District I

State of New Mexico

Form C-141

1625 N French Dr , Hobbs, NM 88240

Energy Minerals and Natural Resources
RECEIVED

Revised June 10, 2003

District II

1301 W Grand Avenue, Artesia, NM 88210

Distric III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S St Francis Dr , Santa Fe, NM 87505

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 NOV 2 3 2009 HOBBSOCD

Submit 2 Copies to appropriate

District Office in accordance

with Rule 116 on back

side of form

Release Notification and Corrective Action

	OH	PERATOR						✓ Initia	Report 🗹 Fina	al Report								
Name of Comp	any	Apache Co	rporation		Contact		Natalie Gladden											
Address	P.O. Box 1		Eunice, NM 88231		Telepho		575-390)-4186										
Facility Name		NMGSA	U #368		Facility	Туре	Tank B	attery		-,,								
Surface Owner	State of	f NM	Mineral	Owner	•			API No. 30-025-38459										
			LOCATI	ON (OF RE	LEASE												
Unit Letter	Section	Township	Range	Feet	from	Feet from	Longi	tude-W	Latitude-N	County								
О	19	19S	37E		Line	East Line 2420	103.	.2892	32.6409	Lea								
			NATUI	RE O	F REL	EASE												
Type of Release	e				Volume	of Release		Volume	Recovered									
Drilling Brine	Water				Greate	er than 45	bbl		5	bbl								
Source of Relea					Date an	d Hour of Occi	irrence	Date and	d Hour of Disco	overy								
	osed-loop conta	inment vessel				2/22/07 9:00A	<u>M</u>		12/22/07 9:0	0AM								
Was Immediate	Notice Given?	<u> </u>			If YES, To Whom?													
D 177 0	✓ YES	L NO [Not Required		Chris Williams - NMOCD													
By Whom?		Billy L. Stockton	1		Date and Hour 12/22/07 12:45PM If YES, Volume Impacting the Watercourse													
Was a Waterco	urse Reached?	YES	☑ NO		II YES, NA	volume impac	ting the	watercot	ırse									
f a Watercourse was Impacted, Describe Fully*																		
Describe Cause	of Problem and	Remedial Action	n Taken. *		<u></u>		,											
Well bore flow band flowed sout	oack volume durin heast off location	ng new well loggir	ng was in excess of m was constructed				0			` ' '								
Describe Area	Affected and Cle	anup Action Tal	ken. *															
Approximately 2 affected area wa	25-bbl of brine wa s ~21,000-ft2. We	ater was released ell pad area was b	onto the well pad a dended to mitigate ental, LLC - Hobb	chlori				-		i								
to report and/or file on NMOCD marked as ground water, surface	certain release notifica "Final Report" does	ations and perform co not relieve the operati Ith or the environment	replete to the best of morrective actions for relieur of liability should the t. In addition, NMOCD	eases w	hich may e itions have	endanger public heal failed to adequately C-141 report does n	th or the er y investigat ot relieve ti	ivironment e and reme ne operator	The acceptance of a diate contamination of responsibility for	a C-141 report by the that pose a threat to								
Signature:	Jablie (Godd	en			<u>OIL (</u>	CONSE	RVATIO	N DIVISION									
Printed Name:	1	Natalie Glac	dden		Approv	ENV , EA ed by District S			Jerffrey L	Deing								
Title:	Enviror	ımental Tech - l	Permian Basin			al Date: 05/14/		Expiration		d								
E-Mail Address	: <u>Natal</u>	ie.Gladden@us	sa.apachecorp.c	om.	Condition	ons of Approva	1:	1RP#_	1701, 1746									
Date:	6/24/2009	Phone:	575-390-4186							Attached								



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NMGSAU #368 REMEDIATION C141 CLOSURE REPORT

API 30-025-38459

UL-O (SW¼ of the SE¼) OF SECTION 19 T19S R37E

LATITUDE: N 32° 38.454' LONGITUDE: W 103° 17.353'

~1.88 MILES NW (BEARING 308.5°) OF MONUMENT

LEA COUNTY, NEW MEXICO

NMOCD 1RP #1701; #1746

June 24, 2009

PREPARED FOR APACHE CORPORATION BY:

OCOTILLO ENVIRONMENTAL, LLC
JOHN GOOD, PROJECT MANAGER/CONSULTANT
2125 FRENCH DR. HOBBS, NM 88241
OFFICE: (575) 393-6371 J. GOOD: (575) 631-3277

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1.0 Project Summary

Release Site Name:

NMGSAU #368

Operating Company:

Apache Corporation

Company Representative:

Natalie Gladden, Environmental Tech Phone: 575-390-4186

Address: PO Box 1849, Eunice, NM 88231

Email: Natalie.Gladden@usa.apachecorp.com

Remediation Company:

Environmental Plus, Inc. - Eunice

Phone: 575-394-3481

Remediation Company:

Ocotillo Environmental - Hobbs

Phone: 575-738-0138

SITE SPECIFIC DATA:

Legal Description:

Lea County, New Mexico

UL-O Section 19 T19S R37E

General Location:

1.9 miles NW (308.5°) of Monument, NM.

Latitude: N32° 38.454'

Longitude: W103° 17.353'

Elevation: 3,665-ft amsl

Land Ownership:

State of NM

Ground Water Elevation:

60-ft bgs (Monitor Well)

Water Wells within 1000-ft: none

Surface Water within 1000-ft:

none

RELEASE SPECIFIC DATA:

Date and Time of Release(s): 12/22/07 - 9:00 AM

Material Released:

Drilling Brine Water

Volume Released:

 \sim 45-bbl

Volume Recovered: 5-bbl

Cause of Release:

Closed-loop tank overflow during well logging

Release Affected Area: Depth of Contamination: ~ 21.000 -ft²

13-ft bgs

NMOCD Site Ranking:

20 (ground water <50-ft below lowest contamination)

Remediation Action Levels: TPH: 100-ppm; Benzene: 10-ppm; BTEX: 50-ppm; Cl – 250-ppm

REMEDIATION SUMMARY:

Remediation of the release site consisted of the excavation and disposal of ~4,200-yd³ of soil contaminated >1000-ppm chlorides. Disposal was at Sundance Services. Chloride contaminated soil (<1000-ppm Cl) that was not disposed of was blended with clean backfill caliche to achieve chloride concentrations of <250-ppm. The excavation was backfilled with the blended caliche and then with 3-ft of clean topsoil. A monitor well drilled within the release affected area indicated a water depth of 60-ft bgs and a water chloride concentration of 50-ppm. The project was completed on July 11, 2008.

