

## **APACHE CORPORATION**

P.O.Box 1849 Eunice, NM 88231 Phone 575.394.3159

## Lee Federal #72

## **Termination Request**

API No. 30-015-41253

Release Date: December 17<sup>th</sup>, 2013

Unit Letter J, Section 20, Township 17S, Range 31E



CONSULTING & SAFETY

PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

July 23<sup>rd</sup>, 2014

#### Mike Bratcher

New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau – District 2 811 S. First St. Artesia, NM 88210

> RE: Termination Request Apache Corporation – Lee Federal #72 UL/J sec. 20 T17S R31E API No. 30-015-41253

Mr. Bratcher:

Apache Corporation (Apache) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site.

#### **Background and Previous Work**

The site is located approximately 5.3 miles east of Loco Hills, New Mexico at UL/J sec. 20 T17S R31E. This site is in an area of no known groundwater.

On December 17<sup>th</sup>, 2013, a release from the wellhead of 30 barrels of oil and brine water encumbered 12,987 square feet of lease pad and pasture area. The well was shut in and repaired. The release area on the lease pad was scraped to remove the wet material and the excavated material was disposed of at a NMOCD approved facility. The pad was backfilled with clean, imported soil. NMOCD and BLM were notified of the release on December 18<sup>th</sup>, 2013 and an initial C-141 was sent to NMOCD for their approval (Appendix A).

RECS personnel were on site beginning on January 8<sup>th</sup>, 2014 to assess the release. Eight samples were taken within the release area and field tested for chlorides and organic vapors (Figure 1). The field data for the lease pad showed elevated chloride readings at the surface. Point 3 was also sampled at 6 inches bgs and returned a field chloride reading of 480 mg/kg. The field data from the pasture area showed an elevated chloride reading at the surface of Point 6, chloride data that was below regulatory standards at 6 inches bgs at Point 7 and a surface sample below regulatory standards at Point 8.

Based on the field data, BLM recommended that the pasture area be scraped down 6 inches to remove the wet material. The release in the pasture and on the lease pad was initially scraped down 6 inches. On February 14<sup>th</sup>, 2014, two samples were taken from the bottom of the 6 inch scrape on the lease pad and a vertical was installed to determine the depth of contamination (Figure 2). Vertical samples were taken every 6 inches and field tested for chloride and organic

vapors. Representative samples from the vertical and the two bottom points were taken to a commercial laboratory for analysis (Appendix B). Laboratory analysis of the vertical returned chloride values of 1,020 mg/kg at 1.5 ft, 48 mg/kg at 2 ft and 496 mg/kg at 2.5 ft. Gasoline Range Organics (GRO), Diesel Range Organics (DRO) and BTEX readings at all depths returned values of non-detect. The two bottom points, Point 5 and Point 6, returned GRO, DRO and BTEX readings of non-detect, except at Point 6 where the DRO value was 326 mg/kg. Point 5 returned a laboratory chloride value of 320 mg/kg, and Point 6 returned a laboratory chloride value of 1,840 mg/kg, which was above regulatory standards.

Scraping on the lease pad continued with both depth and breadth until field chloride data indicated that all bottom and wall sample points would return laboratory chloride values below regulatory standards. However, two of the walls could not meet regulatory standards. The south wall was encroaching on the pump jack and the west wall was encroaching on the access road. Both became safety issues and a decision was made to halt scraping efforts at that time. These areas will be addressed during site abandonment. Six bottom samples and 8 wall samples were taken from the scrape and submitted to a commercial laboratory to verify the accuracy of the field data (Appendix C). All excavated soils were taken to a NMOCD approved facility for disposal. The lease pad was backfilled with clean, imported caliche and water packed to provide and stable driving surface.

Photo documentation of all activities can be found in Appendix D.

Since the majority of the contaminated soil was removed from the site and replaced with clean, imported soil, Apache respectfully requests 'remediation termination' and site closure. A final C-141 can be found in Appendix E.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer Project Scientist

JC.W.

