EXPLORING WHAT'S POSSIBLE

APACHE CORPORATION

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

Empire Abo Unit C49 SWD

Closure Report 2RP-1153

API 30-015-03184

Release Date: May 21, 2012

Unit Letter K, Section 29, Township 17S, Range 29E

Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293

July 31, 2012

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 – Empire Abo Unit C-49 SWD AD UL/K sec. 29 T17S R29E API No. 30-015-03184 2RP-1153

Mr. Bratcher:

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

Background and Previous Work

The site is an accidental discharge of produced water associated with the Empire Abo Unit C-49 SWD. A circulating pump line ruptured and released fluids onto a battery caliche pad, a lease road, and an area of pasture land. The line was repaired and an initial form C-141 was submitted by Apache Corporation on May 21, 2012 (Appendix A). The site is located less than one mile south of U.S. Highway 82 west of Loco Hills, in unit letter 'K' of section 29, T17S, R29E in Eddy County, New Mexico.

On May 21, 2012, RECS personnel initiated work on the Empire Abo Unit C-49 SWD (Figure 1). Soil samples from ground surface were field tested for chloride and headspace measurements were also taken in the field using a Photo Ionization Detector (PID). The samples were submitted to a commercial laboratory for chloride and TPH (GRO/DRO) analyses (Appendix C). Chloride ranged from 2,720 mg/kg to 7,520 mg/kg and TPH ranged from <10 mg/kg to 55.8 mg/kg.

On May 29, 2012, RECS personnel returned to the site and collected samples from the leak area at depth (Figure 2). Samples were field tested and submitted to a laboratory for analyses. At Vertical #1 in the pooled area just southeast of the leak point, the sample from 6' below ground surface (bgs) contained 256 mg/kg chloride and <10 mg/kg TPH. At Vertical #2 in the lease road, the sample from 2' bgs contained 80 mg/kg chloride and 19.7 mg/kg TPH. At Vertical #3 in the south pasture area, the sample from 5' bgs contained 192 mg/kg chloride and <10 mg/kg TPH.

The leak area near Vertical #1 was excavated to 5 ft. bgs. The leak along the lease road which contained Vertical #2 as well as the caliche pad was excavated to 2 ft. bgs. The road excavation was broken by crossing pipelines which were avoided as a matter of safety. The south pasture area surrounding Vertical #3 was excavated to 5 ft. bgs (Figure 3). Impacted soils were removed from the excavation and transported to a NMOCD approved disposal facility.

The excavations surrounding Vertical #1 and Vertical #3 were backfilled with imported caliche to approximately 2' bgs. The remaining depth was backfilled with imported topsoil and contoured to the surrounding area. The caliche pad and west lease road excavations were backfilled with caliche and leveled. The remaining excavations along the lease road were backfilled with 1 ft. of caliche topped with 1 ft. of topsoil. The backfilled pasture areas were seeded with a blend of native vegetation and are expected to return to a productive capacity at a normal rate. See Appendix B for photographs of field activities.

Conclusion

Due to the complete removal of impacted soils, Apache submits the final C-141 (Appendix D) and respectfully requests the closure of the regulatory file for this site.

Apache Corporation appreciates the opportunity to work with you on this project. Please call Natalie Gladden (575) 390-4186 if you have any questions or comments.

Sincerely,

Bruce Baher

Bruce Baker Head Foreman RECS (575) 631-5157

Attachments:

- Figure 1: Site Plat with Surface Sample Lab Data
- Figure 2: Site Plat with Vertical Lab Data
- Figure 3: Site Plat with Site Excavation
- Appendix A: Initial Form C-141
- Appendix B: Site Photographs
- Appendix C: Laboratory Results
- Appendix D: Final Form C-141

RICE Environmental Consulting and Safety (RECS) P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293