2.0 Detailed Site Description

2.1 Geological Description

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick inter-bed of caliche and generally overlain by sandy soil." The release site is located in the Laguna Valley physiographic subdivision, described by Nicholson & Clebsch as "covered almost entirely by dune sand which is stable or semistable over most of the area, but which locally drifts. The surface is very irregular and has no drainage features except at the edges of several playas. The sand is generally underlain by recent alluvium but in several places the sand forms topographic highs where it is underlain by a caliche surface. The thickness of the sand cover ranges from a few inches to a probable maximum of 20 feet."

2.2 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (*Querqus harvardi*) interspersed with Honey Mesquite (*Prosopis glandulosa*) along with typical desert grasses, flowering annuals and flowering perennials. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, Amphibians, and Birds are numerous and typical of the area. A survey of Listed, Threatened, or Endangered species was not conducted.

2.3 Area Ground Water

The Chevron-Texaco water contour map (*Plate 4 of Attachments*) indicates that water in this area is 25' - 50' bgs. A monitor well drilled within the pasture release area measures 60-ft to water level.

2.4 Area Water Wells

There are no recorded or observed water wells within 1000 horizontal feet of the site.

2.5 Area Surface Water Features

No permanent surface water bodies exist within 1000 horizontal feet of the site.

3.0 Contaminant and Size of Area

The primary Contaminant of Concern (COC) was total chlorides resulting from the brine water release during the well logging operation. The areal extent of the excavated release was \sim 21,000- ft^2 .

4.0 NMOCD Site Ranking

Contaminant delineation and site evaluation work done at this site indicate that the chemical parameters of the soil and the physical parameters of the ground water were characterized

consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

- ➤ Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)
- Unlined Surface Impoundment Closure Guidelines (February 1993)

Acceptable thresholds for contaminants/constituents of concern (CoCs), i.e., TPH^{8015m}, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylenes (BTEX⁸²⁶⁰), was determined based on the NMOCD Ranking Criteria as follows:

- Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water.
- Wellhead Protection Area, i.e., distance from fresh water supply wells.
- Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies

Based on the proximity of the site to area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 20 points with the soil remedial goals highlighted in the Site Ranking Table.

SITE RANKING TABLE

1. GROU	JND W ATER	2. WELLHEAD PROTECTION	3. DISTANCE TO SURFACE WATER
	GW <50 FEET: POINTS	If <1000' FROM WATER SOURCE, OR; <200' FROM PRIVATE DOMESTIC	<200 HORIZONTAL FEET: 20 POINTS
	V 50 TO 99 FEET: POINTS	WATER SOURCE: 20 POINTS	200-1000 HORIZONTAL FEET: 10 POINTS
	GW >100 FEET: POINTS	IF >1000' FROM WATER SOURCE, OR; >200' FROM PRIVATE DOMESTIC WATER SOURCE: 0 POINTS	>1000 HORIZONTAL FEET: 0 POINTS
GROUND WA	TER SCORE = 20	WELLHEAD PROTECTION SCORE= 0	SURFACE WATER SCORE= 0
		SITE RANK (1+2+3) = 20 + 0 + 0 = 20 POINTS	
	TOTAL SITE RANKI	NG SCORE AND ACCEPTABLE REMEDIAL GOAL	CONCENTRATIONS
PARAMETER	20+	10	0
BENZENE	10 PPM	10 PPM	10 ррм
BTEX	50 PPM	50 PPM	50 PPN:
TPH	100 PPM	1000 PPM	5000 PPM

5.0 Remediation Process

Prior to the commencement of excavation operations, two delineation boreholes were drilled at the site. A monitor well was drilled and installed on the shelf between the west and east excavations. This borehole was sampled at 5-ft intervals down to 40-ft bgs, where field analyses indicated chloride concentrations <100-ppm. The monitor well was extended beyond the 60-ft water depth and developed for sampling. The water sample obtained indicated ~50-ppm chlorides. Another borehole was drilled south of the affected release area and delineated at 5-ft intervals down to 25-ft

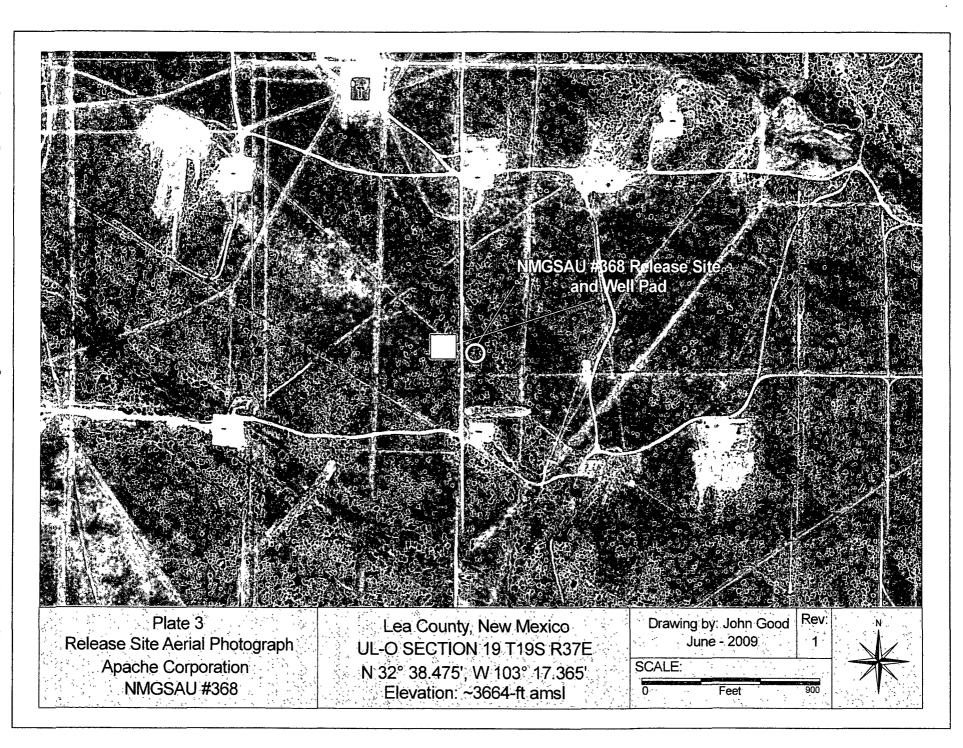
bgs. These background chloride concentrations ranged from 270-ppm at 5-ft down to 32-ppm at 25-ft bgs.