RECS

(575) 441-0431

#### Attachments:

Figure 1 – Initial Sampling Data

Figure 2 – Excavation Data

Appendix A – Initial C-141

Appendix B – Initial Sampling Lab

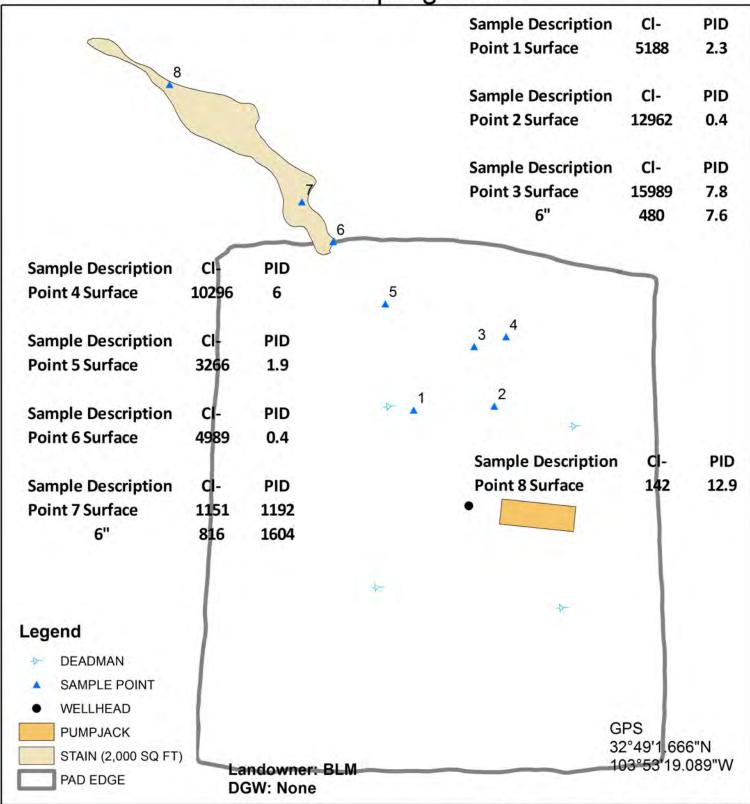
Appendix C – Final Sampling Labs

Appendix D – Photo Documentation

Appendix E – Final C-141

## Figures

**Initial Sampling Data** 





### APACHE LEE FEDERAL #072

UL J SECTION 20 T-17-S R-31-E EDDY COUNTY, NM

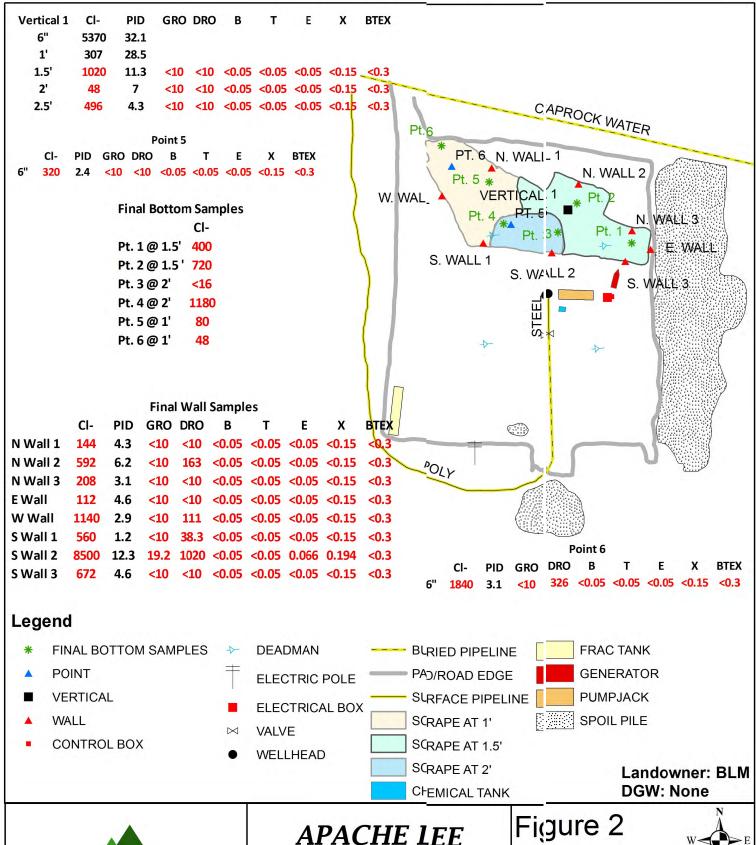
## Figure 1



0	25	50
田	HH-	Feet

GPS date:1/8/14, 2/12/14 AG Drawing date: 2/13/14 Drafted by: T. Grieco

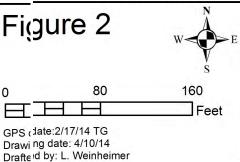
### **Excavation Data**





### APACHE LEE FEDERAL #072

UL J SECTION 20 T-17-S R-31<sub>E</sub> EDDY COUNTY, NM



# Appendix A Initial C-141

District 1
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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

tion Division
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

t. Francis Dr.

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

			Rele	ease Notific	eation	and Co	rrective A	ction	<u> </u>					
						<b>OPERA</b>			Initia	al Report		Final Report		
		pache Corp				Contact Bro		002						
Facility Na		ne Eunice, N deral # 72	VM 8823	1			No. (432) 631-6 le: Oil Well	982						
	•	dorth ii 12							ADING	20.016.4	1262			
Surface Ow	ner BLM			Mineral C	wner	API No. 30-015-41253								
						OF RE								
Unit Letter J	Section 20	Township 17S	Range 31E	Feet from the 1585'	North/ FSL	South Line	Feet from the 1650'	FEL	Vest Line	County Eddy				
			La	titude		_ Longitud	e							
				NAT	URE	OF REL	EASE							
Type of Rele	ase: oil and	brine water					Release 30 Barre brine water)	ls ( 3	Volume F	Recovered 1	Unknov	vn ,		
Source of Re	lease: Well						lour of Occurrenc	е	Date and	Hour of Dis	covery			
						12/17/13 a			12/17/13	at 9:00 p.m.				
Was Immedi	ate Notice C		Yes [	No 🗌 Not Ro	equired	If YES, To Mike Brate	Whom? her (NMOCD) ar	ad Jeffe	ry Robertso	n (BLM)				
By Whom?							lour 12/18/13 at 2							
Was a Water	course Reac		Yes 🗵	) No		If YES, Vo	lume Impacting t	he Wate	ercourse.					
If a Watercou	irse was Im	pacted, Descr	be Fully.*	•										
Describe Cau TIH W/Colla				n Taken.* hole releasing 30	Barrels o	of fluid. The	well was shut in.							
Describe Are														
The majority disposed of a				location pad with	арргохі	mately I Bar	rel of fluid in past	ture, T	he wet area	on location	ı was so	craped up and		
regulations al public health should their o	I operators a or the envir operations ha nment. In ac	are required to onment. The ave failed to a Idition, NMO	report an acceptanc dequately CD accep	is true and complet/or file certain rece of a C-141 repoint received and retained for the certain received and received an	elease no at by the emediate	otifications are NMOCD m contaminati	nd perform correct arked as "Final Ro on that pose a thre	tive act eport" d eat to gr	ions for rele oes not reli ound water	cases which eve the ope , surface wa	may er rator of ater, hu	ndanger f liability man health		
							OIL CONS	SERV	ATION	DIVISIO	<u>N</u>			
Signature:	Brus	Bahr	ι											
Printed Name					/	Approved by	Environmental S <sub>l</sub>	pecialis	:					
Title: Enviro						Approval Dat	e:		Expiration 1	Date:				
E-mail Addre			orp.com			Conditions of			•	Attached	П			
Date: 12/30/	13		Phone	: (432) 631-6982										

