME
		#1	X		X	7/22/09 10:38
	-2	#2	X		X	7/22/09 10:40
	-3	#3	X		X	7/22/09 10:42
	-4	#4	X		X	7/22/09 10:45
	-5	#5	X		X	7/22/09 10:48

[illegible]

Phone Result:	<input checked="" type="checkbox"/> No	Add'l Phone #:	525-910-6110
Fax Result:	<input checked="" type="checkbox"/> No	Add'l Fax #:	525-446-4534
REMARKS:			

milu nicks - 575 - 420.1942

Relinquished By: <i>[Signature]</i>	Date: 5-11-89	Received By: <i>[Signature]</i>	Sample Condition Cool <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CHECKED BY: <i>[Signature]</i>
Delivered By: <i>[Signature]</i>	Time: 7:22 AM	Temp. 50°		
Sampler - UPS - Bus - Other:				

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

92#



ARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR
ENDEAVOR ENERGY RESOURCES
ATTN: RONNIE PRIOR
P.O. BOX 11322
MIDLAND, TX 79702
FAX TO: (432) 682-4182 & (575) 746-6534

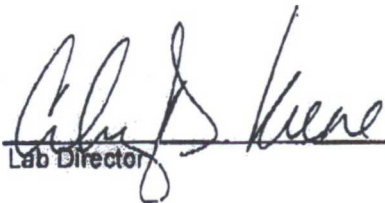
Receiving Date: 09/04/09
Reporting Date: 09/08/09
Project Number: FED # 1 (ENDEAVOR)
Project Name: TERRA
Project Location: LEA COUNTY, NM

Sampling Date: 09/04/09
Sample Type: SOIL
Sample Condition: COOL & INTACT @ 1.5°C
Sample Received By: CK
Analyzed By: CK

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/kg)	DRO (C ₁₀ -C ₂₈) (mg/kg)
------------	-----------	--	---

ANALYSIS DATE		09/08/09	09/08/09
H18187-1	#1	<10.0	135
H18187-2	#2	<10.0	300
H18187-3	#3	<10.0	273
H18187-4	#4	<10.0	328
H18187-5	#5	<10.0	328
Quality Control		424	394
True Value QC		500	500
% Recovery		84.8	78.8
Relative Percent Difference		4.5	3.2

METHODS: TPH GRO & DRO: EPA SW-846 8015 M
Reported on wet weight.


Lab Director

09/08/09
Date

H18187 T ENDEAVOR

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ARDINAL LABORATORIES

PHONE (575) 383-2326 • 101 E. MARLAND • HOBBS, NM 88240

September 8, 2009

Ronnie Prior
Endeavor Energy Resources
P.O. Box 11322
Midland, TX 79702

Re: Terra Fed #1

Enclosed are the results of analyses for sample number H18187, received by the laboratory on 09/04/09 at 10:45 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,

Celey D. Keene
Laboratory Director

This report conforms with NELAP requirements.



ARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SOUTH ENVIRONMENTAL SERVICES
ATTN: MIKE NICHOLS
P.O. BOX 11322
MIDLAND, TX 79702

Receiving Date: 10/03/08
Reporting Date: 10/07/08
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Sampling Date: NOT GIVEN
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: ML
Analyzed By: AB

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/kg)	DRO (>C ₁₀ -C ₂₈) (mg/kg)	TOTAL TPH (mg/kg)
		10/07/08	10/07/08	10/06/08
H16027-1	PILE #1	<25.0	485	2,770
H16027-2	PILE #2	<25.0	237	3,110
H16027-3	PILE #3	<25.0	55.6	472
H16027-4	PILE #4	<25.0	340	1,610
Quality Control		544	474	316
True Value QC		500	500	300
% Recovery		109	94.8	105
Relative Percent Difference		3.5	5.6	0.2

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; EPA 418.1


Chemist


Date

H16027 TPH2CL SES

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Page ____ of ____

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