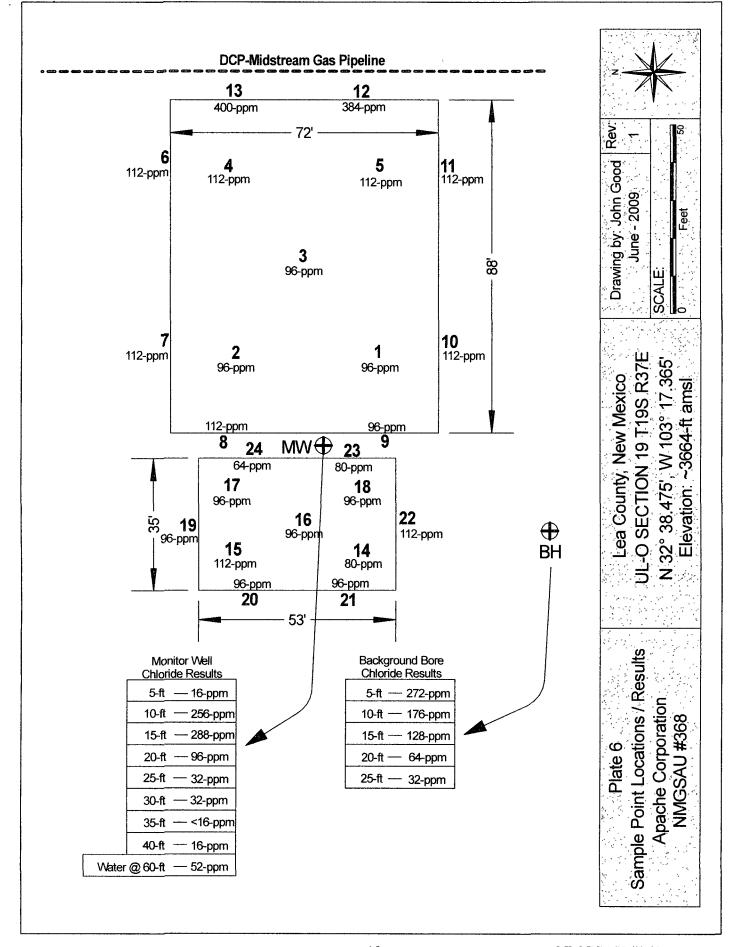
Remediation of the release site consisted of the excavation and disposal of ~4,200-yd³ of soil contaminated with >1000-ppm chlorides. Disposal was at Sundance Services. Chloride contaminated soil (<1000-ppm Cl) that was not disposed of was blended with clean backfill caliche to achieve chloride concentrations of <250-ppm. Ten bottom samples and fourteen sidewall samples were obtained to confirm bottom and sidewall chloride concentrations of <250-ppm. The excavation of the east sidewall was limited due to the presence of a DCP Midstream natural gas pipeline. The excavation was extended to within 5-ft of the pipeline, and chloride concentrations <500-ppm were achieved on this east wall. Three sequential composite samples (15-ft, 10-ft and 5-ft) of the blended backfill were obtained during the backfill operation. All blended samples were <100-ppm chloride concentration. After the blended caliche backfill was completed, three additional feet of clean topsoil was placed and contoured. The project was completed on July 11, 2008.

Based on the contents and data contained herein, Apache Corporation requests that NMOCD require "no further action" as regards the soil contamination resulting from the 12/22/07 drilling brine release at the NMGSAU #368 well location.

ATTACHMENTS

Plate 1: Site Location Map	7
Plate 2: Site Topography Map	8
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APACH	CORP - NI	/IGSAU 368:	LABORATOR	Y ANALYTIC	AL RESULT	S SUMMAR	Y TABLE
Sample Number	Sample Depth	Sample Location	Chlorides mg/Kg	Sample Number	Sample Depth	Sample Location	Chlorides mg/Kg
*BH1-5	5-ft	Borehole	16	SP-9	10-ft	East SideWall	96
BH1-10	10-ft	Borehole	256	SP-10	10-ft	East SideWall	112
BH1-15	15-ft	Borehole	288	SP-11	10-ft	East SideWall	112
BH1-20	20-ft	Borehole	96	SP-12	10-ft	East SideWall	384
BH1-25	25-ft	Borehole	32	SP-13	10-ft	East SideWall	400
BH1-30	30-ft	Borehole	32	SP-14	12-ft	West Bottom	80
BH1-35	35-ft	Borehole	16	SP-15	12-ft	West Bottom	112
BH1-40	40-ft	Borehole	16	SP-16	12-ft	West Bottom	96
**BG-5	5-ft	Borehole	272	SP-17	12-ft	West Bottom	96
BG-10	10-ft	Borehole	176	SP-18	12-ft	West Bottom	96
BG-15	15-ft	Borehole	128	SP-19	7-ft	West SideWall	96
BG-20	20-ft	Borehole	64	SP-20	7-ft	West SideWall	96
BG-25	25-ft	Borehole	32	SP-21	7-ft	West SideWall	96
SP-1	15-ft	East Bottom	96	SP-22	7-ft	West SideWall	112
SP-2	15-ft	East Bottom	96	SP-23	7-ft	West SideWall	80
SP-3	15-ft	East Bottom	96	SP-24	7-ft	West SideWall	64
SP-4	15-ft	East Bottom	112	BLEND 1	15-ft	Comp	80
SP-5	15-ft	East Bottom	112	BLEND 2	10-ft	Comp	80
SP-6	10-ft	East SideWall	112	BLEND 3	5-ft	Comp	64
SP-7	10-ft	East SideWall	112	CALICHE	NA	Comp	16
SP-8	10-ft	East SideWall	112	Monitor Well	60-ft	Water	52

^{*}Monitor well drilled into contaminated zone; **Background borehole south of excavation



ANALYTICAL RESULTS FOR ELKE ENVIRONMENTAL, INC. ATTN: JOHN GOOD P.O. BOX 1830 **HOBBS, NM 88241** FAX TO: (575) 738-0140

Receiving Date: 05/01/08 Reporting Date: 05/02/08 Project Owner: APACHE CORP. Project Name: NMGSAU #368

Project Location: UL-O S19 T19S R37E

Analysis Date: 05/01/08 Sampling Date: 05/01/08 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: ML

Analyzed By: KS

		CI
LAB NUMBER	SAMPLE ID	(mg/kg)
H14734-1	BH1-5	16
H14734-2	BH1-10	256
H14734-3	BH1-15	288
H14734-4	BH1-20	96
H14734-5	BH1-25	32
H14734-6	BH1-30	32
H14734-7	BH1-35	< 16
H14734-8	BH1-40	16
H14734-9	BG-5	272
H14734-10	BG-10	176
H14734-11	BG-15	128
H14734-12	BG-20	64
H14734-13	BG-25	32
Quality Control		500
Quality Control		500
True Value QC		500
% Recovery	4 Difference	100
Relative Percen	t Dimerence	< 0.1

METHOD: Standard Methods 4500-CIB Note: Analyses performed on 1:4 w:v aqueous extracts.