<sup>\*</sup> Attach Additional Sheets If Necessary

## $\underset{\text{Initial Sampling Lab}}{Appendix} \, B$



February 18, 2014

**BRUCE BAKER** 

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: LEE FEDERAL #072

Enclosed are the results of analyses for samples received by the laboratory on 02/17/14 11:37.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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 (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

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



APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014 Sampling Date: 02/14/2014

Reported: 02/18/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: VERT 1 @ 1.5 FT (H400464-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/17/2014	ND	2.30	115	2.00	4.42	
Toluene*	< 0.050	0.050	02/17/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	< 0.050	0.050	02/17/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/17/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/17/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.6	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	192	96.0	200	7.22	
DRO >C10-C28	<10.0	10.0	02/18/2014	ND	187	93.7	200	11.7	
Surrogate: 1-Chlorooctane	114 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	122 9	63 6-15	1						

Surrogate: 1-Chlorooctadecane 122 % 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014 Sampling Date: 02/14/2014

Reported: 02/18/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: VERT 1 @ 2 FT (H400464-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/17/2014	ND	2.30	115	2.00	4.42	
Toluene*	< 0.050	0.050	02/17/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	< 0.050	0.050	02/17/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	< 0.150	0.150	02/17/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/17/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	96.2 %	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	192	96.0	200	7.22	
DRO >C10-C28	<10.0	10.0	02/18/2014	ND	187	93.7	200	11.7	
Surrogate: 1-Chlorooctane	107 %	6 65.2-14	0						
Surrogate: 1-Chlorooctadecane	112 %	63.6-15	4						

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APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 **EUNICE NM, 88231** Fax To: 394-2425

Received: 02/17/2014 Sampling Date: 02/14/2014

Reported: 02/18/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: **NOT GIVEN** 

#### Sample ID: VERT 1 @ 2.5 FT (H400464-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	02/17/2014	ND	2.30	115	2.00	4.42	
Toluene*	< 0.050	0.050	02/17/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	< 0.050	0.050	02/17/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/17/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/17/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.2	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	496	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
GRO C6-C10	<10.0	10.0	02/18/2014	ND	192	96.0	200	7.22	
DRO >C10-C28	<10.0	10.0	02/18/2014	ND	187	93.7	200	11.7	
Surrogate: 1-Chlorooctane	116 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	124 %	63.6-15	4						

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Celey D. Keine



APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 **EUNICE NM, 88231** Fax To: 394-2425

Received: 02/17/2014 Sampling Date: 02/14/2014

Reported: 02/18/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: **NOT GIVEN** 

#### Sample ID: PT. 5 @ 6 INCHES (H400464-04)

BTEX 8021B	mg/	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/17/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/17/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	<0.050	0.050	02/17/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/17/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/17/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.0	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	ed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	/kg	Analyze	ed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	192	96.0	200	7.22	
DRO >C10-C28	<10.0	10.0	02/18/2014	ND	187	93.7	200	11.7	
Surrogate: 1-Chlorooctane	98.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	103	% 63 6-15	4						

Surrogate: 1-Chlorooctadecane 103 % 63.6-154

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02/14/2014

Sampling Date:



#### Analytical Results For:

APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014

Reported: 02/18/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: PT. 6 @ 6 INCHES (H400464-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/17/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/17/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	<0.050	0.050	02/17/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/17/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/17/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.8	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1840	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	192	96.0	200	7.22	
DRO >C10-C28	326	10.0	02/18/2014	ND	187	93.7	200	11.7	
Surrogate: 1-Chlorooctane	87.5	% 65.2-14	0						

Surrogate: 1-Chlorooctadecane 93.3 % 63.6-154

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#### **Notes and Definitions**