Figures

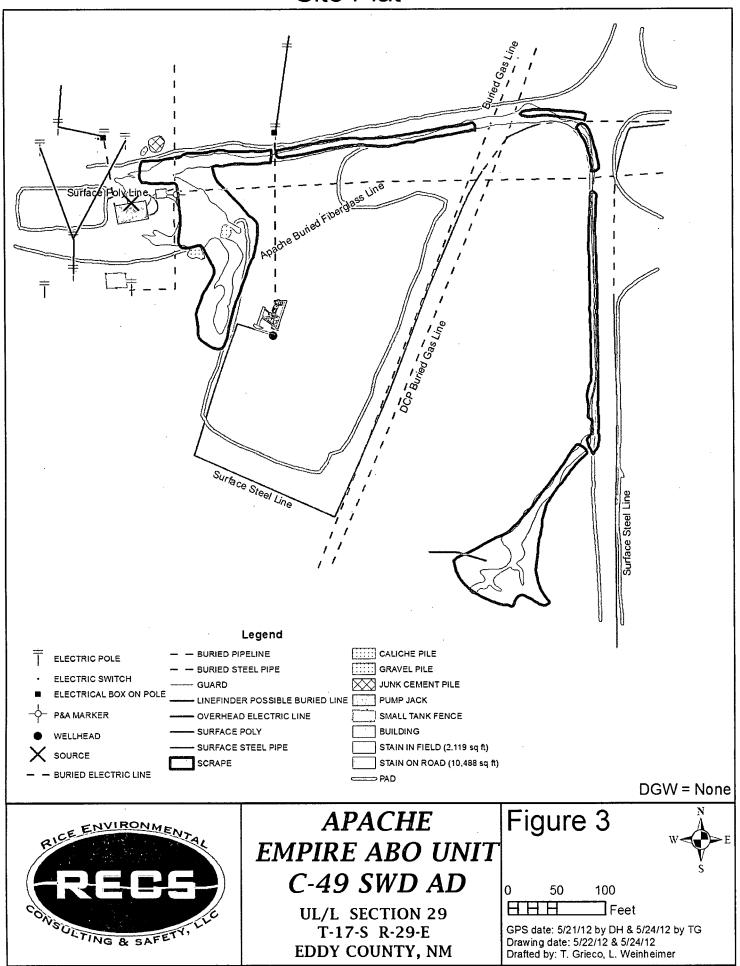
Site Plat

1467 11			·		ιαι					
	Point 1		<u></u>					Point 4		
Sample Description	Cl-	GRO	DRO	1	. I	Sample De	scription	Cl-	GRO	DRO
PT.1 SURFACE	6800	19.9	13.8] 🍾 🐳 🖉		PT.4 SURF	ACE	5520	<10	<10
	Point 2	· · · · · · · · · · · · · · · · · · ·		٠ * آ	1996 - 1997 1996 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -			Point 5		
Sample Description	Cl-	GRO	DRO	T · · ·	¢	Sample De	escription	Cl-	GRO	DRO
PT.2 SURFACE	5200	<10	<10] 🦓		PT.5 SURF	ACE	2720	<10	<10
	Point 3		····		.			Point 6		<u>.</u>
Sample Description	Cl-	GRO	DRO	1 👫	¥,	Sample De		cı-	GRO	DRO
PT.3 SURFACE	7520	19.6	36.2			PT.6 SURF		4800	<10	<10
Temporary MW- 5/26/11	1					3			4	
Lege Source SAMPLE PO BUILDING STAIN IN FIE STAIN ON RO PAD	INT 1LD (2,119							1 6	5	W = None
RICE ENVIR		TLE	(PIRE C- 49 S	SWD ECTION 5 R-29	UNI AD 1 29 -E	0 5 GPS date: Drawing da	0 10	0 Feet DH	W S

Site Plat

·····	<u>`</u>	<u></u>			····				
8	RTICAL						TICAL		
Sample Description	Cl-	GRO	DRO			mple Description	CI-	GRO	DRO
Vertical #1 @ Surface	14,400	<10	<10	i , € .##	72	rtical #3 @ 4'	176	<10	<10
Vertical #1@5'	160	<10	<10	* *,	Ve 🕺 Ve	rtical #3 @ 5'	192	<10	<10
Vertical #1@6'	256	<10	<10	J	*	. \$.		جام	
VER	TICAL	#2			۲	44 44 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	:	響	· ·
Sample Description	Cl-	GRO	DRO		*				
Vertical #2 @ 1'	16	<10	<10	1	*	- 1881. 1987			1:
Vertical #2 @ 2'	80	<10	19.7		कुर .				
, k		Ň			*		•	,	
	*	:	.	· ** · · · · · · · · · · · · · · · · · ·	*				Ŷ
Temporary MW-	1				st. se	*	\sim		
5/26/11 €	₹.	ġ.	, Byr	Ver	tical 2				
							· · · · ·	V	
	~~	<			ʻ q		r je		
£	X	VI)	7				<u>.</u> .	ĺ	
a (* -		1)	Z			·	· .		
		\sim	\sim			• •	· - 5		
			-))				(s.	ļ	
	· 19		41			*	r: F		
en andre		Vertical	. 4						e di se
		vertical		药 -		** *	¥.	ф.	2 - B
						્ય નથું. જ			97995. · ·
		5 G.				•\$*	-	*	
		-55			." »		**	s.	. 1997
						***			1
*						. 19 2			en el 🖌
	and		- A.		/		• Ø	\mathcal{T}	
Lege	нц		Au?	t -			æ 37	r 	
TRENCHES				•	· · · · · · · · · · · · · · · · · · ·)		
X SOURCE					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		/ (🗼		m.
BUILDING						3 - * *	Vertica	13	
	1 D (2 110) sa ft)	200 <u>a</u>			🏅 🐝 👘 🐒	s 🐲 🕈		يوري
						· · · · · · · · · · · · · · · · · · ·			1
	JAD (10,4	ιoo sq π)	* ×	à	THE HOUSE	$C \sim $	ι 👘		
PAD			J. 🕷 🕺				•	bG	N = None
	ÖN 14			APA	CHF	Figu	re 2	<u> </u>	N A
RICE ENVIR	MEN	TAL	T. 7. 4		_	-			W E
			EM.	PIKE A	BO UN	11			V
			(-49 SI	WD AD	0 50	100		3
	a shiri wata a							eet	
CONSULTING &		LLC		UL/L SEC		GPS date: 5			
TING &	SAFETY	3		T-17-S		Drawing date: 5		,	
					JNTY, NM	Drafted by: L			