H14734 ELKE

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim ansing, 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 walved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable solution 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 ansing out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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Lab I.D.	Sample I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUND WATER	WASTEWATER	SOIL.	SLUDGE	ACID/BASE	ICE/COOL	OTHER:	DATE	T	IME	TPH ⁸⁰¹⁵	втех	Chlorides									
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-2	BH1-10	G	1			X					1-May					X		[T
-3	BH1-15	G	1	Г		X	T	T	T		1-May	T				X						1	1		十
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-8	BH1-40	G	1	1	H	x	\top	1	\top	T	1-May	一	1	 	†	X		1			†	1	1	1	†
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ANALYTICAL RESULTS FOR OCOTILLO ENVIRONMENTAL, LLC ATTN: JOHN GOOD P.O. BOX 1816 HOBBS, NM 88241

Receiving Date: 07/11/08 Reporting Date: 07/14/08 Project Owner: APACHE CORP. Project Name: NMGSAU #368

Project Location: UL-O S19 T19S R37E

Analysis Date: 07/14/08 Sampling Date: 07/08/08 Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: KS

Analyzed By: KS

		CI
LAB NO.	SAMPLE ID	(mg/kg)
H15145-1	E-BHSW-15	96
H15145-2	E-BHNW-15	96
H15145-3	E-BHC-15	96
H15145-4	E-BHNE-15	112
H15145-5	E-BHSE-15	112
H15145-6	E-NSW-E	112
H15145-7	E-NSW-W	112
H15145-8	E-WSW-N	112
H15145-9	E-WSW-S	96
H15145-10	E-SSW-W	112
H15145-11	E-SSW-E	112
H15145-12	E-ESW-S	384
H15145-13	E-ESW-N	400
H15145-14	W-BHSW-12	80
Quality Cont		500
True Value (<u>)C</u>	500
% Recovery		100
Relative Pen	cent Difference	< 0.1

METHOD: Standard Methods 4500-CFB

Note: Analyses performed on 1:4 w:v aqueous extracts.

Kust Duproko Chemist

H15145 OCO

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ANALYTICAL RESULTS FOR OCOTILLO ENVIRONMENTAL, LLC ATTN: JOHN GOOD P.O. BOX 1816 HOBBS, NM 88241

Receiving Date: 07/11/08
Reporting Date: 07/14/08

Reporting Date: 07/14/08
Project Owner: APACHE CORP.

Project Name: NMGSAU #368

Project Location: UL-O S19 T19S R37E

Analysis Date: 07/14/08

Sampling Date: 07/08/08 & 07/10/08

Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: KS

Analyzed By: KS

		CI
LAB NO.	SAMPLE ID	(mg/kg)
H15145-15	W-BHNW-12	112
H15145-16	W-BHC-12	96
H15145-17	W-BHNE-12	96
H15145-18	W-BHSE-12	96
H15145-19	W-NSW	96
H15145-20	W-WSW-N	96
H15145-21	W-WSW-S	96
H15145-22	W-SSW	112
H15145-23	W-ESW-S	80
H15145-24	W-ESW-N	64
H15145-25	BLEND-1	80
H15145-26	BLEND-2	80
H15145-27	BLEND-3	64
H15145-28	CALICHE	16
Quality Cont	rol	500
True Value C	C	500
% Recovery		100
Relative Per	cent Difference	< 0.1

METHOD: Standard Methods 4500-CIB

Note: Analyses performed on 1:4 w:v aqueous extracts.

stu Ausido

Date

H15145 OCO

PLEASE NOTE. Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim ansing, 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 kimitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidianes, 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. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories

(A)	RDINAL					PHC	NE (?	325) 6	73-70	001	- 21	111 BEECHW	DOD . ABILE			OF CI	JSTC)DY /	AND /	ANAL	YSIS.		UEST		
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Company Name.	OCOTILLO ENVIR	ONN	IEN'	TAL			T				E	BILL TO						AN	ALYSI	S REQL	JEST				
Project Manager:	JOHN GOOD			_			1	P 0.	#					Ī				Т	T	T	T	T	T		
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City:	HOBBS State: NM		Zip.	_	887	241						adden]				1			1	1	1	1	
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Łab i D.	Sample I D	(G)RAB OR (C)OMP	# CONTAINERS	GROUND WATER		MATRI			ACID/BASE 3	T		SAMP	PLING			Chlorides									
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PLEASE NOTE LINDING	and Damages Cardinal's liability and cli- be deemed waived unless made in writing	ents e	d rece	ive re	hy Car	for an	ıÿ clau ∽ithin	in ans	Sing w	heme her c	er ba	ased on contrac	ot or tort, shau i nelicable servic	oe limited	to the ame	Certinal	by the co	lent for u	ve analyse	es All clas	ms, includ	ing those	for negligy	ence and	any other
interruptions, loss of use	o, or loss of profits incurred by client, its	subsid	Janes	, affil	iates, r	or suck	dessor	rs ans	ayo	ut of	or re	stated to the pe	rformance of s	ervices he	reunder b	y Cardina	i. regardi	ess of w	hether suc	ch claim is	based u	oon any o	of the abov	e stated r	nasons
otherwise			-																						
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V Kala	Time:										1 dan	Remarks.		Yes or Nata		Add'l f Iden wi		p result	s when	comple	ted ς	olease d	o not m	ail.	
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Sampler	-UPS - Bus - Other			Ye	×	☑\				K	<u></u>	• '	Note: Card	linal car	not acc	ept ven	oel cha	nges l	Slease 1	ax writt	en char	iges to	575-39 3	-2476.	

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A P	RDINAL ABORATORIES										111 BEECHWO											Shee	et 2 of	2	
L		-				1110																			
Company Name:	OCOTILLO		MEN.	TAL			<u> </u>				BILL TO							AN	IALYS	S REQ	UEST				
Project Manager: Address	JOHN GOOI						P.C							Į	1	1	1		1		1		1	1	1
City:	2125 N. FRE HOBBS State.	NM NM	Zip		882	44		_	•	•	che Corp adden			ł		1	1		1	İ	1		1	1	
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Sampler Name		JOHN G	00	D			Fax]							1	1		1	1
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-19	W-NSW	G	1			X			X		8-Jul					X									
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-21	W-WSW-S	G	1			X			X		8-Jui			l .		X						1	Γ	I	
-22	W-SSW	G	1			X			X		8-Jul					X									
-23	W-ESW-S	G	1			X			X		8-Jul		¥			X					1		T	I	
-24	W-ESW-N	G	1			X			X		8-Jul	9	:00			Х							T		
-25	BLEND-1	G	1	L		X			X		10-Jul	1	0:00			X									
-26	BLEND-2	G	1	L	Ш	X			X		10-Jul	1	1:00			X							\mathbb{L}		
-27	BLEND-3	G	2	L		X			X		10-Jul	2	:30			X									
-28	CALICHE	G				X	Ш		X		10-Jul		:30	L		X									
cause whatsoever, shall interruptions, loss of use otherwise	and Damages Cardinars liability be deemed warved unless made to or loss of profits incurred by co	e in writing and	i rece	eved b	y Card	inal with	m 30⊣	days a	finer	com	pletion of the a	pplicat	ole service ence of se	e. In no e ervices h	went sha	li Cardina	be liable at, regard	for incide ess of wi	ntal or co nether su	nsequen	tial damag	es, includi	ing withou	t kmrtation	ı, busines
Relinquished by	// /	Date: 7/11/0 Time. 0:00		Re	zeiver 1	1 Ву. / — Ум	st	ς_		uf	Udo	Fax	ne Res Result. narks J		Yes Yes will pic	No No kup res	Add'l			plea	se do no	ot mail.			
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Sampler	Cool, Index - UPS - Bus - Other														nnot ac	cept ve	bal cha	nges. F	Please	fax writ	ten char	naes to	575-393	3-2476	





