<u>District I</u> 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

HOBBS OCD

Form C-141 Revised October 10, 2003

AUG 0 2 2013 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

RECEIVED **Release Notification and Corrective Action** 

						OPERA'	ГOR		☐ Initia	al Report	$\boxtimes$	Final Repo	r
		Apache Corpo			_	Contact Br							_
		9, Eunice, NM	88231				No. (575) 394-1						
Facility Na	me NEDI	J #519				Facility Typ	e Production	Line R	Release				_
Surface Ov	vner State			Mineral Ov	vner	3 112			Lease N	No. 30-025	-3441	3	
				LOCA	TION	OF RE	LEASE						
Unit Letter	Section	Township	Range	Feet from the	North/	South Line	Feet from the	East/	West Line	County			
Α	15	21S	37E	305'	Fì	NL	607'	I	FEL	Lea			
			Latitud	le32°29'7.069"	N	Longitude	103°8'39.45	"W					
				NATU	JRE	OF REL	EASE						
Type of Rele	ease Pro	duced Water				Volume of	Release		Volume I	Recovered			
Source of R	elease Rup	oture in poly li	ne			Date and F 4/3/13	Hour of Occurrence	ce	Date and	Hour of Dis	covery		
Was Immed	iate Notice (		Yes [	No □ Not Req	uired	If YES, To Geoff Lek							Ī
By Whom?	1 -1:					Date and H	Hour			1		-	_
Was a Wate	rcourse Read					If YES, Vo	olume Impacting	the Wa	tercourse.				1
			Yes 🛚										
If a Waterco	urse was Im	pacted, Descr	ibe Fully.	*									
Describe Ar field tested fo showed that c were dug to the mg/kg with G drilled to 50 f 39 ft bgs. Exdug to 2.5 fee the bottom of analysis. The 2013, NMOC site was back returned a res	ea Affected r chlorides an hlorides were ree feet bgs a RO and DRO t bgs and left cavation of the deep and the each excavation b-District I wall and bott D-District I v filled with the ult of 64 mg/k	and Cleanup and hydrocarbons elevated at the and the bottom to results of non-copen for over 40 e site began on a count excavation. These samptom composite sterbally approves soil and contours.	Action Tal and the sur surface but wo samples detect. A to 8 hours to a April 11 <sup>th</sup> , 2 on was dug ples were fi samples from the tinal	site. Vacuum truck  ken.* On April 4th, 2  fface samples were tal showed little to no G from each vertical w emporary monitor wel allow water to accumu 2012. A total of 1,825 to 1.5 feet. Final gra led tested for chloride meach excavation ret excavation sampling a surrounding location.  e is true and complete	2013, sa ten to a RO and tere sent I was ir late in t yards o samples and hurned c and allo A samp	amples were tall commercial lat DRO. Three to a commercial tall to a commercial tall to a commercial tall to a commercial tall tall tall tall tall tall tall t	ken from the release aboratory for analyst verticals were instated ial laboratory for an il 8th, 2013 to detend the water level was and disposed of attemption of the excavation and representative subelow 250 mg/kg at be backfilled. A totted soil was taken	e area from is of chlilled at the chalysis. The chalysis and the sea spanged a NMOO in walls a samples would GRC otal of 2, to a communication of the challed a communication of the challed and the challed a communication of the challed a ch	om the surfactorides, GRO are site beginn. All samples redepth to grow and depth to CD approved and a 5 point to and DRO redepth of the control of the contr	e and with depand DRO. Laing on April 8 returned chloriundwater at the groundwater facility. The roottom compone a commercial sults of non-dasoil was importantly for analysis.	aborator th, 2013. de resul de site. The was det morth ex site was laborator etect. O rted to t tyssis of c	y results The verticals Its below 250 The bore was ermined to be cavation was taken from ory for an April 23 <sup>rd</sup> , he site. The	d
public health should their or the environment	operations honment. In a	ronment. The	acceptant adequately OCD accep	nd/or file certain rel ce of a C-141 repor v investigate and rel otance of a C-141 re	by the	e NMOCD m	arked as "Final Rion that pose a thing the operator of	Report" reat to g respons	does not rel ground wate sibility for c	ieve the open r, surface was compliance w	rator of iter, hu	liability man health	Cardinal Cardinal
Signature:	Brue	2 Bahe	1		_		OIL CON	SEI	Kley	DIVE		×	
Printed Nam	e: Bruce I	Baker				Approved by	District Supervis	or.En	vironmen	tal Specia	list	U	
Title: Ew	vironm	ental T	Tech			Approval Da	te: 8-2-20	013	Expiration	Date: -		1	
0	ress: Lar	ry. bake		pache corp.	614	Conditions o	f Approval:	-		Attached		3-2941	Sales Control
2 4101		ets If Necess		: (575) 394-1503						INI .	5 1,	1 2 11	81,



