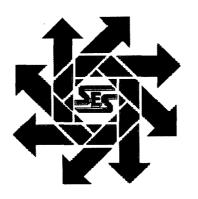
# Cimarex Energy Company Palmillo State #2 Unit J Section 32, Township 18S, Range 29E Eddy County, New Mexico

### **Delineation Report/Work Plan**

**April 18, 2011** 





#### Prepared for:

Cimarex Energy Company 600 North Marienfeld, Suite 600 Midland, Texas 79701

By:

Safety & Environmental Solutions, Inc. 703 East Clinton Street Hobbs, New Mexico 88240 (575) 397-0510

#### **TABLE OF CONTENTS**

I.	COMPANY CONTACTS	-
II.	BACKGROUND	•
111.	SURFACE AND GROUND WATER	1
IV.	soils	1
V.	CHARACTERIZATION	-
VI.	WORK PERFORMED	2
VII.	ACTION PLAN	3
	FIGURES AND APPENDICES	. (

#### I. Company Contacts

Company Representative	Company	Telephone	E-mail
James Tinney	Cimarex Energy Co.	575-706-0095	jtinney@cimarex.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

#### II. Background

Safety and Environmental Solutions, Inc. (SESI) was engaged by Cimarex Energy Company to perform a site assessment at the Palmillo State Com #2 located in Unit J Section 32, Township 18 South, and Range 29 East, Eddy County New Mexico.

According the C-141 dated 3.13.11, Mr. Tinney states that a internal corrosion of the 2" x 4" connection on back of oil tank ruptured, in which 285 barrels of crude oil was release and 20 barrels were recovered.

#### III. Surface and Ground Water

According the database provided by the New Mexico Office of State Engineer's online database, the closest depth of water in this area located 2.2 miles southwest in section 7 of Township 19 South, Range 29 East. The depth of water is 150' October 1981, primarily used for livestock watering.

#### IV. Soils

According to the United States Department of Agriculture Soil Survey for Eddy Area, New Mexico, the surface soils in the area are from the Tonuco Series: Tonuco loamy fine sand. These soils are consisted of moderately dark colored non calcareous soils that have been worked by the wind. This soil occurs on ridges and in swales of uplands east of the Pecos River. All acreage is used for native pasture and wildlife habitat. The root zone is restricted by the depth to caliche. Revegetation is difficult because temperatures are high and rainfall is undependable.

#### V. Characterization

The target cleanup levels are reached by the application of the "Guidelines for Remediation of Leaks, Spills and Releases New Mexico Oil Conservation Division (NMOCD) – August 13, 1993 to this site is 5,000 parts per million (ppm) Total Petroleum Hydrocarbons (TPH).

Application of the New Mexico Oil Conservation Division's ranking criteria for contaminated soils at this site is presented below:

Depth to Ground Water:			
(Vertical distance from contaminants to	Less than 50 feet	20 points	
seasonal high water elevation of	50 feet to 99 feet	10 points	
groundwater)	>100 feet	0 points	X
Wellhead Protection Area:			
(Less than 200 feet from a private domestic	Yes	20 points	
water source; or less than 1000 feet from all	No	0 points	X
other water sources)			
Distance to Surface Water:			
(Horizontal distance to perennial lakes,	Less than 200 feet	20 points	Ţ
ponds, rivers, streams, creeks, irrigation	200 feet to 1000 feet	10 points	
canals and ditches)	>1000 feet	0 points	X
	<b>RANKING SCORE (T</b>	OTAL POINTS)	0

#### VI. Work Performed

On March 29, 2011 SESI arrived at the location with Gandy's Construction to install test trenches from release area. A representative for Enterprise was onsite to spot and witness excavation around Enterprise line. Three (3) test trenches were installed to depths ranging from 0-10 feet (ft.) below ground surface (bgs). The extent of the back hoe was 10 ft.

TT#1 (east of the tank battery) was excavated to a depth of 3 ft bgs. Heavy staining with minimal was encountered on the surface, at 1-10 ft. there was no visible staining and minimal odor encountered. Three samples were obtained from test trench #1 at depths of 3, 5 and 10 ft.

TT#2 (northeast of the north end of the tank battery) and was excavated to a depth of 5 ft below ground surface. Heavy staining was encountered from the 0-1 ft, from 3-5 ft there was no visible staining and minimal odor encountered. Two samples were obtained from test trench #2 at depths of 3 and 5 ft.

TT#3 (northwest of the tank battery off location pad) and was excavated to a depth of three feet below ground surface. Heavy staining with heavy odor was encountered 0-1 ft; at 3 ft. there was no visible staining and no odor encountered. Two samples were obtained from test trench #3 at depths of 3 and 5 ft.

Mr. Steve King and Mr. James Tinney, Cimarex representatives were onsite. Mr. King requested a background sample outside of the release area. A sample was retrieved at three (3) feet below ground surface.

A total of eight (8) samples were properly preserved and transported under chain of custody to Cardinal Laboratories, Hobbs, New Mexico. The samples were analyzed Chlorides (EPA Method 4500-Cl<sup>-</sup>B), Total Petroleum Hydrocarbons (TPH) (EPA Method 418.1) and Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) (EPA Method SW846 8021B). The results of the analysis are as follows:

Lab ID	Sample ID	CI <sup>*</sup> (mg/kg)	TPH 418.1 (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Total Xylenes (mg/kg)
Analysis Date:	-	04/01/11	3/31/11	04/01/11	04/01/11	04/01/11	04/01/11
H100630-01	TT#1 3' bgs	1,790	<100	<0.050	<0.050	<0.050	<0.150
H100630-02	TT#1 5' bgs	640	<100	<0.050	<0.050	<0.050	<0.150
H100630-03	TT#1 10' bgs	128	<100	<0.050	< 0.050	<0.050	<0.150
H100630-04	TT#2 3' bgs	48.0	1,330	<0.050	<0.050	<0.050	<0.150
H100630-05	TT#2 5' bgs	272	<100	<0.050	<0.050	<0.050	<0.150
H100630-06	TT#3 3' bgs	16.0	8,520	5.56	23.9	6.32	12.2
H100630-07	TT#3 5' bgs	64.0	337	< 0.050	<0.050	<0.050	<0.150
H100630-08	Background Sample	256	<100	<0.050	<0.050	<0.050	<0.150

#### VII. Action Plan

Based on the recent delineation, the analytical results conclude that vertical extent of contamination is above 5 ft. below ground level. It is proposed that the affected area be excavated to a depth of 3' below ground level, removing the most highly contaminated soils. The excavated soils will be transported to Controlled Recovery Inc. (CRI), a New Mexico Oil Conservation Division (NMOCD) approved facility for disposal. The excavated area will then be backfilled with clean soils and contoured to original grade.