ANALYTICAL RESULTS FOR OCOTILLO ENVIRONMENTAL, LLC ATTN: JOHN GOOD P.O. BOX 1816 HOBBS, NM 88241

Receiving Date: 07/18/08
Reporting Date: 07/21/08
Project Owner: APACHE CORP.
Project Name: NMGSAU #368
Project Location: UL-O S19 T19S R37E

Analysis Date: 07/18/08 Sampling Date: 07/16/08 Sample Type: GROUNDWATER Sample Condition: INTACT Sample Received By: KS Analyzed By: KS

	CI
LAB NO. SAMPLE ID	(mg/L)
H15194-1 MONITOR WELL	52
Quality Control	500
True Value QC	500
% Recovery	100
Relative Percent Difference	< 0.1
11010010 1 0100111 2111010101	
ETHOD: Standard Methods	

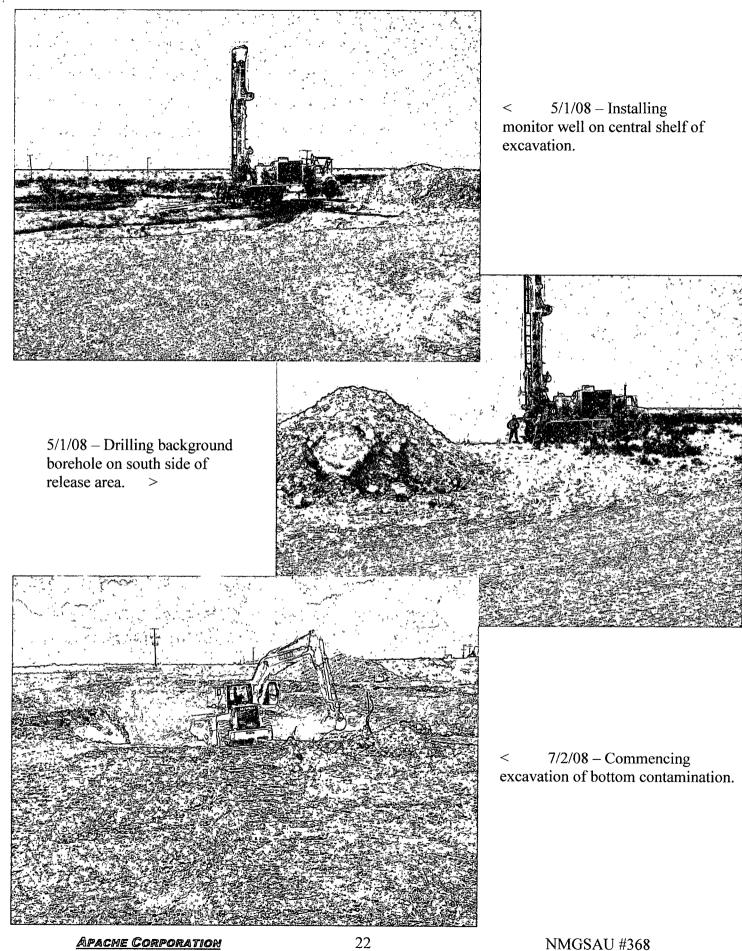
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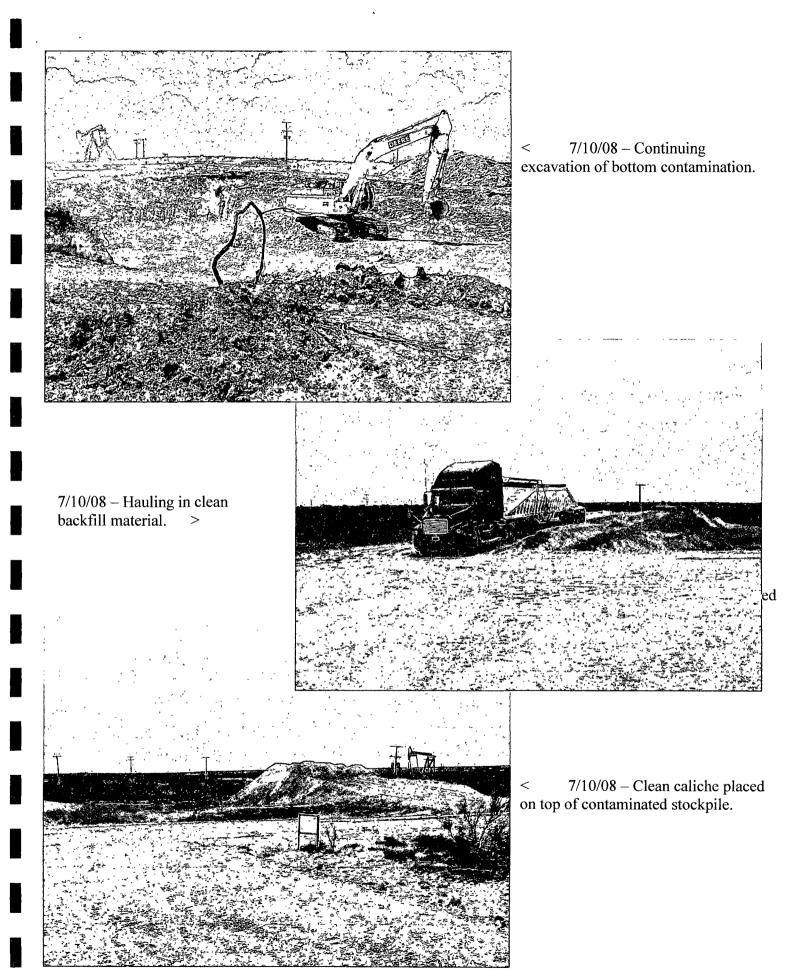
07/11/08 Date