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

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

#### ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name	Apache							u re						ANAL	YSIS	RE	QUE	ST			
Project Manage	" Brice Baker				P.O	). # <i>:</i>															
Address: W	m. baker@apacheco	CD	Co	XY)	Cor	mpan	y:							S							
City: Hobbs				240	Atti	n:					:			o							
Phone #:	Fax #:				Add	dress	:							١	İ						
Project #:	Project Owner	:		· .	City	<b>/</b> :				<b> </b>	Σ		I	//s					·		
Project Name:	rec Federal #072				Sta	te:		Zip:		Chlorides	5	×	Texas TPH	Complete Cations/Anions							
Project Location	· · · · · · · · · · · · · · · · · · ·				Pho	one#	:			] ≅	801	BTEX	s J	atic	TDS						
Sampler Name:	Amber Groves				Fax	<b>:</b> #:				[음		ВТ	ä	Ö	Ξ,						
FOR LAB USE ONLY				MATRIX	,	PRES	ERV.	SAMPLI	NG	O	H		e)	te							
		(C)OMP	<sub>(O</sub>	R _							-		. •	e)(							
	0	(C)	ONTAINERS	WATE		iii _	,							m			1				
Lab I.D.	Sample I.D.	BOF	ΙΨ	INDV EW/	2	BASI	2					* .		္ပ							
H400464		(G)RA	CO #	GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER	ACID/BASE:	OTHER:	DATE	TIME					)							
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7	Vertl@ 2ft Vertl@ a.sft D.s@ Linuas	Gi	Ì	1				2-14-14		V	<b>√</b>	V									
3	Verti@ 2.5ft	6	7	<b>V</b>				21414		V	/	J									
4	Dt.5@ binches	9		√ '			$\perp$	274-14		~	<b>V</b>	1									- 4.4
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PLEASE NOTE: Liability a	nd Damages. Cardinal's liability and client's exclusive remedy for a	ny clain	n arisir	ng whether based in contrac	t or tor	t, shall be	e limited	to the amount pa	d by the client fo	r the		<u> </u>		ł	<u> </u>		1	L	L	L	

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Relinguished By: A A	Date:	Received By:		Phone Result: ☐ Yes ☑ No	Add'l Phone #:
1 1 1 1 CT	1,000 21414	1 Mad: IV		Fax Result: ☐ Yes ☑ No	Add'i Fax #:
I / MM/MV AVAILY	ASS Time: 2			REMARKS:	
THAN THAN CANDRES		LIVER GO	Masor		
Refinguished By:	Date:	Received By:		email results	
		V		Knorman@rice-ecs.com	
	Time:		: .	Kjones@riceswd.com; jkam	olain@rice-ecs.com
Delivered By: (Circle One)	<u> </u>	Sample Condition	CHECKED BY:	hconder@rice-ecs.com; Lwe	einheimer@rice-ecs.com;
		Cool Intact	Coltina	sedwards@rice-ecs.com: Ifle	ores@rice-ecs.com; agroves@rice-ecs.com
Sampler - UPS - Bus - Other:		□ Yes □ Yes			
		□ No □ No			

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2416



# Appendix C Final Sampling Labs



February 18, 2014

**BRUCE BAKER** 

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: LEE FEDERAL #072

Enclosed are the results of analyses for samples received by the laboratory on 02/17/14 16:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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 (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

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



APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014 Reported: 02/18/2014

Project Name: LEE FEDERAL #072
Project Number: NONE GIVEN

Project Location: NOT GIVEN

Sampling Date: 02/17/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

#### Sample ID: N. WALL #1 (H400473-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/18/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/18/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	96.8	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	225	112	200	20.6	
DRO >C10-C28	<10.0	10.0	02/18/2014	ND	214	107	200	19.9	
Surrogate: 1-Chlorooctane	93.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	98.1	% 63.6-15	4						

#### Cardinal Laboratories \*=Accredited Analyte

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APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014

115 %

63.6-154

Reported: 02/18/2014

Project Name: LEE FEDERAL #072
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 02/17/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Jodi Henson

#### Sample ID: N. WALL #2 (H400473-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/18/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/18/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.3	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	225	112	200	20.6	
			02/18/2014	ND	214	107	200	19.9	

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Celey D. Keine

Surrogate: 1-Chlorooctadecane



APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014 Sampling Date: 02/17/2014

Reported: 02/18/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: N. WALL #3 (H400473-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/18/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/18/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.4	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1500	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	225	112	200	20.6	
DRO >C10-C28	<10.0	10.0	02/18/2014	ND	214	107	200	19.9	
Surrogate: 1-Chlorooctane	122 9	% 65.2-14	0						
6	122 (								

Surrogate: 1-Chlorooctadecane 122 % 63.6-154

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APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014 Sampling Date: 02/17/2014

Reported: 02/18/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

**NOT GIVEN** 

#### Sample ID: E. WALL (H400473-04)

Project Location:

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/18/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/18/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.7 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2840	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	225	112	200	20.6	
DRO >C10-C28	<10.0	10.0	02/18/2014	ND	214	107	200	19.9	
Surrogate: 1-Chlorooctane	101 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	105 %	63.6-15	4						

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APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014 Reported: 02/18/2014

Project Name: LEE FEDERAL #072
Project Number: NONE GIVEN

Project Location: NOT GIVEN

Sampling Date: 02/17/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Jodi Henson

#### Sample ID: W. WALL (H400473-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/18/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/18/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	94.2	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	225	112	200	20.6	
DRO >C10-C28	111	10.0	02/18/2014	ND	214	107	200	19.9	
Surrogate: 1-Chlorooctane	105 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	113 9	63.6-15	4						