#### VIII. Figures and Appendices

Figure 1 – Vicinity Map

Figure 2 – Site Map

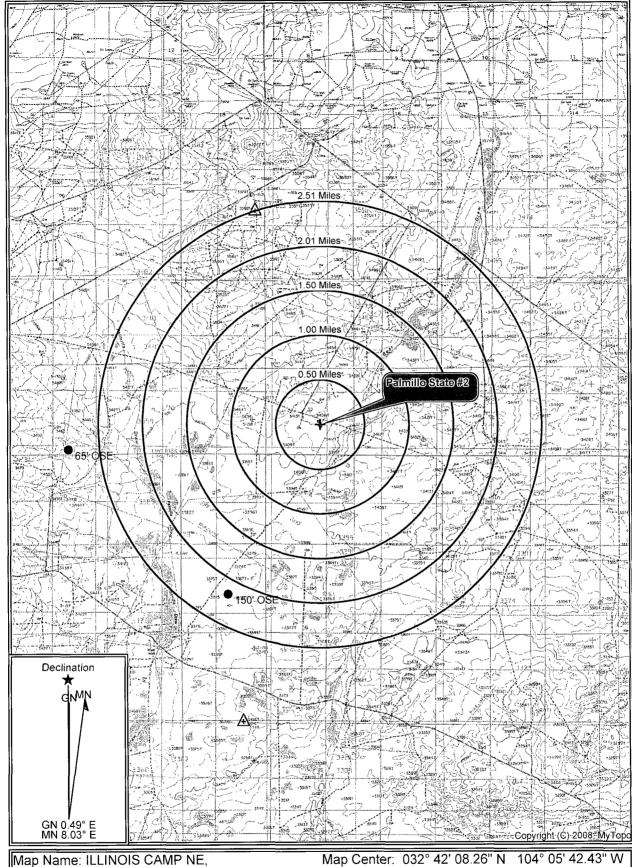
Appendix A – Analytical Results

Appendix B – Site Photographs

Appendix C - C-141

Figure 1 Vicinity Map

是發煙



Scale: 1 inch = 5,750 ft.

Horizontal Datum: WGS84



### New Mexico Office of the State Engineer Water Column/Average Depth to Water

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

•	a sunggraphy a a sampyaganag sam	(quarte	rs a	re s	sma	allest	to larg	est)	(NAD83 UTI	M in meters)		(In feet	)
W.	Sub		Q	Q	Q						Depth I	Depth \	<b>Nater</b>
POD Number	basin Üse	County	64	16	4	Sec	Tws	Rng	X	<b>Y</b>	Well	WaterC	olumn
CP 00646	STK	ED	1	1	4	07	198	29E	583155	3615551	199	150	49
CP 00681	PRO	ED	1	1	3	34	198	29E	587230	3609127*			
CP 00703	PRO	ED		4	1	36	198	29E	590945	3609441*	225	115	110
CP 00739	PRO	ED	3	4	4	35	198	29E	589246	3608217	200	110	90
CP 00741	PRO	ED	1	3	2	34	19S	29E	588030	3609533*	230	60	170
CP 00820	STK	LE		2	4	13	198	29E	591713	3613870*	120		
CP 00821	STK	LE		4	4	25	19S	29E	591743	3610248*	120		
									Aver	age Depth to	Water:	108 fe	eet
										Minimun	n Depth:	60 fe	eet
										Maximum	n Depth:	150 fc	et

**Record Count: 7** 

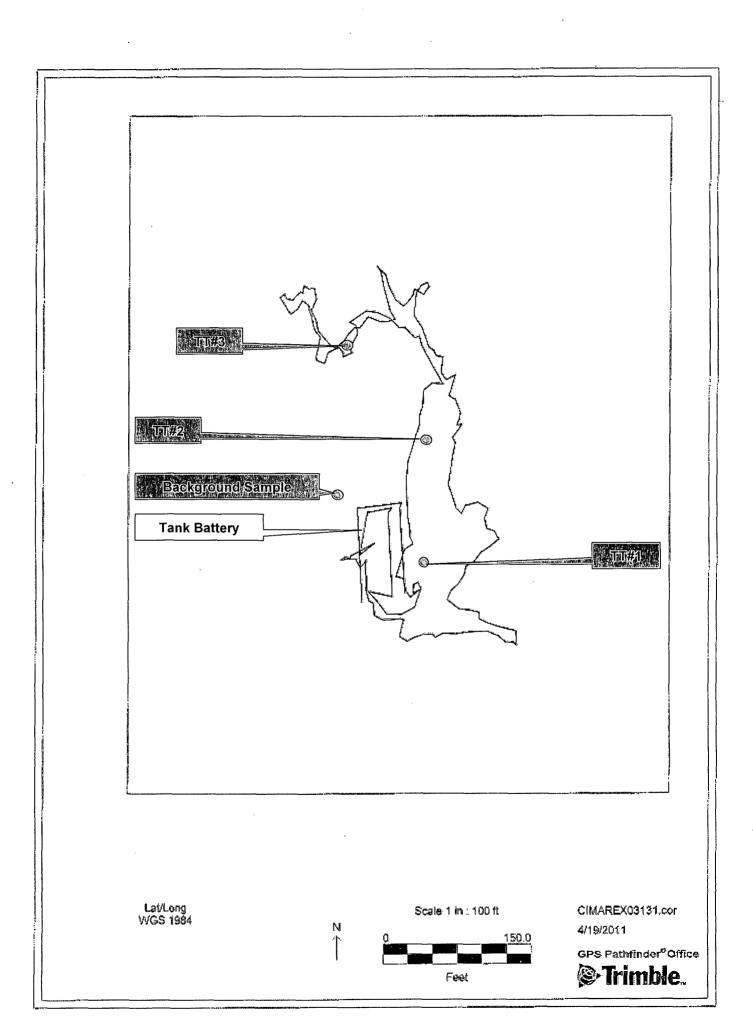
PLSS Search:

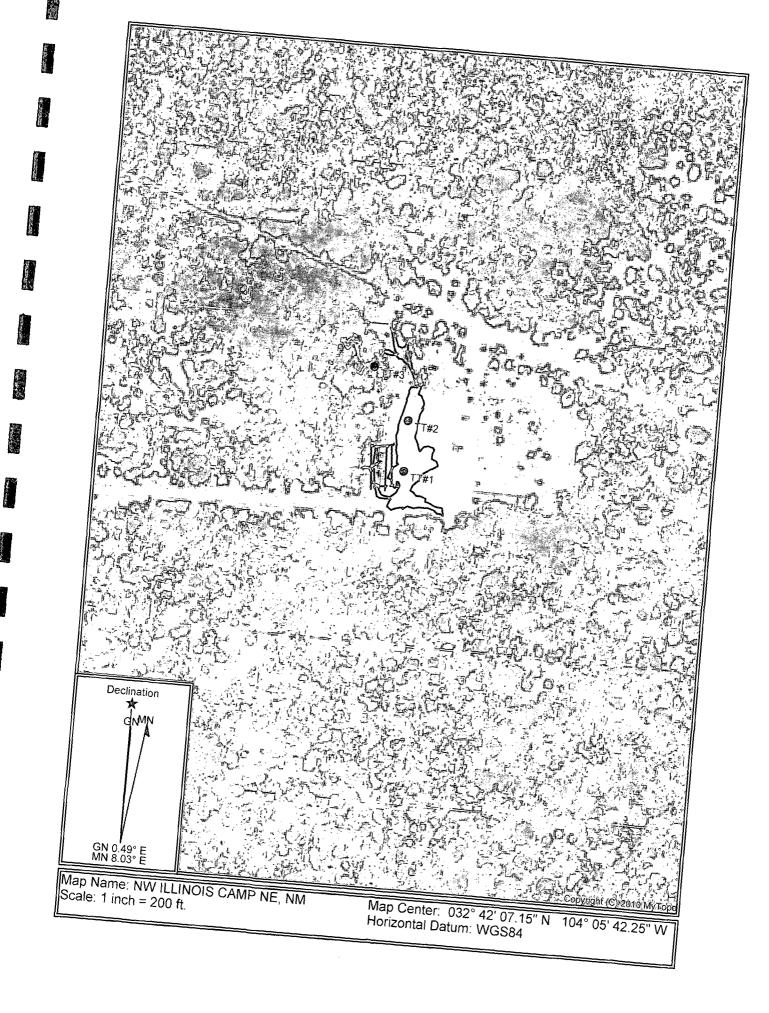
Township: 19S

Range: 29E

Figure 2 Site Map

Section 1





# Appendix A Analytical Results

無し



April 05, 2011

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: CIM-11-005

Enclosed are the results of analyses for samples received by the laboratory on 03/30/11 16:03.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylanes

Method SW-846 8260

Senzene, Toluene, Ethyl Benzene, and Total Xylanes

Method TX 1005

Total Petroleum Hydorcarbons

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

Cardinal Laboratories is accreditated 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 524.4

Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Safety & Environmental Solutions Bob Ailen 703 East Clinton Hobbs NM, 88240

Fax To:

(575) 393-4388

Received:

03/30/2011

Sampling Date:

03/30/2011

Reported:

04/05/2011

Sampling Type:

Soil

'Project Name:

CIM-11-005

Sampling Condition:

Cool & Infact

Project Number:

PALMILLO STATE #2

Sample Received By:

Jodi Henson

Project Location:

EDDY CO, NM

#### Sample ID: TT #1 3' BGS (H100630-01)

. STEX 80218	mg/kg	Analyzed By: CMS	8 K2 a nadolika k2 dilikanik96, sa (16. majis 1964 2 (1993 2 K-1970 2 L) (18. majis 2 (1974 2 K-1970 1 M) (19 18 K2 a nadolika k2 dilikanik96, sa (16. majis 1964 2 (1993 2 K-1970 2 L) (18. majis 2 (1974 2 K-1970 1 M) (1	r para grit, prisson i suste di un piè i ra y i sur parazza grindador de la cindo e e della cercici.
Anaiyte	Result Reporting Limit	Analyzed Method Blank	BS % Recovery True Value QC	RPD Qualifier
Benzane*	<0.050 - 0.050	04/01/2011 ND	1.81 90.6 2.00	3.31
Toluene*	<0.050 0.050	04/01/2011 NO	1.88 94.1 2.00	3.73"
Ethylbenzene*	<0.050 0.050	04/01/2011 ND	1.93 - 96.7 2.00	3.41
Total Xylenes*	<0.150 0.150	04/01/2011 ND	5.72 95.4 6.00	3.22
Surrogate: 4-Bromoffuoroberzene (PIL	96.8 % 70-130			• .
Chloride, SM4509Cl-8	mg/kg	Analyzod By: HM		and share and a state of the st
Analyte	Result Reporting Limit	Analyzed Method Blank	BS % Recovery True Value QC	RPO Qualifier -
Chloride	1790 16.0	04/01/3011 ND	432 108 400	3.77
TPH 418.1	mg/kg	Analyzed By: 48	PUTTO B. BETTER TERRITORISM BETTE IN CASAN TRANSPORT STREET PRINCE CHARTON POPO F. S. S. LEVA. FF WALLANDS OF UNIVERSAL OF	in a reserving of the control of the
Analyte	Result Reporting Limit	Analyzed Method Blank	BS % Recovery True Value QC	RPD. Qualifier
TPH 418.1	<100 100	03/31/2011 ND	1200 101 1190	0.830

#### Cardinal Laboratories

\*=Accredited Analyte

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 crent 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 shell Cardinal be fable for invidential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by Cardinal, regardlets of whether such characteristics and the performance of the services hereurier by Cordinal, regardlets of whether such

align Kena



Safety & Environmental Solutions Bob Allen

703 East Clinton Hobbs NM, 88240

Fax To: (575) 393-4388

Received:

03/30/2011

Sampling Date:

03/30/2011

Reported:

04/05/2011

Sampling Type:

Soil

Project Name:

CIM-11-005

Sampling Condition:

Cool & Intact

Project Number:

PALMILLO STATE #2

Sample Received By:

Jodi-Hensen

Project Location:

EDDY CO, NM

Sample ID: TT #1 5' BGS (M100630-02)

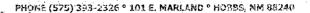
BYEX 8021B	mg/kg	Analyzed By: CMS	**************************************	The company of the	nga pinan muninggi maga magan in minan mananan mananan san santan minan minan santa santan santan santan santa
Analyte	Result Reporting Limit	: Analyzed - Method Blank	SS % Recovery	True Value QC	RPD Qualifier
Benzene*	<0.050 0.050	04/01/2011 ND	1.81 90.6	2.00	3.31
Toluene*	< 0.050 0.050	04/01/2911 AD	1.88 94.1	2.00	3.78
Ethylbenzene*	<0.050 0.050	04/01/2011 ND	1,93 95,7	2.00	3.41
Total Xylenes*	<0.150 0.150	04/01/2011 ND	5.72. 95.4	6,00	3.22
Surregate: 4-Bromofluorobenzene (PI	94.6% 70-136				
Chloride, SM4500Cl-B	nig/kg	Analyzed By: 1694	na k Trans ( an Marando), or	· · · · · · · · · · · · · · · · · · ·	
Analyte	Result Reporting Limit	Analyzed Method Black	BS % Recovery	True Value QC	RPD Qualifier
Chloride	640 16.0	04/01/2011 ND -	432 / 108	490	3.77
TPH 418.1	mg/kg	Analyred By: All			
Analyte	Result Reporting Limit	Analyzed - Method Blank	BS % Recovery	True Value QC	RPD Qualities
TPH 418.1	<100 100	03/21/2011 ND	1200 / 101	1.196	0.830

#### Cardinal Laboratories

\*=Accredited Analyte

id 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 circle, its subsidiaries, effiliates or successors arising out of or related to the performance of the services hereunder by Cerdinal, regardless of whether such

alex true





Safety & Environmental Solutions Bob Allen 703 East Clinton

Hobbs NM, 88240

Fax To: (575) 393-4388

Received:

03/30/2011.