Site Plat



Appendix A Initial Form C-141

RICE Environmental Consulting and Safety (RECS) P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293

1000 Rio Brazos Road, Aztec, NM 74 MOCD ARTESIA 20 Sou District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Santa 3	ervation Div th St. Franc Fe, NM 875	vision is Dr. 05		Submit 2 District	Form C-141 evised October 10, 2003 Copies to appropriate Office in accordance rith Rule 116 on back side of form
Release Notification					
Name of Company Apache Corporation 873	OPERA	TOR talie Gladden		Initial Report	- Final Report
Name of Company Apache Corporation873Address PO Box 1849 Eunice, NM 88231		No. 575-390-41	86		
Facility Name Empire Abo Unit C49 SWD (nearest well EAU C50)	Facility Typ				
Surface Owner BLM Mineral Owner	OCD		Le	ase No. 30-015	-03184
	ON OF RE	FASE			
	th/South Line	Feet from the	East/West L	ine County	
K 29 17S 29E 2310' FSL		1650'	FWL	Eddy	
	·····	1000	1. M. L.	Eddy	· · · ·
Latitude	Longitud	le			
	E OF REL				
Type of Release Produced Water Source of Release Circulating pump line		Release 100 Iour of Occurrence		me Recovered	
	05/21/12 6	am	1	1/12 8am	
Was Immediate Notice Given?	d If YES, To			i	
By Whom? Natalie Gladden		Hour 105/21/11 (@)	19am	····	- ·
Was a Watercourse Reached?		olume Impacting		se:	
Yes 🛛 No	t 🗄 e e 🔉 e	Contraction of the second	. ·		
If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action Taken.* Hole in circulating pump line, which is inside pump building.			· · · · · ·	· · · · · · · · · · · · · · · · · · ·	ʻn .
Describe Area Affected and Cleanup Action Taken.* NMOCD Guidelines will be followed to closure. No ground water in the	iis area which v	vas determined af	ter 03/29 relea	use at this facilit	y.
I hereby certify that the information given above is true and complete to regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report by should their operations have failed to adequately investigate and remedi or the environment. In addition, NMOCD acceptance of a C-141 report federal, state, or local laws and/or regulations. Signature Printed Name: Natalie Gladden	notifications a the NMOCD m ate contaminati does not reliev	nd perform correc arked as "Final R on that pose a thr e the operator of	etive actions for eport" does no eat to ground responsibility	or releases which ot relieve the operator, surface w	n may endanger erator of liability vater, human health with any other
Title: EHS Environmental Tech	Approval Da	JUN 0-6 2	012 Expira	tion Date:	
E-mail Address: natalie.gladden@apachecorp.com Date: 05/21/11 Phone: 575-3904186	Conditions of International	Approval: App Report C	ormed a:	S Attached	1 🗖
* Attach Additional Sheets If Necessary	Guidelines.	ation per OCD SUBMIT REME NOT LATER TH I remediation	DIATION	28	2P-1153

ī

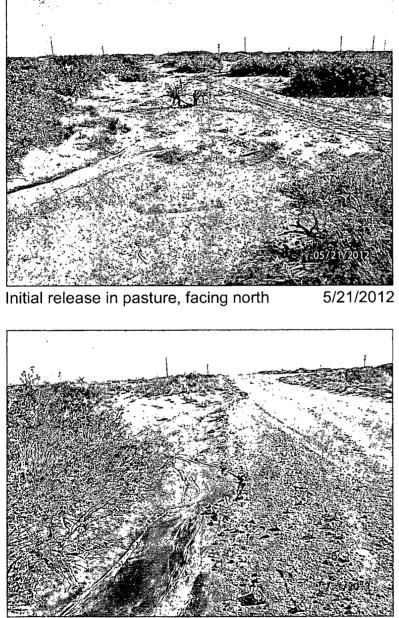
•

Appendix B Site Photographs

RICE Environmental Consulting and Safety (RECS) P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293