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APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014 Sampling Date: 02/17/2014

Reported: 02/18/2014 Sampling Type: Soil

Project Name:LEE FEDERAL #072Sampling Condition:Cool & IntactProject Number:NONE GIVENSample Received By:Jodi HensonProject Location:NOT GIVEN

Sample ID: S. WALL #1 (H400473-06)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/18/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/18/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.1	% 89.4-12	6						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	225	112	200	20.6	

ND

214

107

200

19.9

02/18/2014

Surrogate: 1-Chlorooctane 102 % 65.2-140
Surrogate: 1-Chlorooctadecane 104 % 63.6-154

38.3

10.0

DRO >C10-C28

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02/17/2014



#### Analytical Results For:

APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014 Sampling Date:

Reported: 02/18/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

#### Sample ID: S. WALL #2 (H400473-07)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	0.066	0.050	02/18/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	0.194	0.150	02/18/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/18/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8500	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	19.2	10.0	02/18/2014	ND	225	112	200	20.6	
DRO >C10-C28	1020	10.0	02/18/2014	ND	214	107	200	19.9	
Surrogate: 1-Chlorooctane	97.9	% 65.2-14	0						

Surrogate: 1-Chlorooctadecane 116 % 63.6-154

Cardinal Laboratories \*=Accredited Analyte

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APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/17/2014 Sampling Date: 02/17/2014

Reported: 02/18/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

**NOT GIVEN** 

#### Sample ID: S. WALL #3 (H400473-08)

Project Location:

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2014	ND	2.30	115	2.00	4.42	
Toluene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	3.72	
Ethylbenzene*	<0.050	0.050	02/18/2014	ND	2.26	113	2.00	4.50	
Total Xylenes*	<0.150	0.150	02/18/2014	ND	6.55	109	6.00	4.12	
Total BTEX	<0.300	0.300	02/18/2014	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.3	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	02/18/2014	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/18/2014	ND	225	112	200	20.6	
DRO >C10-C28	<10.0	10.0	02/18/2014	ND	214	107	200	19.9	
Surrogate: 1-Chlorooctane	92.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	95.9	% 63.6-15	4						

#### 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 client for analyses. All claims, including those 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 incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



#### **Notes and Definitions**

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

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

#### ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name:	Abache		ELL TO				/	ANAL	YSIS	RE	QUE	ST			
Project Manager	: Bruco Baler		P.O. #:												
Address: W	ry. baker@apache.com	)·Com	Company:					ည							
City: Hobbs		<b>Zip:</b> 88240	Attn:					Cations/Anions							
Phone #:	Fax #:		Address:					4							
Project #:	Project Owner		City:	v	Σ		エ	l/S			·				1
Project Name:	el Federal #072	· · · · · · · · · · · · · · · · · · ·	State: Zip:	Chlorides	PH 8015	$\times$	Texas TPH	o							
Project Location		·	Phone #:		8	BTEX	S	ati	TDS						
Sampler Name:	Amber Groves		Fax #:	출	I	В	×	O	⊢						5 .
FOR LAB USE ONLY		MATRIX	PRESERV. SAMPLING	$  $ $\circ$			<u>e</u>	ş							
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Lab I.D.	Sample I.D.		SOL SE					Complete							
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PLEASE NOTE: Liability a	nd Damages. Cardinal's liability and client's exclusive remedy for	any claim arising whether based in cont	ract or tort, shall be limited to the amount paid by the	client for the				•	<u></u>	<del></del>					

PLEASE NOTE: Liability and Damages. Cardinal's liability and dient's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the 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 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 2-17-14 Received By	· W	Phone Result: ☐ Yes ☑ No Add'l Phone #:  Fax Result: ☐ Yes ☑ No Add'l Fax #:
MANA VOLVE SINTVEX	Time: U. 75 MOOL	Henson	REMARKS:
Relinquished By:	Date: Received By	:	email results
	Time:		Knorman@rice-ecs.com Kjones@riceswd.com; jkamplain@rice-ecs.com
Delivered By: (Circle One)		nple Condition CHECKED B	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com;
Sampler - UPS - Bus - Other:		of Intact (Initials) Yes Yes No No	A Survainas erioc cos.com, mores erioc cos.com

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476





February 21, 2014

**BRUCE BAKER** 

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: LEE FEDERAL #072

Enclosed are the results of analyses for samples received by the laboratory on 02/20/14 14:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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 (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

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

100

400

0.00



#### Analytical Results For:

APACHE - EUNICE **BRUCE BAKER** P. O. BOX 1849 **EUNICE NM, 88231** Fax To: 394-2425

Received: 02/20/2014 Sampling Date: 02/20/2014

02/21/2014

Reported: 02/21/2014 Sampling Type: Soil

16.0

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

Sample ID: N WALL #3 (H400519-01)

Chloride, SM4500Cl-B mg/kg Analyzed By: CK Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Oualifier Analyte Result 208 400

ND

Sample ID: E WALL (H400519-02)

Chloride

Chloride, SM4500Cl-B mg/kg Analyzed By: CK Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Chloride 112 16.0 02/21/2014 ND 400 100 400 0.00

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 client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the 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.