Sampling Date: .

03/30/2011

Reported:

04/05/2011

Sampling Type:

Soil

Project Name:

CIM-11-005

Sampling Condition:

Cool & Intact.

Project Number:

PALMILLO STATE #2

Sample Received By:

Jodi Henson-

Project Location:

EDDY CO, NM

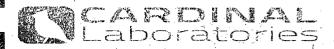
#### Sample ID: TT #1: 10' BGS (H100636-03)

Sample 10: 11 #1: 10   STEX 80218	ma/kg	Апэдухеё Бу: Сиеб		e Medical September 1997 Material September 1997
Ánaiyte	Result Reporting Limit	Analyzed Method Blank	6S . % Recovery . True Value Q	C RPD Qualifier (1)
Benzene <sup>®</sup>	<0.058 ( .0.050 <sub>2</sub> ) }	04/01/2011 ND	<b>1.81</b> 99.5 2:00	3.31
Toluene*	<0.050 0.050	04/01/2011 MD	1.88 94.1 2:00	3.70
Ethylbenzene*	<0.050 0.050	04/01/2011 ND	1,93 3 96.7 2.00	3,41
Total Xylenes*	<0.150 0.150	04/01/2014 ND	5.72 95.4 6.00 .	3.22
Surrogate: 4-Bromofluorohen. Chloride, SM488901-3	zene (PU 95.6% 70-130 mg/kg	) Analyzed Sy: Hhi		TO STATE OF THE PARTY OF THE PA
Analýte	Result Reporting Limit	Analyted Method Blank	BS % Riscovery True Value Q	C RRD Qualifier
Chioride.	1.28 15.0	04/03/2011 RO	432 / / 108 409	3.77:
79H 418.1	nig/kg	Analysed ty: A3		THE RESERVE OF THE PROPERTY OF
Analyte TPH 418.1	Result Reporting Limit	Analyzed Method Blank 03/31/2011 MD	8S % Recovery True Value Q 1200 101 1390	C RPD Qualifier

Cardinal Laboratories \*=: Accredited Analyte

PLEASE NOTE: Liability and Danages. Cautinal's Publicy and client's exclusive remedy for any claim arising, whether based in toward or text, shall be learned by client for analyses. All claims, indexing those for negligenes and any other cause whetevere shall be deemed wieted unless made in writing and received by Sarchina within thirty (30) days after completion of the applicable performance. In ne event shall Cardinal be flaths for incidental or consequential distributes, without limitation, business interruptions, ioss of use, or loss of profits incorred by distributes of uncessors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Periods relate only to the semples identified above. This report rical not be reproduced except in full with internal proved of Cardinal Laborationes.

aleg & Kenne



Safety & Environmental Solutions Bob Allen 703 East Clinton

Hobbs NM, 88240

Fax To: (575) 393-4388

Received:

03/30/2011

Sambling Date: -

03/30/2011

Reported:

04/05/2011

Sampling Type: -

Soij .

Project Name:

CIM-11-005

Sampling Condition:

Coei & Intact

Project Number:

PALMILLO STATE #2

Sample Received By:

Jodi Henson

Project Location:

EDDY CO, NM

#### Sample ID: YY #2 3' BGS (H100630-04)

BTEX 80213		mg/kg	Analyzed By: CMS	er vandere de 1917 seus de montantante en en en entre de la companya de la companya de la companya de la compa	annin ( ) kanalinang kalik albirk k ( 10 yel 17 d differenten 15 fektor ( ) k die liftbor ( 17 fe	The statement will always the process of a processing spirit course out the second source course.
. Analyte		Result Reporting Limit	Aualyzed - Mathod Blank,	§\$ % Recovery	True Value QC	RPD Qualifier : -
Benzene*		<0.050 0.050	04/91/2011 MD	1.81 90.6	2.00	331
Toluene*		<0.050 0.050	C4/01/2011 ND	1.88 94.1	2.00	3.78
Ethylbenzene*		<0.050 0.050	04/01/2011 ND	1.93 96.7	2,00	3,41.
Total Xylenes*		<0.150 9.150	04/01/2011 ND	5.72. 95.4	6:00	3.22
Surrogate: 4-Branofluoro Chloride, SN450001-8	benzene (PII.	98.3 % 70-13: 	O Amalyasal Byt Bld	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		
Analyte		Result Reporting Limit	Analyzed - Method Blank	85 % Recovery	True Value QC	RPD Qualifier ::
Chloride		48.0	04/01/2011 ND	432 108	30 <u>0</u>	3.77 1
TPH 413.1	e has an observable committee, against	mg/kg	Analyzat Syr AB		and the state of t	en la
Analyze		Result Reporting Limit	Analyzed Mothod Blank	BS 95 Recovery	True Value QC	RPD Qualifier
TPH 415.1		1330 100	03/31/2011 ND	1,200 101	1190	0.830

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE BOTE: Bability and Damages. Cardinal's liability and clients excluding those bot negligence and any other cause witassoners shall be deemed waved unless smaller in writing and necessary by Cardinal within thinty (30) days infair completion at the applicable service. An no event shall Cardinal by liability for consequential damages, including, without limitation, business interruption, loss of use, or loss of original control by Cardinal propositions arising out of or related to the performance of the survices interruption, loss of use, or loss of use, or loss of whether such damages of whether such damages upon any of the above stated reasons or otherwise. Residual control to the performance of the survices of control to the performance of the survices interruption.

aley to Kenn



Safety & Environmental Solutions Bob Allen 703 East Clinton Hobbs NM, 88240

Fax To:

(575) 393-4388

Received:

03/30/2011

Sampling Date:

03/36/2011.