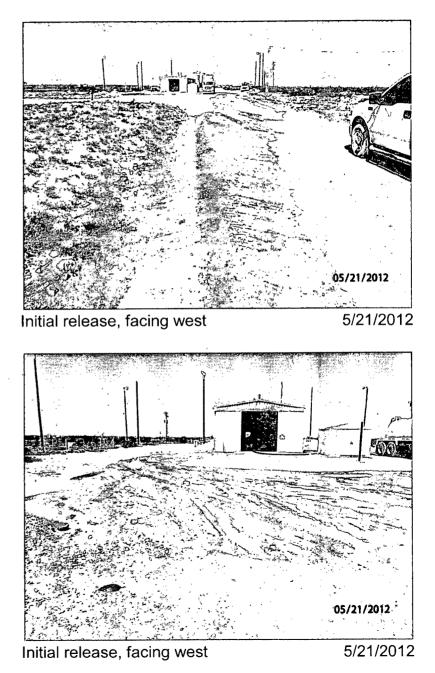
Empire Abo Unit C-49 SWD

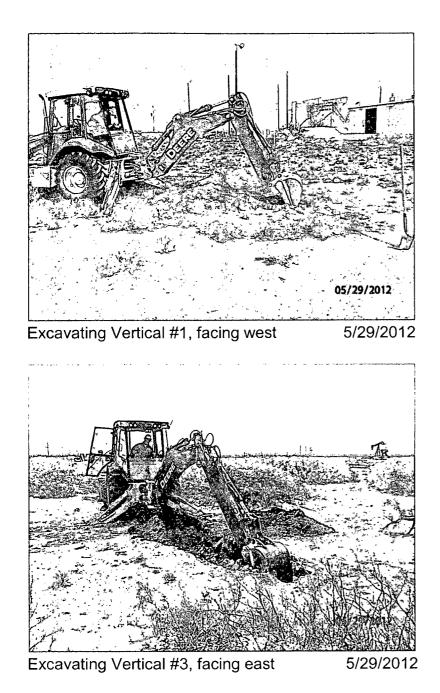
Unit Letter K, Section 29, T17S, R29E

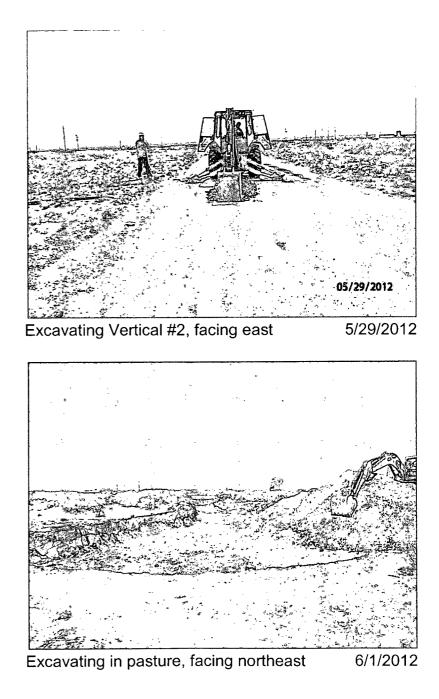


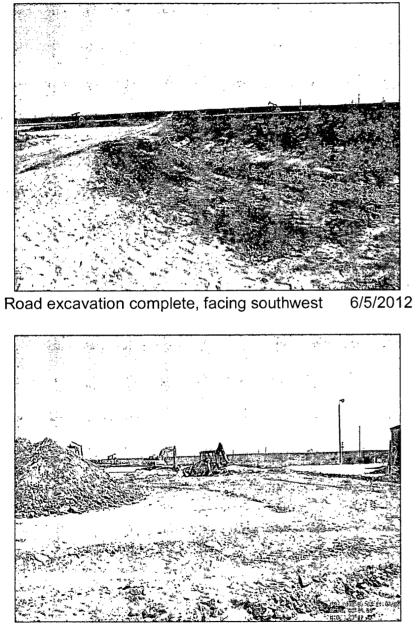
Initial release, facing north

5/21/2012



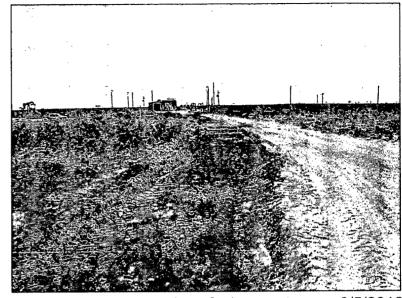






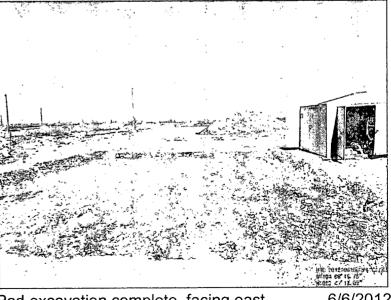
Excavating pad, facing southwest

6/6/2012

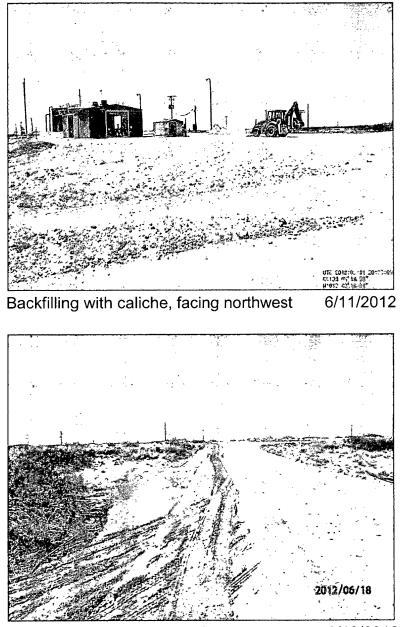


Road excavation complete, facing west

6/5/2012

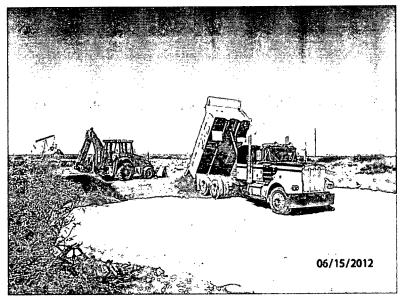


Pad excavation complete, facing east 6/6/2012

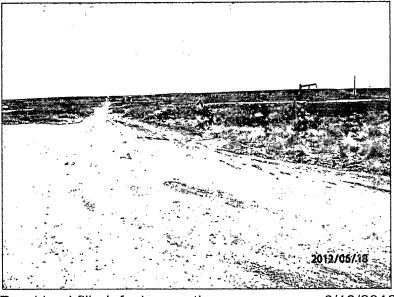


Road backfilled, facing north

6/18/2012

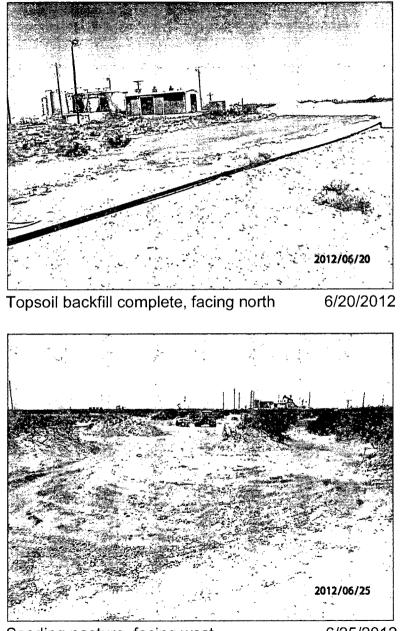


Placing topsoil in pasture, facing southwest 6/22/2012



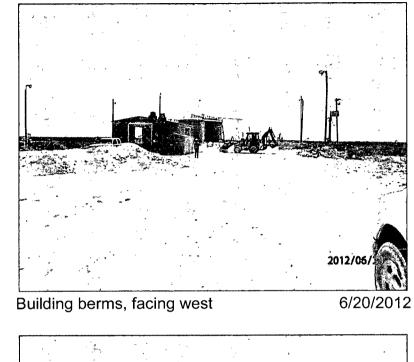
Road backfilled, facing south

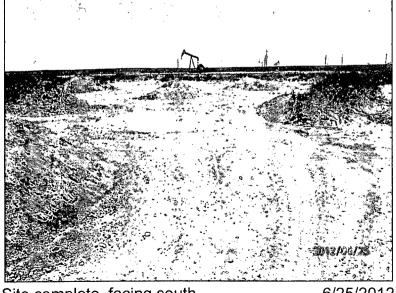
6/18/2012



Seeding pasture, facing west

6/25/2012





Site complete, facing south

6/25/2012

Appendix C Laboratory Results

RICE Environmental Consulting and Safety (RECS) P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293



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

Received:	05/22/2012	Sampling Date:	05/21/2012	
Reported:	05/23/2012	Sampling Type:	Soil	•
Project Name:	EMPIRE ABO UNIT C-49 SWD	Sampling Condition:	Cool & Intact	
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson	
Project Location:	NOT GIVEN			

Sample ID: PT 1 SURFACE (H201145-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6800	16.0	05/23/2012	ND	416	104	400	3.77	
ТРН 8015М	mg	/kg	Analyze	d By: MS				· · · ·	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	19.9	10.0	05/22/2012	ND	186	92.9	200	4.00	