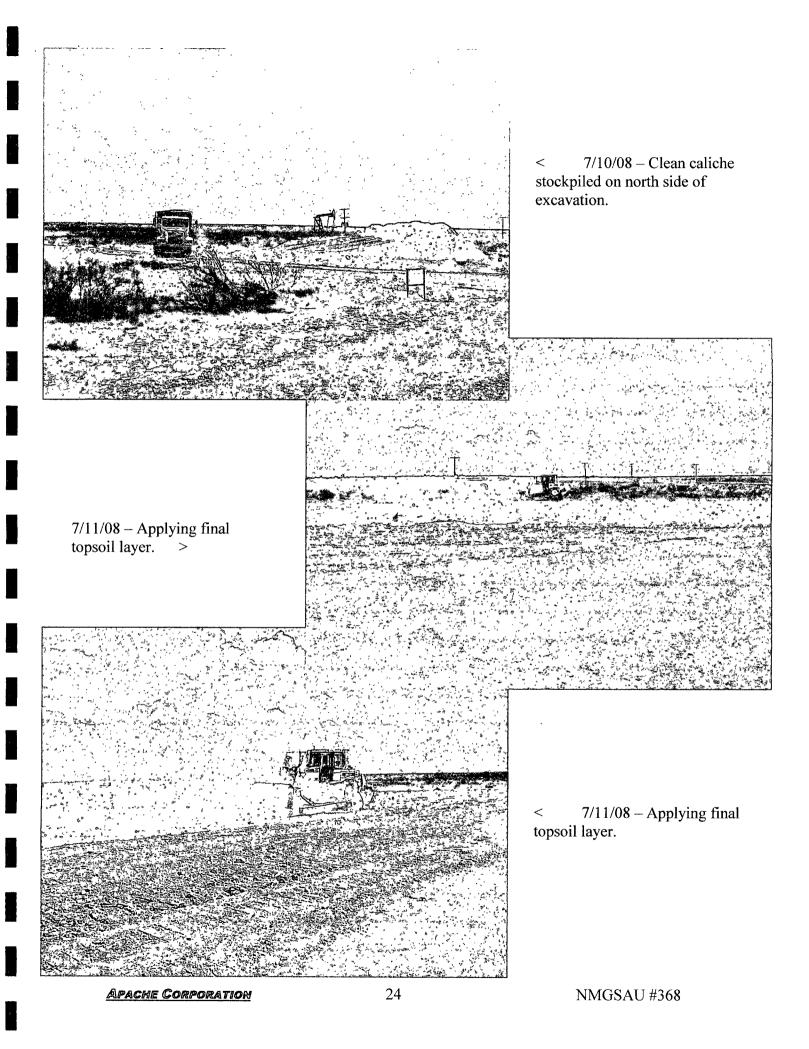
H15194 OCO

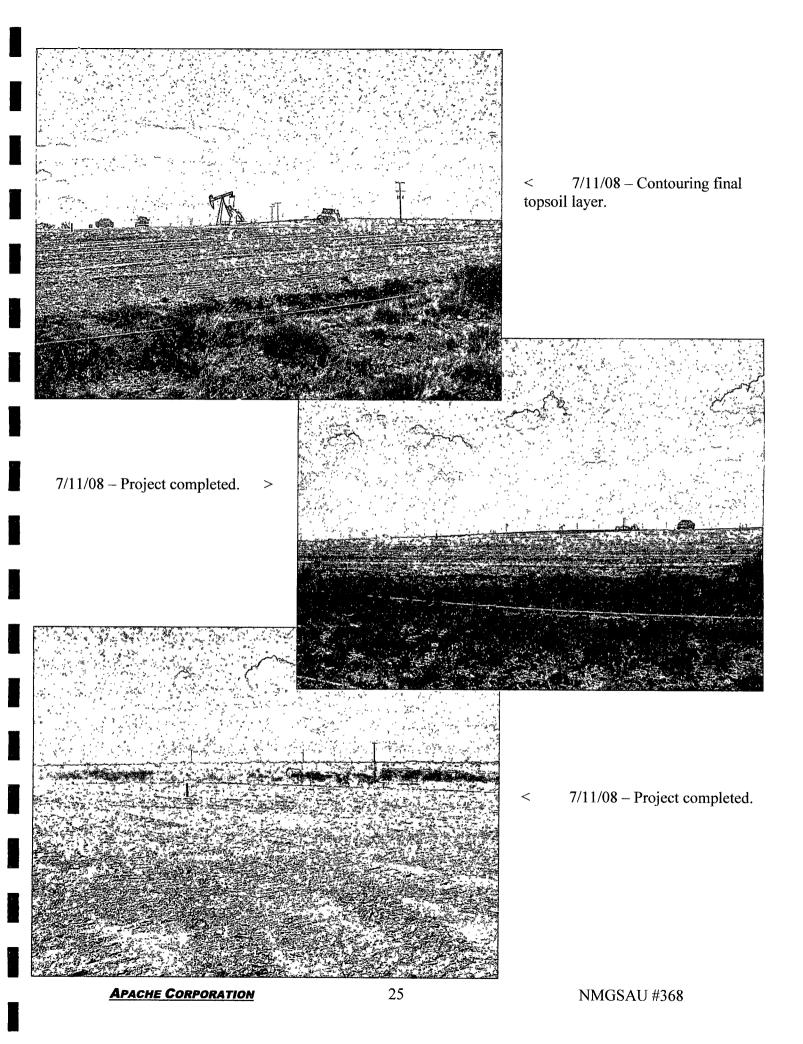
PLEASE NOTE Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless 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, artificiates or successors anising out of or related to the performance of services hereunder 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 approval of Cardinal Laborationes.

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T <i>U</i>	ABORATORIES					PI	ONE	(505)	393-2	326 •	101 E MARL	AND · HOBBS	, NM 882	40							011000	, 0		
Company Name:	OCOTILLO E	NVIRON	MEN	TAL			T				BILL TO					-	AN	ALYSIS	REQU	EST				
Project Manager:	JOHN GOOD						P	O. #	ř:							_			T		T			
Address.	2125 N. FREI	NCH DR					ि	omp	any:	Apa	che Corp						l		İ	İ				
City:	HOBBS State:	NM	Zip	:	882	241	Ā	tn: I	Natal	ie G	ladden		1	1	1		1	1	ì	1	1			
Phone #:	575-631-3277	Fax					_				ox 1849		l		l		l	l	1	1				1
Project #:	Project Owne				IE C	ORP	С	ty: E	unic	:e				1	l	ŀ			l					
Project Name:		NMGS/					_	ate:		IM	Zip:]	l		ŀ		l	l				
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			ERS	WATER		ATRI	T	T	RES	RV	SAM	PLING			des									
Lab I.D.	Sample I.D.		(G)KAB OK (C)OMP # CONTAINERS	GROUND WATER	WASTEWATER	SOIL	SLUDGE	ACID/BASE	ICE/COOL	OTHER:	DATE	TIME			Chlorides									
H15194-1	MONITOR WEL	L	G 1	_	1			T		Ť	16-Jul	11:30			X									
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	and Damages Cardinal's liability																							
	be deemed waived unless made a a, or loss of profits incurred by clie																							
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Sampler	-JUPS - Bus - Other			o ⊈Ye				1																
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District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artiesa, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