Reported:

04/05/2011

Sampling Type:

Soll

Project Name:

CIM-11-005

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

Project Number:

PALMILLO STATE #2

Project Location: EDDY CO, NM

#### Sample ID: TT #2 5' BGS (#1100630-05)

67EX 8021B	mg/kg	Analyzed By: CMS			Standard Restricted Property Cares Control	GAN, ASARTIN ALTYS ASTRONOMY S PROS
Analyte Analyte	Result Reporting Limit	Arialyzed Method Blank	BS % Recovery	True Value QC	RPD	Qualifier .
Benzene* * *	<0.050 0.050	04/01/2011 ND	1.31 90.5 -	5.00	3.35%	
Toluene*	<0.050 0.050	04/01/2011 ND	1.88 94.1	2.60	3.78	
Ethylbenzene*	<0.050 0.050	04/01/2011 ND	1,937 - 96.7	2.00	3.41	
Total Xylenes*	<0.150 0.150	04/01/2011 ND	5.72 95.4	6.00	3.22	
Surrogate: 4-Fromoftworvbenzene (FIL	94.7 % 70-130		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
Chloride, SM4500Cl-B	mg/kg	Analyzed Sy: HW	The same of the same and the same of the s	Same group, with him below, i, he i thinke him to see he had,	ni e ste i memo i più monominazioni si sico i i delle	Markanian mananan man
Analyte (	Result Reporting Limit	Analyzed Mathod Blank	BS % Recovery	True Value QC	RPD	Qualifier
Chloride	272 16.0	04/01/2011 ND	432 108	. 400	3.77	
TPH 418.1	mg/kg	Analyzed By: AB	a managan aya 12 kalanga. Nasi i managa mpagalah kalanga in menggapan salah			
Analyte Single	Result Reporting Limit	Analyzed Method Biank	SS % Recovery	True Value QC	RPD	Qualifier
TPH 418,1	<100 100	93/31/2011 ND	3200 101	1190	0.830	

Cardinal Laboratories \*=Accredited Analyte

PIEASE NOTE: Liability and Damages. Cardinal's liability and clear's evolusive remoty for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysiss. All claims, including those for negligence and enry other cause whatsoever shall be deemed visived 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, expenditured to the performance of the services learned by Cardinal, regardless of whether such dam is based upon any of the above stated reasons or otherwise. Results related only to the services learned by the services learned by Cardinal, regardless of whether such dam is based upon any of the above stated reasons or otherwise. Results related and the services are considered accret in full with write approval of Cardinal Laborationes.

Celeg & Keena



Safety & Environmental Solutions

Bob Allen

703 East Cliriton

Hobbs NM, 88240

Fax To: (575) 393-4388

Received:

Sampling Date:

Reported:

04/05/2011

Sampling Type:

Soll

Project-Name:

CIM-11-005

Sampling Condition: 200

Cool & Intact

Project Number:

PALMILLO STATE #2

Sample Received By:

Jodi Henson:

Project Location:

EDOY CO, NM

Sample ID: TT #3 3' 995 (H100630-06)

STEX 80218	SNEST EEG.	Assigned By: CMS	errina, så sid stør en struk kelter older, det elle pe nedlegen fyrmestern i han højste i ståte pi er eller.	m addanas visiandos plantajos an salastia en 17 vivignos litrodes iliu 42 de 140 (n. 17 de 140).	S-1.091
Analyte	Result Reporting Limit	Analyzed Mothod Blank	6S % Recovery	True Value QC R2D	Qualifier -
Benzene*	5.58 1.00	04/04/2011 ND	1/01/	2.00 3.31	and the second second
Toluene*	23.9 1.60	64/04/2611 ND	1.88 . (1) × 94.1 ×	2.00 3.78	
Ethylbenzene*	<b>5.3</b> 2 1.00	04/54/2011 ND	1.93 v njv. v 96.75.,	2.00 3.45	
Total Xylenes*	<b>12.2</b> 3.00	04/04/2011 ND	5,7295,4	6.00 3.22	
Surrogate: 4-Bromoffyorobewene (Fff. Chloride, SM4500CI-8	57/1 %/ 70-130 mg/kg	Poelyzed Syr Bill	e in the second		
Analyte	Result Reporting Limit	Analyzed Method Blank	BS % Recovery	True Value QC RPD	Qualifier
Chloride	16.0 · · ·	04/01/2011 ND	432 - 108	400 3.77	
TPH 418.1	mg/kg	Anglyzed öy: AB	et malaut, 1714 aant miljatu kanskonskonskonskon jak propositiologisk (s. 1.). Herjak sija (s.		none and the second of the sec
Analyte	Result Reporting Limit	Analyzed Method Blank	BS % Recovery	True Value QC RPD	-Qualifier · ·
TEH 418.1	<b>8520</b> 500	03/31/2011 ₩D	<u> 1200 -                                 </u>	1190 0.830	

#### Cardinal Laboratories

\*=Accredited Analyte

any other cruse whatsoever shall be deemed waiveo unless made in writing and received by Cordinal within thirty (30) days once completion of the applicable service. In no extendibining, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors whing out of or related to the performance

alexate



Safety & Environmental Solutions Bob Allen 703 East Clinton Hobbs NM, 88240

Fax To:

(\$75) 393-4388

Received:

03/30/2011

Sampling Date:

03/30/2011

Reported:

.04/05/2011

Sampling Type: - - -

Soll

Project Name:

CIM-11-005

Sampling Condition:

Cool & Intact

Project Number:

PALMILLO STATE #2

Sample Received By:

Jodi Henson

Project Location:

EDDY CO, NM

#### Sample ID: TF #3 5' BGS (M100630-07)

STEX 8021D	mg/kg	Analyzed by: CMS	rijara aramanin iponoromalijajaja vietnas el praesterion zaponom (prepiencia, al piaja), d. d.	Marking and a second of the se	e. Beginne interestant promotential interestant
Anaivte	Result Reporting Limit	Analyzed Mothod Blank	BS % Recovery	True Value QC RPO	Qualifier
Benzene*	<0.050 0.050	04/04/203.1 ND	1.91 95.5	2.00 5.78:	
Toluene*	< 0.050 0.050	04/0 <del>3</del> /2011 . ND	1.97 98.6	2.00 5.39	
Ethylbenzene*	<0.050 0.050	04/04/2011 ND	2,05 102	2.00 5.11	.•
Total Xvienes*	<0.150 0.150	04/04/2011 ND	5.10 102	6.00 5.63	
Surrogate: 4-Bromofluorobenzene (PIL Chloride, SM4500Ci-B	93.1 % 70-130 mg/kg	) Auziyoed Dy: HM			
Analyta	Result Reporting Limit	Analyzed Method Blank	BS % Recovery	True Value QC RPD	Qualifier
n Chloride	<b>64.9</b> 16.0	04/01/2011 ND	432 108	400. 3.7.7	
TPH 418.1	mg/kg	Analyzed By: AB		en which is the country and th	
Analyte	Result Reporting Limit	Analyzed Method Blank	8S % Recovery	Truc Value QC (1980)	Qualifier
TPH 418.1	337 100	03/31/2 <b>0</b> 11 ND	1200 101	1190 0.830	

#### . Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Ushlifty 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 of once for negligence and any other cause whistoever 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 incidential contractions, and including, without limitation, business interruptions, loss of use, or loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services herounder by Cardinal, regardless of whether such claims 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 approa air Cardinal Laboratones.

aleg & Krena



Safety & Environmental Solutions Bob Allen 703 East Clinton Hobbs NM, 88240

Fax To:

(575) 393-4388

Received: Reported: 03/30/2011

04/05/2011 CIM-11-005

Project Name: Project Number:

Project Location:

PALMILLO STATE #2

EDDY CO, NM

Sampling Date:

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By: Jodi Henson

#### Sample ID: BACKGROUND 3' BGS (H100630-08)

	BIEX 80238	mg/kg	Acalyzed by: CMS	T Freeholds (months and property and the second	NO ASSESSMENT OF THE PROPERTY				
<u> </u>	Analyte	Result Reporting Limit	Analyzed Method Blask	BS % Recovery - True Value QC	RPD Qualifier				
	Benzene*	<0.050 0.050	04/04/2011 ND	1.93. 95.5 2.06	5.78				
	Toluene*	<0,050 0,050	04/04/2011 ND	1.97 98.6 2.00	5.39				
	Ethylbenzene <sup>®</sup>	<0.050 0.050	04/04/2011 ND	2.05 (	5.11				
	Total Xylenes*	<0.150 0.150	04/04/2011 ND	6,10 > 102 6,00	5.63				
	Surrogate: 4-Bromofluorobenzene (PIL	93.8 % - 70-136	)						
	Chloride, SW4500Cl-8	mg/kg	. Analyzed By: Hiti	mushed an an and commence of the commence of t	en i de en				
	Analyte	Result Reporting Limit	Analysed Method Blank	BS % Recovery > True Value OC	RPD Qualifier C				
(8)	Chloride	256 16.0	04/01/2011 ND	432 108 400	3,77				
	TPH 419.1	mg/ky	Analyzed By: A6		THE REPORT OF THE PARTY OF THE				
	Analyte	Result Reporting Limit	Analyzed Method Blank	BS % Recovery True Value QC	RPD Qualifier				
	TPH 418.1	<100 100	03/31/2011 ND	1200 101 1190	0.830				

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Listship and Carringis. Cardinal's liability and client's exclusive remedy for any clear arising, whether based in contrain or first, shall be limited to the amount paid by client for analyzes. All claims, including those for negligence and any other rause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days offer constitution of the applicable service. In no event small Cardinal be liable for incremial or consequential damages, including, without finitiation, business interruptions, loss of use, or loss of profits incurred by clience by subsoliaries, affiliates or successors which, out of or related to the performance of the services hereunder by Cardinal, regardless of whether such relating based upon any of the above stated reasons or otherwise. Residts relate only to the samples identified above. This report shall not be reported except in full with withth approval of Cardinal Laboratories,

alex 21



#### Notes and Deficitions

5-LOW

Low surrogate recovery confirmed as a matrix effect by a second analysis.

ND

Analyte NOT DETECTED at or above the reporting limit

RPD

Relative Percent Difference

Samples not received at proper temperature of 6°C or below.

Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remety for any client ansing, 'kneether based to contract or tord, shall be limited to the annount paid by client for analyses. All claims, including those for reallyeance and any other cause whatsoever shall be deemed warved unless made in writing and received by Cardinal within thing (30) days after completes) of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of contents incurred by Cleric, its subsidiarita, Efficience or successors arrang out of or related to the performance of the services howeverby by Cardinal, regardless of whether out dains is based upon any of the above stated reasons or otherwise. Easilis relate only to the samples identified above. This report shell not be reproduced except in full with written approval of Cardinal Laboratories.

alex Nena

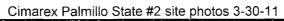
# ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 89249

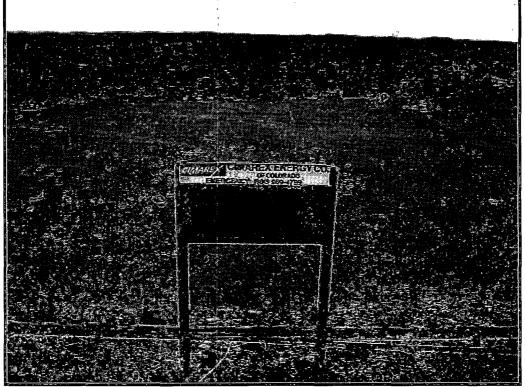
#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