DRO >C10-C28	13.8	10.0	05/22/2012	ND	187	93.6	200	6.08	
Surrogate: 1-Chlorooctane	83.1	% 65.2-14	0					·	
Surrogate: 1-Chlorooctadecane	93.0	% 63.6-15	4						

Sample ID: PT 2 SURFACE (H201145-02)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	05/23/2012	ND	416	104	400	3.77	
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	05/22/2012	ND	186	92.9	200	4.00	
DRO >C10-C28	<10.0	10.0	05/22/2012	ND	187	93.6	200	6.08	
Surrogate: 1-Chlorooctane	78.4	% 65.2-14	0			nin			
Surrogate: 1-Chlorooctadecane	92.1	% 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 whatsoever shall be deemed waived unless made in writing and received by Cardinal within thinty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidential or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incidential or consequential damages, affiliates or successors anising 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 leading baove. This reproduced exercise thing with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Received:	05/22/2012	Sampling Date:	05/21/2012
Reported:	05/23/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT C-49 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT 3 SURFACE (H201145-03)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7520	16.0	05/23/2012	ND	416	104	400	3.77	
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	19.6	10.0	05/22/2012	ND	186	92.9	200	4.00	
DRO >C10-C28	36.2	10.0	05/22/2012	ND	187	93.6	200	6.08	
Surrogate: 1-Chlorooctane	. 84.9	% 65.2-14	0		·				
Surrogate: 1-Chlorooctadecane	102	% 63.6-15	4						

.