#### **Notes and Definitions**

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

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

ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name	: Aracho		BILL TO			Al	NALYSI	S REC	QUES	T		
Project Manager	· Bruce Baker		P.O. #:									
Address: (an	"Bruce Baker ny. baker@apachocorp	).Com	Company:				S					
City: Hobbs	State: NM	<b>Z</b> ip: 88240	Attn:				Cations/Anions TDS					
Phone #:	Fax #:		Address:				<u>'</u>					
Project #:	Project Owne	)T.	City:	(0)	<b>∑</b>	エ	/s					
Project Name:	refederal#072		State: Zip:	je i	$ \mathbf{x} $	인	E					
Project Location	1;		Phone #:	Chlorides	NET BUTS	Texas TPH	Catic TDS				-	
Sampler Name:	Amber Groves		Fax #:	일 :		×a						
FOR LAB USE ONLY	A	MATRIX	PRESERV. SAMPLING		Σ	<u>  e  </u>	<u>اي</u>			÷		
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service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries,

Rellinguished Byr.	Date:	Received By:		Phone Result:   Yes	☑ No	Add'l Phone #:	
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	Time:		•	Kjones@riceswd.co	om; jkan	nplain@rice-ecs.com	
Delivered By: (Circle One)	· · · · · · · · · · · · · · · · · · ·	Sample Condition	CHECKED BY:	hconder@rice-ecs.	com; Lw	einheimer@rice-ecs.com;	
		Cool Intact	(initials)	sedwards@rice-ecs	s.com; If	lores@rice-ecs.com; agrove	s@rice-ecs.com
Sampler - UPS - Bus - Other:		☐ Yes ☐ Yes ☐ No ☐ No	2114	reaans@n			

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393;2476





February 24, 2014

**BRUCE BAKER** 

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: LEE FEDERAL #072

Enclosed are the results of analyses for samples received by the laboratory on 02/24/14 11:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

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



APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/24/2014 Reported: 02/24/2014

Project Name: LEE FEDERAL #072
Project Number: NONE GIVEN

Project Location: NOT GIVEN

Sampling Date: 02/21/2014

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

#### Sample ID: PT. 1 @ 1.5 FT (H400545-01)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	02/24/2014	ND	432	108	400	3.77	
Sample ID: PT. 2 @ 1.5 F	T (H400545-02	2)							
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
		16.0	02/24/2014	ND	432	108	400	3.77	
Chloride	720	16.0	02/21/2011	ND	.52				
Chloride  Sample ID: PT. 3 @ 1.5 F			02/2 1/2011	No	.52				
		3)		d By: CK					
Sample ID: PT. 3 @ 1.5 F	Т (Н400545-03	3)			BS	% Recovery	True Value QC	RPD	Qualifier
Sample ID: PT. 3 @ 1.5 F Chloride, SM4500Cl-B	T (H400545-03 mg/	3) /kg	Analyze	d By: CK		% Recovery		RPD 3.77	Qualifier
Sample ID: PT. 3 @ 1.5 F Chloride, SM4500Cl-B Analyte	T (H400545-03 mg, Result 1600	Reporting Limit	<b>Analyze</b> Analyzed	d By: CK  Method Blank	BS	,	True Value QC		Qualifier
Sample ID: PT. 3 @ 1.5 F Chloride, SM4500CI-B Analyte Chloride	T (H400545-03 mg, Result 1600	Reporting Limit	Analyzed 02/24/2014	d By: CK  Method Blank	BS	,	True Value QC		Qualifier
Sample ID: PT. 3 @ 1.5 F Chloride, SM4500CI-B Analyte Chloride Sample ID: PT. 4 @ 1 FT	T (H400545-03 mg, Result 1600 (H400545-04)	Reporting Limit	Analyzed 02/24/2014	<b>d By: CK</b> Method Blank  ND	BS	,	True Value QC		Qualifier

Cardinal Laboratories \*=Accredited Analyte

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APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received: 02/24/2014 Sampling Date: 02/21/2014

Reported: 02/24/2014 Sampling Type: Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

Sample ID: PT. 5 @ 1 FT (H400545-05)

Chloride, SM4500CI-B mg/kg Analyzed By: CK

Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier

**Chloride 80.0** 16.0 02/24/2014 ND 432 108 400 3.77

Sample ID: PT. 6 @ 1 FT (H400545-06)

Chloride, SM4500Cl-B Analyzed By: CK Reporting Limit Analyzed Method Blank BS True Value QC RPD Qualifier Analyte Result % Recovery Chloride 48.0 16.0 02/24/2014 432 400 3.77 ND 108

Cardinal Laboratories \*=Accredited Analyte

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RPD Relative Percent Difference

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\*\*\* Insufficient time to reach temperature.