Energy Minerals and Natural Resource CEVED

State of New Mexico

NOV 23 2009

Oil Conservation Division HOBBSOCD

Form C-141

Revised October 10, 2003

Submit 2 Copies to appropraite District Office in accordance

District IV	, , , , , , , , , , , , , , , , , , , ,				outh St. Francis Dr.	1999	v	with Rule 116 on back					
1220 S. St. Fra	ncis Dr., Santa	Fe, NM 87505			ta Fe, NM 97505	A - 1		side of form					
			Helaes	e Notifica	tion and Correctiv			-					
		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			OPERATOR	√ I	nitial Report	Final Report					
Name of Con	прапу		che Corpo		Contact		Billy L Stockto						
Address				260 Lub,Tx	Telephone No.		806-893-9575						
Facility Name	<u> </u>	N	MGSAU #	368	Facility Type	<u> </u>	lew well drilling to	cation					
Surface Own	er	Jimmy	Cooper	Mineral Owne	er		API # 3	0-025-38459					
				LOCATI	ON OF RELEASE								
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County					
	19	198	37E	1060'	South	2420'	East	Lea					
	<u></u>	<u></u>	Latitude	• · · · · · · · · · · · · · · · · · · ·	Longitude		······································						
			Latitude		Longitade								
				NATU	RE OF RELEASE								
Type of Releas	ie	Drilling	Brine	Volume of Rele	ease	45	Volume Recovered	25					
Source of Rele	ase	New we	ll bore	Daste/Hour of 0	Occurrence 12	:30 PM	Date /Hour of Discover	ry 9:00 AM					
Waş İmmediat	e Notice Given	,		If Yes, To Whom?									
☑ Yes			Not Required	OCD offic	e - left message 12/22	@ 12:45 pm;	Chris called back 12	/23 @ 2:42 pm					
By Whom?	Billy L.	Stockton		Date and Hour	12-22-07 12:	45pm							
Was a Waterco	ourse Reached			If YES, Volume	Impacting the Watercourse	9.							
	Yes	✓	No	<u> </u>									
If a Watercours	se was Impacte	d, describe Ful	ly*										
Dagariba Caus	e of Problem ar	d Domodial A	tien Tokon *										
Describe Caus	e of Problem ar	io nemediai Ad	mon raken.										
					e and closed loop syst dike around cellar and								
Describe Area	Affected and Cl	eanup Action 1	aken.*										
Backhoe bl					s left until contact with info for Drilling Dept. is		, ,	t. has taken over					
herby certify the	hat the informat	ion given above	e is true and	complete to the h	pest of my knowledge and u	nderstand that n	ursuant 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.

*Attach Addition	onal Sheets if Nec	essary		DOCUM	reacherate	84	RP#1701
Date:	12/28/2007	Phone:	806-893-9575	Submit	FINAL C 14	F1	
Email Address:	billy.s	tockton@ap	achecorp.com	Conditions of Ap	pproval:	Attached	
Title:		Environmen	ital Tech	Approval Date	1.2.08		Date: 3.3.08
Printed Name		Billy L'Sto	ockton	Approved by the	District \$444	NMENIAL E	NOINEED
Signature:	Billy 1	Stoc	hton		Oil Cons	servation C	Division

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rto 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**

Form C-141 Revised October 10, 2003

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

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

	I	nformat	ional -	- Release No	otifi	cation and	l Correctiv	e Action					
				OPERAT	<u>O</u> R			al Report	Final Report	·			
Name of (Contact: Harold Swain							
Address:							No.: (915) 527						
				ayburg San		Facility Typ	e: Well Pad (•					
Andres Un	it (NMG	SAU) #36	8					A	PI #30-025-38459				
Surface O	wner: St	tate of Nev	v Mexic	o Mineral (Own	er:		Lease	No.:				
LOCATION OF RELEASE										ļ			
Unit Letter	Section	Township	Range	Feet from the		th/South Line	Feet from the	East /West L	ine County				
0	19	198	37E	1,060		South	2,420	East	Lea				
	L	T _4	kanadan N	1 220 201 20 5	4 17 Y	omeitudo. U	102017124	\		,			
		Lat	ituae: <u>r</u>	N 32° 38' 29.54			103 17 24.	<u>07"</u>					
Town of Dalor	eas Dellina	hrina		NATUR	E OI	F RELEASE	lease: ~45 bbls	Volume D	ecovered: >5 bbls	i			
Type of Relea			loop cont	ainment			r of Occurrence:		Hour of Discovery:				
							2007 @ 09:00 hrs	December	22, 2007 @ 09:00 hrs				
Was Immedia	ite Notice (Yes 🗍	No 🔲 Not Requ	ired	If YES, To W Chris Williams	hom? s, NMOCD — Hob	bs		ĺ			
By Whom? B	illy L. Stoci						r: December 22,		nrs				
Was a Water		ched?				If YES, Volume Impacting the Watercourse:							
			Yes 🛛 1	No		Not Applicable	3			l			
If a Watercou	rse was Im	pacted, Desc	ribe Fully	** Not Applicable									
system capaci cellar to conta Approximately operations. Describe Area impacted by the	ty. Drilling in flow back y 45 barrels a Affected a ne release.	brine was released while vacuum (~25 bbls on and Cleanup A backhoe was	eased onto m trucks re location as Action Te s utilized to	location (well pad ecovered free fluid and ~20 bbls off loc aken.* Approximate to blend impacted) and withination) tely 20 well p	flowed southeast in bermed area. V of drilling fluid 0,900 ft ² of area ad materials. No	off location into Well was cemente were released from ~14,100 ft ² of we actions were perf	pasture. A bern d and flow back n containment s ell pad and ~ 6,8 ormed upon pas	ystem during drilling 00 ft ² of pasture) were ture area.				
and regulation endanger publi operator of hal surface water,	s all operato ic health or bility should human heal	ors are require the environm I their operation th or the envi	d to report ent. The a ons have f ronment.	t and/or file certain cceptance of a C-1 ailed to adequately	relea 41 rep inves D ac	se notifications a port by the NMO stigate and remed ceptance of a C-l ns.	nd perform correct CD marked as "Filiate contamination 141 report does and	tive actions for inal Report" doe n that pose a thr	nant to NMOCD rules releases which may so not relieve the eat to ground water, crator of responsibility				
Signature:	Lar	old,	Sun	in			L CONSER	•• #	NOE OFFICER	//			
Printed Name	: Harold S	wain			4	Approved by Di	state Suprember	: in abo	ence darry	F			
Title: Drilling	······································					Approval Date: 1/17/08 Expiration Date: 3/3/08							
	-mail Address: Harold.swain@usa.apachecorp.com ate: /-/0-08 Phone: 915-527-3311					Conditions of A	Attached 🗌						
Attach Ad	ditional	Sheets If	Vecessa	ry	0	we !	by:			_			
					•		0		RP#1	1			