Sample ID: PT 4 SURFACE (H201145-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5520	16.0	05/23/2012	ND	416	104	400	3.77	
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	05/22/2012	ND	186	92.9	200	4.00	
DRO >C10-C28	<10.0	10.0	05/22/2012	ND	187	93.6	200	6.08	
Surrogate: 1-Chlorooctane	84.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	96.6	% 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 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.

Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager



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

05/22/2012	Sampling Date:	05/21/2012
05/23/2012	Sampling Type:	Soil
EMPIRE ABO UNIT C-49 SWD	Sampling Condition:	Cool & Intact
NONE GIVEN	Sample Received By:	Jodi Henson
NOT GIVEN		
	05/23/2012 EMPIRE ABO UNIT C-49 SWD NONE GIVEN	05/23/2012Sampling Type:EMPIRE ABO UNIT C-49 SWDSampling Condition:NONE GIVENSample Received By:

Sample ID: PT 5 SURFACE (H201145-05)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2720	16.0	05/23/2012	ND.	416	104	400	3.77	
ТРН 8015М	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	05/22/2012	ND	186	92.9	200	4.00	
DRO >C10-C28	<10.0	10.0	05/22/2012	ND	187	93.6	200	6.08	
Surrogate: 1-Chlorooctane	86.7	% 65.2-14	0	A					
Surrogate: 1-Chlorooctadecane	98.9	% 63.6-15	4						

Sample ID: PT 6 SURFACE (H201145-06)

Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4800	16.0	05/23/2012	ND	416	104	400	3.77	
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	05/22/2012	ND	186	92.9	200	4.00	
DRO >C10-C28	<10.0	10.0	05/22/2012	ND	187	93.6	200	6.08	
Surrogate: 1-Chlorooctane	91.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	102 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 whatsoever shall be deemed walved 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, those thor teacous whatsoever shall be used 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 reproduced exception inful with writen approval of Cardinal Laboratories.

Celey Di Keene

Celey D. Keene, Lab Director/Quality Manager

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								1. "II.	B	ILL	. 7	0		je je je na slovenskom Najst slovenskom					ANAL	YSIS	RE	QUE	ST	 	
Project Manage	" Notalie 6-16200							P.C), #:		-						ľ									
Address:								Coi	mpar	ıy:								1		S						
City:	State:	Zip):					Att	n:]		1		P				ł		
Phone #:	Fax #:							Add	dress	:						[[Ę						
Project #:	Project Owne	r :						City	y:								IΣ		II	st l				ļ		
Project Name: ,	Empire Cibe Upit C-49	i i	5M	\mathcal{D}				Sta	te:		Zi	p:				Chlorides	12		Texas TPH	Cations/Anions						
Project Location	ń.							Pho	one #	:						1 E	8015	BTEX	S	ati	TDS					
Sampler Name:	Daksten Harris								(#:							물		Ш	Xa	Ü						
FOR LAB USE ONLY		<u>.</u>			MA	TRI	X		PRES	SER\	4-	SA	MPL	ING		\overline{O}	HdT		e l	fe						
Lab I.D. Н2D14 5	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	WASTEWATER SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	OTHER :		DA	ΤE		TIME					Complete						-
1	DT/ Surface	6-			1	1_				1	5	12	12		: <u>30</u>	2	1								 	·····
2	pT. J. Suckee	6-	1		4	1				/	5	101	12	11	:35	21	V								 	
3	pt3 surfare	6	<u> </u>		<u> </u>				1	/	- 5	<u> 2</u>	13	11	: 40 : 45 : 50 : 55	·//	1								 	
<u> </u>	pT4 surface	6	11		<u> </u>	· /			1	1	- 5	<u>[]]</u>	12	1/1	:45	V	¥,			~					 	
5	DT 5 Surface	6			/ ×	. <u>/</u>			·	4-	_5	[9]	12	<i>j]</i>	.50	U,	June 1								 	
	pt 6 surface	E	1		/ <i>V</i>	4				1-	-17	<u>195</u>	<u> ;;)-</u>	11	.'29	lucar	1								 	
	F	·								+-	-				······································	[
			-				$\left - \right $																-		 	
			-				+-+							+											 	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, clina be limited to the amount paid by the client for the numbers. All climics including those for negligence and any other cause whotsoever shall be deemed winvert unless mained within and received by Cardinal within 3 and received by Cardinal within 3 and received by Cardinal be limited to the amount paid by the client for the service. In no event shall Cardinal be limble for incidental or consequents damages, including without limitation, business interruption, loss of two of loss of profiles incurred by client, its subsidiaries initiates of Seccessors antising out of or yrated to the performance of services herearder by Cardinal, cignatifies of whether such claim is based upon any of the above stated reasons or otherwise.