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

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Celey D. Keine



RDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST 101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

	(505) 393-2326 FAX	(505) 393-24	76	(32	25) 6	73-7	<b>'</b> 001	F	AX.	(325	)67	3-7	020	1												
Company Name: Apache								EUL TO					ANALYSIS REQUEST													
Project Manager: Bruce Bally								P.O. #:										[	T				T			
Address: Lary, baker @ apachearp.com								Company:								S						]				
City: Hobbs State: NM Zip: 88240							·	Attn:								G										
Phone #: Fax #:								Address:								Ē				ľ		1				
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Project Name: Lee Federa 0 # 072							State: Zip:				les es			<u> </u>	Si C				-							
Project Locatio	n:						-		Phone #:				Chlorides	TPH 8015	BTEX	Texas TPH	Cations/Anions	TDS					ľ			
Sampler Name:	Amber Groves								Fax #:				[ 을											.		
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3	Pt. 3@1.5ft		6	1		1							2-21-14	9:10	1											
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PLEASE NOTE: Liability a	nd Damages. Cardinal's liability and client's e	exclusive remedy for an	y clair	arisir	g whet	her base	d in co	ntract	or tor	, shall b	e limit	ted to t	the amount pai	d by the client for	the		<u> </u>	لـــا	-	L	l	<u> </u>				
service. In no event shall C	ng those for negligence and any other cause ardinal be liable for incidental or consequent ing out of or related to the performance of se	tal damages, including	withou	limita	tion, bu	siness ir	nterrup'	tions, I	oss of	use, or	loss o	of profit	ts incurred by	lient, its subsidia	ries.	ble										
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MINIC GURICA TIMES 25 Andi.						<b>▲</b> //	Fax Resu				Fax Resul	Result:  Yes  No Add'l Fax #:  ARKS:														
Refinquished By:  Date: Referred By:							$\cup$	4	W	<i>/</i> -J	-6	4	email re	esults  in@rice-ecs.com  Originasyd com: ikamplain@rice com  Originasyd com: ikamplain@rice com com												
Time:																n@rice-ecs.com										
11me:											Kjones@riceswd.com; jkamplain@rice-ecs.com															

hconder@rice-ecs.com; Lweinheimer@rice-ecs.com;

sedwards@rice-ecs.com; lflores@rice-ecs.com; agroves@rice-ecs.com

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:



Sample Condition Cool Intact
Ves 4 Yes
No No

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



March 27, 2014

**BRUCE BAKER** 

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: LEE FEDERAL #072

Enclosed are the results of analyses for samples received by the laboratory on 03/18/14 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

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



### Analytical Results For:

APACHE - EUNICE BRUCE BAKER P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

 Received:
 03/18/2014
 Sampling Date:
 03/18/2014

 Reported:
 03/27/2014
 Sampling Type:
 Soil

Project Name: LEE FEDERAL #072 Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NOT GIVEN

Sample ID: PT. 3 @ 2' (H400829-01)

Chloride, SM4500Cl-B Analyzed By: AP mg/kg Reporting Limit Analyzed Method Blank BS % Recovery True Value OC RPD Oualifier Analyte Result Chloride <16.0 16.0 03/20/2014 ND 400 100 400 3.92

Sample ID: PT. 4 @ 2' (H400829-02)

Chloride, SM4500Cl-B Analyzed By: AP Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Chloride 1180 16.0 03/27/2014 ND 400 100 400 3.92

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 client for analyses. All claims, including those 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 incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the 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.

Celey D. Keine



#### **Notes and Definitions**

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

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Celey D. Keine

# ARDINAL LABORATORIES

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

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name: A Pache	BILLTO	EILL TO ANALYSIS REQUEST										
Project Manager: Bruce Baker	P.O. #:											
Address:	Company:											
City: Hobbs State: NM Zip: 88240	Attn:											
Phone #: Fax #:	Address:											
Project #: Project Owner:	City:											
Project Name:	State: Zip:											
Project Location: Lee Federa 1#72	Phone #:	Chlorides PH 8015 I BTEX Exas TPF E Cations TDS										
Sampler Name: Kyle Humphrey	Fax #:											
Lab I.D. Sample I.D. # CONTAINERS GROUNDWATER WASTEWATER SOIL	SLUDGE OTHER: ACID/BASE: ICE / COOL OTHER:	Complet										
1 Pt. 3@ 2' G11 X	X 3-18-H 10:3	30 X										
2 pt. 4@ 21 G1 X	x 3-18-19/11/0	00 X										
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based is analyses. All claims including those for negligence and any other cause whatsoever shall be deemed welved unless made in viservice. In no event shall Cardinal be liable for incidental or consequented damages, including without limitation, business inter affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether su	riting and received by Cardinal within 30 days after completion uptions, loss of use, or loss of profits incurred by client, its sub ch claim is based upon any of the above stated reasons or othe	n of the applicable bistilaries. nerwise.										
Relinquished By:	Phone Fax Re	Result:										
Kyle Humphry Timey: 30 Codi	ALLINDON REMAR	RKS:										
Relinquished By: Date: Regerved By: Time:	Knorr	l results  Reg≪h∫@ (1/2 - 2 ) , ( D)  man@rice-ecs.com es@riceswd.com;  kamplain@rice-ecs.com hconder@rice-ecs.com;										
Delivered By: (Circle One) Sample C		nheimer@rice-ecs.com										
Cool 1r Sampler - UPS - Bus - Other:	ondition CHECKED BY: Lweir tact (hittas) Khum	mphrey@rice-ecs.com Langer Baker @ Apacheconp.com										