Incident Date: 12/22/07 NMOCD Notified: 12/22/07

		including bate. 12/22/07 NIVIO	JD NOUNCU.	12122101	
SITE:	NMGSAU#368	A	PI No.	30-025-38459	
Company:	Apache C	orporation			
Street Addr		ice Loop, Hwy 207			
Mailing Add					
City, State,		M 88231			
Representa					
	ative Telephone: 575-390-4		and the second s	<u> </u>	
Telephone:					
	ne Released (bbl): ~ 45	Volume Recovered (bbl):	5 Net F	Release: ~ 40	
		D verbally within 24 hours and submit C-141 within			
	•	15 days. (Also applies to unauthorized release of	-	al Gas).	
Leak, Spill,	or Pit (LSP) Name:	NMGSAU#368	***************************************		
	Contamination:	Overflow of closed-loop co	ntainment v	essel	
	er, i.e. BLM, ST, Fee, Other:	State of NM			
LSP Dimen		328' X 153' (maximum dim	ensions)		
LSP Area	310113.	~ 21000 -ft ²	icholorio)		
	Poforonce Point (PD):	21000 -10			
	Reference Point (RP):				
	stance and direction from RP:	22 28 454		<u> </u>	
Latitude: No		32 38.454	·	 	
Longitude: \		103 17.353			
	bove mean sea level (amsl):	3657 feet 1115 meter	<u>s</u>		
	om South Section Line (feet):	1060		·	
	om East Section Line (feet):	2420	414		
	Jnit Letter and 1/4 1/4:		1/4		
Location - S		19			
Location - T		19S			
Location - F		37E			
Location - 0	County	Lea			
	ter body within 1000' radius of site				
Surface wa	ter body within 1000' radius of site	0			
Domestic w	rater wells within 1000' radius of si	e: 0			
Domestic w	rater wells within 1000' radius of si	re: 0			
Agricultural	water wells within 1000' radius of	site: 0			
Agricultural	water wells within 1000' radius of	site: 0			
Public wate	r supply wells within 1000' radius o	of site: 0			
Public wate	r supply wells within 1000' radius o	of site: 0			
) from land surface to Ground Wat			······································	
	of lowest contamination (DC):	13			
	to Ground Water (DG - DC = DtG	GW): ~ 47			
	1. Ground Water	2. Wellhead Protection Area	3. Distar	ice to Surface Water	
If Devil 4		If <1000' from water source, or, <200'			
IIT Depth to (GW <50-feet: 20 points	from private domestic water source:	<200 honzo	ontal feet: 20 points	
	011/20/ 400/	20 points			
If Depth to	GW 50 to 100-feet: 10 points	If >1000' from water source, or, >200'	1200-1000 k	norizontal feet: 10 points	
165	011. 100 5 1 0	from private domestic water source: 0			
If Depth to	GW >100-feet: 0 points	points	>1000 horizontal feet: 0 points		
Ground Wa	ter Score: 20		Surface Wa	ater Score: 0	
	g (1 + 2 + 3): 20	111211111111111111111111111111111111111	, , , , , , , , , , , , , , , , , , , ,		
	3 (king Score and Acceptable Concentra	tions		
Parameter	20 or >	10	T	0	
Benzene ¹	· · · · · · · · · · · · · · · · · · ·				
	10-ppm	10-ppm		10-ppm	
BTEX ¹	50-ppm	50-ppm	ļ	50-ppm	
TPH	100-ppm	1000-ppm	1	5000-ppm	

Revised June 10, 2003

State of New Mexico

Energy Minerals and Natural Resources

District II

1301 W Grand Avenue, Artesia, NM 88210

 $1625\;N\;$ French Dr , Hobbs, NM $88240\;$

Distric III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S St. Francis Dr , Santa Fe, NM 87505

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

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

side of form

	OI.	Re PERATOR	lease Notifica	ation a	and Co	rrective Act	ion	✓ Initial	Report Fina	al Report			
						Contact Nat			Natalie Gladden				
Address		P.O. Box 1849 Eunice, NM 88231					575-390						
Facility Name	,	NMGSA			Telepho Facility		Tank B						
Surface Owner	State of	NM	Mineral	Owner	r				API No. 30	-025-38459			
			LOCAT			LEASE							
Unit Letter	Section	Township	Range		from	Feet from	Longi	tude-W	Latitude-N	County			
		•	Ĭ		h Line	East Line		<u> </u>					
О	19	198	37E	10	060	2420	103	2892	32.6409	Lea			
			NATU	RE O	F REL	EASE							
Type of Release					Volume	of Release		Volume	Recovered				
Drilling Brine	Water				Greate		bbl		5	bbl			
Source of Relea					1	d Hour of O∝ı		Date and	d Hour of Disco	•			
Overflow of clo		inment vessel				2/22/07 9:00A	<u>M</u>		12/22/07 9:0	0AM			
Was Immediate		Пио Г	7 N - 4 D		III YES,	To Whom?	~9 	n:	NIN 4OCD				
By Whom?	√ YES	Billy L. Stockton	Not Required		Date an		onris Wi		NMOCD 07 12:45PM				
Was a Watercou		billy L. Stockton				Volume Impac	ting the		······································				
was a watercou	irse reacted:	YES	√ NO		NA	volune impac	anig tik	watercou	irse				
If a Watercourse	e was Impacted,	Describe Fully*											
Well bore flow be and flowed south within bermed a	ack volume duri east off location rea. Well was cer	Remedial Action ng new well loggin into pasture. Bern mented and flow b	g was in excess on was constructed ack ceased.				-			` • •			
Describe Area Affected and Cleanup Action Taken. * Approximately 25-bbl of brine water was released onto the well pad area, and an additional ~20-bbl flowed SE onto pasture area. Areal extent of affected area was ~21,000-ft2. Well pad area was blended to mitigate chloride impact to <250-ppm. Pasture area SE of location was remediated to <250 ppm chloride concentration by Ocotillo Environmental, LLC - Hobbs, NM.													
report and/or file cert NMOCD marked as "	aın release notificatı "Final Report" does i e water, human heal	above is true and composes and perform corrections and perform corrections the operated the or the environment egulations.	ective actions for rele or of liability should the	eases whi heir opera	ich may en ations have	idanger public health	h or the en y investigat	vironment. T e and reme	The acceptance of a diate contamination	C-141 report by the that pose a threat to			
Signature:						<u>OIL (</u>	CONSE	RVATIO	N DIVISION				
Printed Name:		Natalie Glad	lden		Approv	ed by District S	Superviso	r:					
Title:	Enviro	nmental Tech - I	Permian Basin		Approv	al Date:		Expirati	on Date:				
E-Mail Address:	Natal	ie.Gladden@us	a.apachecorp.	com		ons of Approva	l:		1701, 1746				
Date:	6/24/2009						Attached						