Date: Received By: Phone Result: □ Yes Yes INO Add'I Phone #:
Yes INO Add'I Fax #: Relinguished By: Fax Result: email results Natalie Claden & Usa . aparte Time: ىدىن 0730 Relinquished By: Date: 5.77-Time: 0310 **Received By:** Zconder@rice-ecs.com; Bbaker@rice-ecs.com; Delivered By: (Circle One) Sample Condition CHECKED BY: Cool Intact (Initials) hconder@rice-ecs.com; Lweinheimer@rice-ecs.com Sampler - UPS - Bus - Other: Yes Yes VIN

#26

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



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

Received:	05/29/2012	Sampling Date:	05/29/2012
Reported:	05/30/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT C-49 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Amanda Ponce
Project Location:	NOT GIVEN		

Sample ID: VERTICAL # 1 SURFACE (H201206-01)

Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14400	16.0	05/30/2012	ND	432	108	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	05/29/2012	ND	191	95.4	200	1.35	
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68	
Surrogate: 1-Chlorooctane	82.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	91.6	% 63.6-15	4						

Sample ID: VERTICAL # 1 @ 5' (H201206-02)

Chloride, SM4500CI-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/30/2012	ND	432	108	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	05/29/2012	ND	191	95.4	200	1.35	
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68	
Surrogate: 1-Chlorooctane	85.1 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	95.6 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 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 whitsoever shall be deemed waved 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 cleriting and received by cleriting analyses, and and received by cleriting and received by cleriting

Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 7



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

Received:	05/29/2012	Sampling Date:	05/29/2012
Reported:	05/30/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT C-49 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Amanda Ponce
Project Location:	NOT GIVEN		

Sample ID: VERTICAL # 1 @ 6' (H201206-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD -	Qualifier
Chloride	256	16.0	05/30/2012	ND	432	108	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	05/29/2012	ND	191	95.4	200	1.35	
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68	
Surrogate: 1-Chlorooctane	76.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	92.0	% 63.6-15	4.						

Sample ID: VERTICAL # 2 PT 3 @ 1' (H201206-04)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	05/30/2012	ND	432	108	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	05/29/2012	ND	191	95.4	200	1.35	
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68	
Surrogate: 1-Chlorooctane	79.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	99.5	% 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 whitstoever 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, writhout 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. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Received:	05/29/2012	Sampling Date:	05/29/2012	
Reported:	05/30/2012	Sampling Type:	Soil	
Project Name:	EMPIRE ABO UNIT C-49 SWD	Sampling Condition:	Cool & Intact	
Project Number:	NONE GIVEN	Sample Received By:	Amanda Ponce	
Project Location:	NOT GIVEN			

Sample ID: VERTICAL # 2 PT 3 @ 2' (H201206-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/30/2012	ND	432	108	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	05/29/2012	ND	191	95.4	200	1.35	
DRO >C10-C28	19.7	10.0	05/29/2012	ND	193	96.6	200	1.68	
Surrogate: 1-Chlorooctane	77.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	91.1	% 63.6-15	4						

Sample ID: VERTICAL # 3 PT 6 @ 4' (H201206-06)

Chloride, SM4500CI-8	mg,	/kg	Analyze	d By: HM					<u> </u>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	05/30/2012	ND	432	108	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	05/29/2012	ND	191	95.4	200	1.35	
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68	
Surrogate: 1-Chlorooctane	79.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	93.9	% 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 daims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by client, its subsidiaries, affiliates or successors arising out of or related to the approach to the services hereunder by Cardinal writing through the samples defined by client in the samples defined by client in the samples defined by client for analyses. All daims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received 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 climits based upon any of the above stated reasons or otherwse. Results relate only to the samples definited above. This reproduced exception in full with writen approval of cardinal because.

Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



(

Analytical Results For:

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

Received:	05/29/2012	Sampling Date:	05/29/2012
Reported:	05/30/2012	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT C-49 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Amanda Ponce
Project Location:	NOT GIVEN		

Sample ID: VERTICAL # 3 PT 6 @ 5' (H201206-07)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	05/30/2012	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Апајуze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/29/2012	ND	191	95.4	200	1.35	
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68	,
Surrogate: 1-Chlorooctane	80.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	91.4	% 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 whitsoever shall be deemed waived unless made in writing and received by Cardinal webin 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 claims based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced exception in full with mitten approval of Cardinal Laborations.

Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ſ.

. c

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						BILL TO ANALYSIS REQUEST																
Project Manager: Natalie Gladden						Ρ.	P.O. #:							S								
Address:						c	Company:															
City:	State: NM	Zip):				A	ttn:								Ы						
Phone #:	Fax #:						A	Address:]				,in			ļ				
Project #:	Project Owner	:					c	ity:					Σ			s/F						
	Empire Abo Upit C-49 51	vØ	1	7.0.			SI	tate:		Zip:		Chlorides	2		Ē	ü						
Project Locatio	•						P	hone	#:	· · · · · · · · · · · · · · · · · · ·		1.5	1801		Texas TPH	Cations/Anions	TDS					
Sampler Name								ax #:				12						1				
FOR LAB USE ONLY	T	Γ	Г		MAT	RIX			ESERV	SAMPL	ING	じ	TPH		ି ତି							
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER WASTEWATER	SOIL	OIL	SLUDGE OTHER :	ACID/BASE:	ICE / COOL	DATE	TIME					Complete						
1	Ventical #1 Surface	6	1		4				1	5-29+2	9.00	~	~									
2	Verticol #1 @ 5'	6	1		1				1	5-29-12	9:40	~	1	L							 	
3	Vertice) #1 C 6	G	1		1				1	5-99-62		1	~					·	L			
4	Venticit#2pt3. C1'	6	1		~				~	5-29-12	10:30	~	-						ļ		 	
<u> </u>	Vertx 1#2 pt 3. C2'	6	1		1				~	5-24-12		1	~						ļ			
6	Ventical#3 ptge 4"	6	11		1				1	52912		V	~	ļ							 	
7	Ventical # 3 pt 6 0 4' Ventical # 3 pt 6 0.5'	G	12	.	4				1	5-29-12	11:35	4	~	ļ							 	
	· · · · · · · · · · · · · · · · · · ·	 	 				·			·			ļ	<u> </u>							 	
			_		+					<u> </u>		ļ		 							 	