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

# Appendix D Photo Documentation

# **Apache Lee Federal #72** Unit Letter J, Section 20, T17S, R31E



Initial release area, facing east





Initial site photo, facing southwest





Initial site photo, facing northwest

1/8/14



Initial site photo, facing northeast

1/8/14



Collecting initial sample, facing south

1/8/14



Scraping site, facing south

2/12/14



Hand shoveling release in pasture, facing north 2/12/14



Installing vertical, facing southeast

2/14/14



Exporting soil, facing southeast





Downsizing pad, facing northwest





Sampling site, facing southeast

2/21/14



Excavation completed, facing west

3/19/14



Backfilling excavation, facing southwest



Watering pad, facing northwest





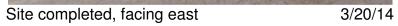
Importing soil, facing south



Packing backfilled area, facing northeast

3/20/14







Site completed, facing northeast

# Appendix E

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV

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

Form C-141
Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

	1220 S. St. Fran	cis Dr., Santa	i Fe, NM 87505	5	Sa	anta F	e, NM 875	05										
				Rele	ease Notific	catio	n and Co	orrective A	ction									
							<b>OPERA</b>	ГOR	Initia	nitial Report 🛛 Final Repor								
Name of Company Apache Corporation							Contact Bruce Baker											
							Telephone No. (432) 631-6982											
	Facility Nar	ne Lee Fe	ederal #72				Facility Type Oil Well											
	Surface Ow	ner BLM			Mineral C	Owner				API No	. 30-015-4	<del>1</del> 1253						
					LOCA	ATIO	ON OF RELEASE											
							n/South Line	Feet from the	East/W	est Line	County							
J 20 17S 31E 1585'							FSL	1650'	FE	L	Eddy							
Latitude_							Longitud	le	•									
						ווחדי	_											
	Type of Relea	ase oil and	brine water		INAI	UKL	E OF RELEASE  Volume of Release 30 Barrels (3 Volume Recovered Unknown											
	Type of Refer	asc on and	offic water					brine water)	CIS (5	v Olullic I	ccovered (	JIKHOWII						
	Source of Re	lease Well					Date and H 12/17/13 a	Iour of Occurrence t 9:00 p.m.			Hour of Dis at 9:00 p.m.							
	Was Immedia	ate Notice C		Yes	No Not R	eauired	If YES, To Whom?											
	By Whom? I	Bruce Baker					Date and Hour 12/18/13 at 2:54 p.m.											
	Was a Water		hed?				If YES, Volume Impacting the Watercourse.											
				Yes 🗵	No													
	If a Watercou					Y 1 (G) 11												
	in.	ise of Proble	em and Reme	dial Actio	n Taken.* TIH V	V/Colla	rs hit gas bubbl	e that unloaded the	e hole rele	easing 30 E	sarrels of flu	id. The w	ell was shut					
	Describe Are	a Affected a	and Cleanup A	Action Tak	cen.* The majori	ty of the	e release was co	ontained to the loca	ation pad	with appro	ximately 1 E	Barrel of fl	uid in the					
Describe Area Affected and Cleanup Action Taken.* The majority of the release was contained to the location pad with approximately 1 Barrel of fluid pasture. A total of 12,987 square feet of lease pad and pasture area was affected. The release area on the lease pad was scraped to remove the wet material										ial and the								
excavated material was disposed of at a NMOCD approved facility. RECS personnel were on site be samples were taken within the release area and field tested for chlorides and organic vapors. The fie									on January	78 <sup>th</sup> , 2014 i	to assess the	release. E	∃ight eodings et					
					gs and returned a													
	chloride readi	ng at the sur	face of Point 6	, chloride	data that was below	w regula	atory standards	at 6 inches bgs at 1	Point 7 an	ıd a surface	sample belo	ow regulat	tory					
	standards at P	oint 8. Base	d on the field	data, BLM	recommended that own 6 inches. On	sture area be so	raped down 6 inch	es to rem	ove the we	t material. T	The release	e in the						
	pad and a vert	ical was inst	alled to detern	nine the de	pth of contaminati	on. Sci	raping on the le	ase pad continued	with both	depth and	breadth unti	In scrape of	oride data					
	indicated that	all bottom a	nd wall sample	e points wo	ould return laborate	ory chlo	oride values bel	ow regulatory stan	dards. Ho	owever, tw	o of the wall	ls could no	ot meet					
regulatory standards. The south wall was encroaching on the pump jack and the west wall was encroaching on the access road. Both became safety issues and decision was made to halt scraping efforts at that time. These areas will be addressed during site abandonment. Six bottom samples and 8 wall samples were																		
					oratory to verify th													
	disposal. The	lease pad w	as backfilled v	vith clean,	imported caliche a	ind wate	er packed to pro	ovide and stable dri	iving surf	ace.								
					e is true and comp nd/or file certain r													
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 liabilit should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human he											an health							
					otance of a C-141	report	does not reliev	e the operator of	responsib	oility for c	ompliance v	vith any o	other					
	federal, state,	or local lay	vs and/or regu	ilations.				OH CON	CEDA	AMIONI	DIVIGIO							
	Signature:	Bruce	Baher				OIL CONSERVATION DIVISION											
	Printed Name	e: Bruce B	aker				Approved by	Environmental S	pecialist:	t:								
	Title: Enviro	onmental Te	echnician				Approval Da	te:	E	Expiration Date:								
	E-mail Addre	ess: larry.ba	nker@apached	corp.com			Conditions of	f Approval:			Attached							

Phone: (432) 631-6982

Date: 7-23-14
\* Attach Additional Sheets If Necessary