e. •	87.0262-650 (000)	ロースのはない かくかんご しゃまいり かんり かんだんしんか	-	en an an an		www.			renaderatives and	- internation	درون پامپیش شریعی	maning and a second areas of the	· · · · · · · · · · · · · · · · · · ·	and the same of the same		 Liveryne Mercik	urarityaasiaah.		(C. S. 4) "T. 44 SF 38				decimal accounts		
Company Name:									BILL TO								ANA	YSI	RE	REQUEST					
Project Manager:	ler: Bob Allen									P.O. #															
Address:	703 East Clinton  Hobbs State: NM Zip: 88240									Company: Same						and at Secondary									
City:	_Hobbs		Attn:					ļ							,										
Phone #:	575-397-0510 Fax#: 575-393-4388								Address:				-	and the second	-										
Project #: C.m. 1/205 Project Owner: Cipacites								Gity:												1 1 1/2					
Project Name: Palmillo State #2								Stale: Zip:					ļ					,							
Project Location:	Edoly no	и	<b>3</b>					Pho	ne#:						1								ĺ		
Sampler Name:	Isciae t	Time and	7					Fax	月:						1 1/		-			-			;		
FOR LAB USE ONLY			2	The state of the s	M	ATRI	X.	P	RESER	īV.	SAMPL	ING	X		0										
			Ş,	3   191	2.			- And State Co				-	7	1		1									
Lab I.D.	Sample I.I	).	35 (C	WA.	W IE	and the second							1	13	2									1000	
			ABC	5 15	E.		350	24.	*	ä!				1	-5	1 7 1				i 1			3		
	4.2		(S) (S)		MAS		SLUDGE		2010 PO	ĔI.	DATE	TIME	Į,	火	1					1 1			ĺ		
410063017	7# 1 3 bs	7	4						V			0530	L-				i		of Nati Pass			1.10			
2/	7741 5 63	5						Total Whom			j	CB35	1		1									14	
3/2	T# 10 %	5						1				10855						. in the later of						14	
4/7	7742 3 VOI							1				109:5		LL.					e Heriotani, works, as					1	
5/7	77+2 5 45 5			100			<u>                                     </u>				.	0920							-			maken the laws			
6	TIT3 3 855					<u> </u>	100		_  _	\$		1020													
1	7743 5 65		4			<u> </u>	Li					1625		4-45	<u> </u>									<u> </u>	
5	TT B B CL	Sternal 3 las				11					1/	1045		V								242000000000	ال مستحديث	27,1220,42	
	Service of the servic			-		<u> </u>					width madels of the	lagrygus a emarticism es		1			an an demonstrate		ا ئالىلىدۇنىڭ			لننت			
PLEASE MOYE: Linbay and	Damagea, Curdinate isobity and clark	u mehinta ramadi in ti	ominate Eclain a	is individual	ather that	erndress tod frati	ntepci o	Claric S	had be Post	ed to the	randor pada Smooth of	J. S. Dis short for	ancomoria 165	pin-	L	(ks. )	Tan	isaa Su	กล์ก็ตับกา	lidefeld to	E ha china	nd on all s	cecusis no	inethan	
analyses. Al claims including	there for negligence and any other ca- tinal beliebic for incldenial or concept	san Whaleoever shall be d	served v	ಷೇಶರ ಭಾಗ	ष्ट्रेड् एउटा	क दिल्लाकी	ng sod.	seculve	ri by Geræs	al within t	o depositi	i ozogytelion of th	e egyphici	uko-			30 d.	g's most à.	éathe :	345 01243		n from the		la at involop	
	uel of or related to the performance of													UYe	a vankiik.	ings-worth	Adeli		po sirilara	or or seed as easy	emmante c	ereck weiterscher	Altropad Proping Street	6-110-000 F. 15-000 S. 18	
Tarrighter (Collection)	31100	3/30/4	1	j	<b>υ</b> ξ.	11	2.4		ائد در دار الاستان			Fax Reput		ii. Ye			Add I				kaya da saya <del>garana</del> Sadabada da sabiya				
		埋むる	بار			344	44	41	Jany. A	***************************************		MEMARKS	į					,							
Relinatished By:		Date:	Ren	lived	Ву:		• · · · · · ·					· · · · · · · · · · · · · · · · · · ·		:											
•		Time:	1				i.					in contract of the contract of		•			-			•					
Delivered By:	(Circle One)	and the state of t	Turn		Semp			in T		ÇKED		E Comment												٠, .	
Sampler UPS				5	Clyol JE19	Jack Line	ivê. Yas	- The state of the		dinals		* * 3													
	Charles on the Control of the Contro		1. 60	e j		GK II.	48		m fills	erani ana	sas again na ghi gara	The same and the same	, augustianes,		o parimeters	مورد مصند، دورون	acmetificate en	. Politic Market Market and	المناه المالات	- Autor - Magnine 1995 M	oc: whomas a seed. I	W Tamping Conference	2000 To a professional and the	Dry Mars Street, KM	

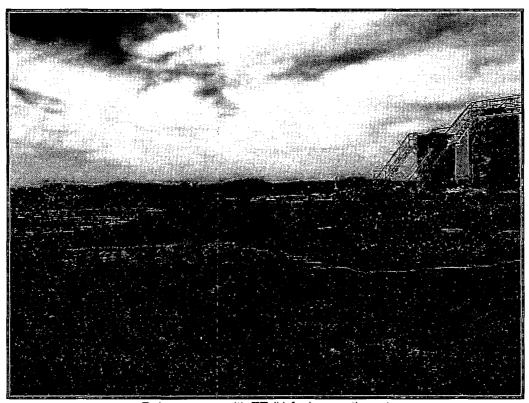
<sup>†</sup> Cardinal cannot accept verbal changes. Please fax writted chapges to 575-493 2478.

# Appendix B Site Photographs





Well Sign



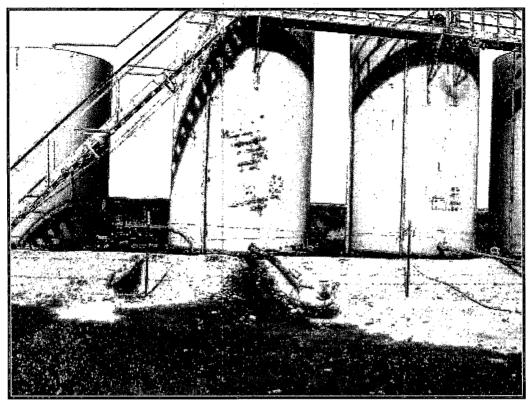
Release area with TT #1 facing southwest