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 the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in witting and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be fable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries

statute of soccessors ansaig out of of reduce to the perioritance	or services nerestrates by cardinas, rep	partiess of whether such claim is based upon any of the above stated for	
Relinguished By:		ajved By:	Phone Result: Ves V No Add'I Phone #:
	512912		Fax Result: 🛛 Yes 🖉 No 🛛 Add'l Fax #:
1 /a LATTA LADAS	Time:		REMARKS:
kappin ANY	2:45pm	tract in	
Relinguished By:	Date: Recei	eived By:	email results
	Time:		Natalie.Gladden@usa.apachecorp.com;
Delivered By: (Circle One)		Sample Condition CHECKED BY:	Zconder@rice-ecs.com; Bbaker@rice-ecs.com;
			hconder@rice-ecs.com; Lweinheimer@rice-ecs.com
Sampler UPS - Bus - Other:	210	Cool Intact (Attials) D'Yes D'Yes No No	nconder@nce-ecs.com, tweinnermer@nce-ecs.com
Sampler UPS - Bus - Other:	50	Li res Li res	

ŧ.

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

Appendix D Final Form C-141

RICE Environmental Consulting and Safety (RECS) P.O. Box 5630 Hobbs, NM 88241 Phone 575.393.4411 Fax 575.393.0293 District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

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

Form C-141 Revised October 10, 2003

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

Release Notification and Corrective Action

		OPERATOR	Initial Report	Final Report
Name of Company Apache Corp.		Contact Natalie Gladden		
Address P.O. Box 1849, Eunice, NM, 88231		Telephone No. (575) 390-4186		
Facility Name Empire Abo Unit C49 SWD (nearest C50)	well EAU	Facility Type SWD		
Surface Owner BLM Mir	neral Owner	OCD	API No. 30-015-02	3184

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
К	29	175	29E	2310	FSL	1650	FWL	Eddy

_____ Longitude Latitude

Type of Release Produced water	Volume of Release 100 bbls	Volume Recovered 20 bbls			
Source of Release Circulating pump line	Date and Hour of Occurrence	Date and Hour of Discovery			
	5/21/2012	5/21/2012 8 am			
Was Immediate Notice Given?	If YES, To Whom?				
🛛 Yes 🗌 No 🗌 Not Required	Mike Bratcher				
By Whom? Natalie Gladden	Date and Hour 5/21/2012 12 p	m			
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	itercourse.			
🗌 Yes 🕅 No					
If a Watercourse was Impacted, Describe Fully.*					
n a walleburse was impacted, Describer uny.					
Describe Cause of Problem and Remedial Action Taken.*					
Hole in circulating pump line, which is inside pump building.					
		· · · · · · · · · · · · · · · · · · ·			
Describe Area Affected and Cleanup Action Taken.*					
The leak affected a total area of 12,607 square feet including a lease road					
commercial lab for chloride and TPH analyses. The leak was excavated					
facility. The excavation in the pasture was backfilled with imported cali with topsoil and contoured to the surrounding area. The excavation in th					
with topson and contoured to the surrounding area. The excavation in th	e lease foad was backfilled with clean	imported canche and leveled.			
I hereby certify that the information given above is true and complete to	the best of my knowledge and underst	and that pursuant to NMOCD rules and			
regulations all operators are required to report and/or file certain release to					
public health or the environment. The acceptance of a C-141 report by the					
should their operations have failed to adequately investigate and remedia					
or the environment. In addition, NMOCD acceptance of a C-141 report of	does not relieve the operator of respon	sibility for compliance with any other			
federal, state, or local laws and/or regulations.					
\bigcirc	OIL CONSER	VATION DIVISION			
Signature: notalel - Dadden					
Signature: USUUL TUUUUU					
Printed Name: Natalie Gladden	Approved by District Supervisor:				
	· · · · · · · · · · · · · · · · · · ·				
Title: EH&S Environmental Tech	Approval Date:	Expiration Date:			
	Appioval Date.				
E-mail Address: Natalie.gladden@apachecorp.com	Conditions of Approval:				
	Attached				
Date: 11912 Phone: (575) 390-4186					
Attach Additional Shoets If Neasconny	·				

* Attach Additional Sheets If Necessary

NATURE OF RELEASE