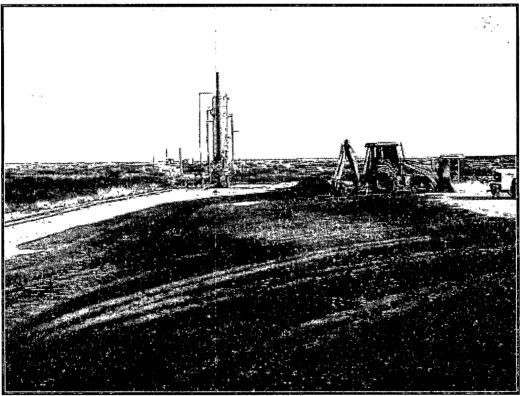
Test Trench #1 10'bgs



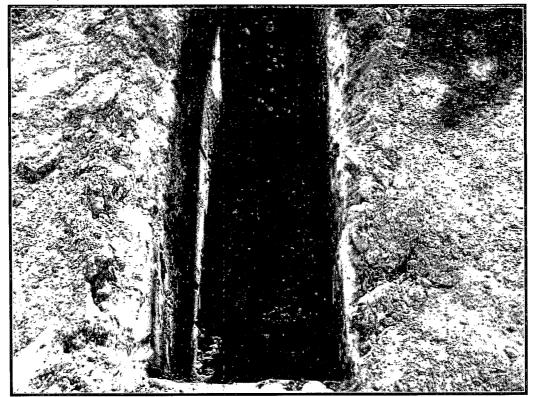
Test Trench #1 west wall



Release area facing west

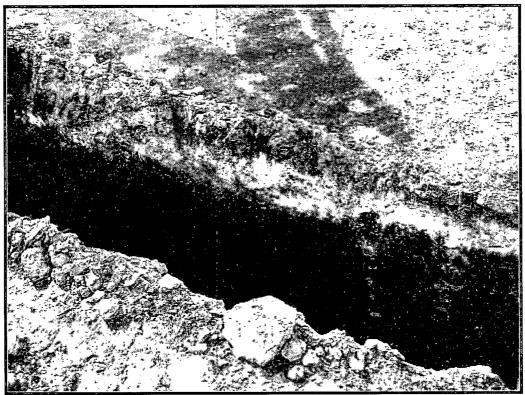


Test Trench #2 area facing north



The Age of the Party of the Par

Test Trench #2 5'bgs



Test Trench #2 south wall



Test Trench #3 location facing northwest



Test Trench #3 5'bgs



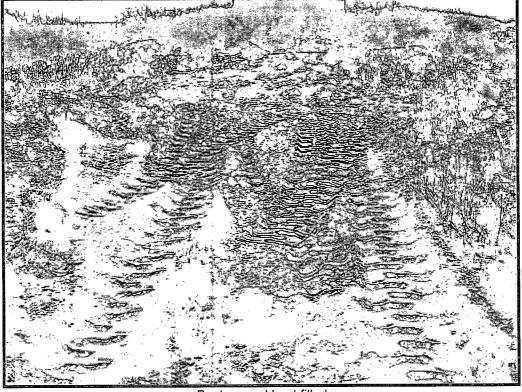
Background location facing southeast



Background at 3'bgs



Test Trench #3 backfilled



Background backfilled

## Appendix C C-141

District 1
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

#### State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141 Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

	Release Notification and Corrective Action																
							<b>OPERA</b>		Initia	al Report		Final	Report				
			imarex Energ		100 0001		Contact- James Tinney										
			nfeld Ste 600 llo State Con	···	d Tx 79701		Telephone No. 575 706 0095  Facility Type- Tank battery										
1200 c			iio State Con	1# 4			аспиу гур	e- rank battery									
	Surface Ow	ner			Mineral C	)wner				Lease N	No.						
122						ATION	OF REI	LEASE			County -						
*(V)	Unit Letter J	Section 32	Township 18S	Feet from the 1796	South Line	Feet from the 1980	East/V East	Vest Line									
ja.			Latitude-	32° 42' 0	7.16"	I	_ongitudel	04° 05' 42.87"	W								
2000年					NAT	URE	OF RELI	EASE				•					
	Type of Rele							Release-385 bbls		Recovered-2							
€/i	Source of Re	elease- 2" X	4" connection	on back	of oil tank (corros	sion)	Date and H 13-11	lour of Occurrenc	e- 3-	Date and 9:30 am	Hour of Di	scovery	r: 3-13-1	11			
Section 5.	Was Immedi	Was Immediate Notice Given? If YES, To Whom?															
~00					No Not R	equired	ed Mr. Mike Bratcher, NMOCD  Date and Hour 3-13-11 9:30 AM called OCD @ 12:00pm										
	By Whom? I Was a Water		oumper) James	Tinney (	APF)			lour 3-13-11 9:30 Dlume Impacting t			@ 12:00pm	1					
	was a water	course rea		Yes ⊠	No		11 123, **	name impacting t	ne wax	creourse.							
14. 18. 4V	If a Waterco	urse was Im	pacted, Descr	ibe Fully.	*					F	RECE	IVE	ח	1			
***	1																
											MAY 1	0 201	1				
0000	Describe Car	use of Probl	lem and Reme	dial Actio	n Taken.*					NN	OCD A	RTE	SIA				
	Internal corr	rosion cause	ed a rupture in	the back	of the tank. Vac ti	uck onsi	te to recover	standing fluid.									
6.	Describe Are	ea Affected	and Cleanup	Action Tal	ken.*												
	SESI was co	ntacted for	assessment. A	rea will be	e delineated and a	n approp	riate work pl	an will be submit	ted to N	MOCD.							
意で																	
ė.								knowledge and u									
Ž								nd perform correct arked as "Final R									
	should their	operations l	have failed to	adequately	investigate and i	emediate	e contaminati	on that pose a thr	eat to g	round wate	r, surface w	ater, hu	ıman he				
£ 25.30			addition, NMC .ws and/or regi		stance of a C-141	report de	oes not reliev	e the operator of	respons	ibility for c	compliance	with an	y other				
<b>**</b>	Todorus, state	, 01 10041 14						OIL CON	SERV	'ATION	DIVISI	<u>ON</u>					
\$	Signature: J	ames Tinne	:V														
4			•			Approved by District Supervisor:-											
	Printed Nam	e: James 11	nney														
The second	Title: Assista	ant Producti	ion Foreman				Approval Da	te:		Expiration	Date:						
¥6	E-mail Addr	ess: jtinney	@cimarex.cor	n			Conditions o	f Approval:		Attached							
<b>小孩</b>	Date: 3-13		Phone: 575-70														
ale.	Attach Add	itional She	ets If Necess	sary													

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

Date: 3-13-11

\* Attach Additional Sheets If Necessary

Phone: 575-706-0095

#### State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 .Form C-141 Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

#### Release Notification and Corrective Action OPERATOR Final Report Initial Report Name of Company-Cimarex Energy Contact- James Tinney Address-600 N Marienfeld Ste 600, Midland Tx 79701 Telephone No. 575 706 0095 Facility Name- Palmillo State Com # 2 Facility Type- Tank battery Surface Owner Mineral Owner Lease No. LÓCATION OF RELEASE Township Unit Letter Section Range Feet from the North/South Line Feet from the East/West Line County - Eddy 1796 South East Latitude-32° 42' 07.16" Longitude-104° 05' 42.87" W NATURE OF RELEASE Type of Release- crude oil Volume of Release-385 bbls Volume Recovered-20 bbls Source of Release- 2" X 4" connection on back of oil (ank (corrosion) Date and Hour of Occurrence- 3-Date and Hour of Discovery: 3-13-11 13-11 Was Immediate Notice Given? If YES, To Whom? Mr. Mike Bratcher, NMOCD By Whom? Bill Hope (pumper) James Tinney (APF) Date and Hour 3-13-11 9:30 AM called OCD @ 12:00pm Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. ☐ Yes ☒ No If a Watercourse was Impacted, Describe Fully.\* Describe Cause of Problem and Remedial Action Taken.\* Internal corrosion caused a rupture in the back of the tank. Vac truck onsite to recover standing fluid. MAY 10 2011 NMOCD ARTESIA Describe Area Affected and Cleanup Action Taken. \* SESI was contacted for assessment. Area will be delineated and an appropriate work plan will be submitted to NMOCD. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C:141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. OIL CONSERVATION DIVISION Signature: James Tinney Approved by District Supervisor:-Printed Name: James Tinne Expiration Date: Title: Assistant Production Foreman Approval Date: Conditions of Approval: E-mail Address: jtinncy@cimarex.com Attached 🔲