Environmental Specialist NMOCD - DIST 1 8/2/13

# **APACHE CORPORATION**

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

HOBBS OCD

AUG 0 2 2013

RECEIVED

# NEDU #519

# Termination Report

API 30-025-34413

Release Date: April 3<sup>rd</sup>, 2013

Unit Letter A, Section 15, Township 21S, Range 37E

### Rice Environmental Consulting & Safety

P.O. Box 2948 Hobbs, NM 88241 Phone 575.393.2967

June 6<sup>th</sup>, 2013

Mr. Geoff Leking

New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau – District 1 1625 N. French Drive Hobbs, New Mexico 88240

> RE: Termination Request Apache Corporation – NEDU #519 UL/A sec. 15 T21S R37E API No. 30-025-34413

Mr. Leking:

Apache Corporation 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 3 miles north of Eunice, New Mexico in Unit Letter 'A', sec. 15, T21S R37E in Lea County. Soil bore installed at the site showed that groundwater was located at 39 ft bgs.

On April 3<sup>rd</sup>, 2013, a poly line ruptured releasing produced water. On April 4<sup>th</sup>, 2013, RECS personnel were on site to begin work on the NEDU #519 release. Samples were taken from the release area from the surface and with depth (Figure 1). The samples were field tested for chlorides and hydrocarbons and the surface samples were taken to a commercial laboratory for analysis of chlorides, GRO and DRO (Appendix A). Laboratory results showed that chlorides were elevated at the surface but showed little to no GRO and DRO.

The active lines at the site were spotted and stripped back so they wouldn't be hit during excavation. Three verticals were installed at the site beginning on April 8<sup>th</sup>, 2013 (Figure 2). The verticals were dug to three feet bgs and the bottom two samples from each vertical were sent to a commercial laboratory for analysis. All samples returned chloride results below 250 mg/kg with GRO and DRO results of non-detect (Appendix A). A temporary monitor well was installed on April 8<sup>th</sup>, 2013 to determine the depth to groundwater at the site (Appendix B). The bore was drilled to 50 ft bgs and left open for over 48 hours to allow water to accumulate in the bore hole. The water level was gauged and depth to groundwater was determined to be 39 ft bgs.

Excavation of the site began on April 11<sup>th</sup>, 2012. A total of 1,825 yards was excavated and disposed of at a NMOCD approved facility. The north excavation was dug to 2.5 feet deep and the south excavation was dug to 1.5 feet. Final grab samples were taken

from the excavation walls and a 5 point bottom composite was taken from the bottom of each excavation (Figure 3). These samples were field tested for chlorides and hydrocarbons, and representative samples were taken to a commercial laboratory for analysis (Appendix A). The wall and bottom composite samples from each excavation returned chloride results below 250 mg/kg and GRO and DRO results of non-detect. On April 23<sup>rd</sup>, 2013, NMOCD-District 1 verbally approved the final excavation sampling and allowed the site to be backfilled. A total of 2,075 yards of soil was imported to the site. The site was backfilled with the soil and contoured to the surrounding location. A sample of the imported soil was taken to a commercial laboratory for analysis of chlorides and returned a result of 64 mg/kg (Appendix A). Photo documentation of this can be found in Appendix C.

Since all the impacted soil was removed from the site and replaced with clean, imported soil, RECS, on behalf of Apache Corporation, submits the final C-141 (Appendix D) and respectfully requests the closure of the regulatory file for this site.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 631-6432 if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer

**Project Scientist** 

RECS

(575) 441-0431

### Attachments:

Figure 1 – Initial Sampling Data

Figure 2 – Verticals and Temporary MW Installation

Figure 3 – Final Excavation Sampling

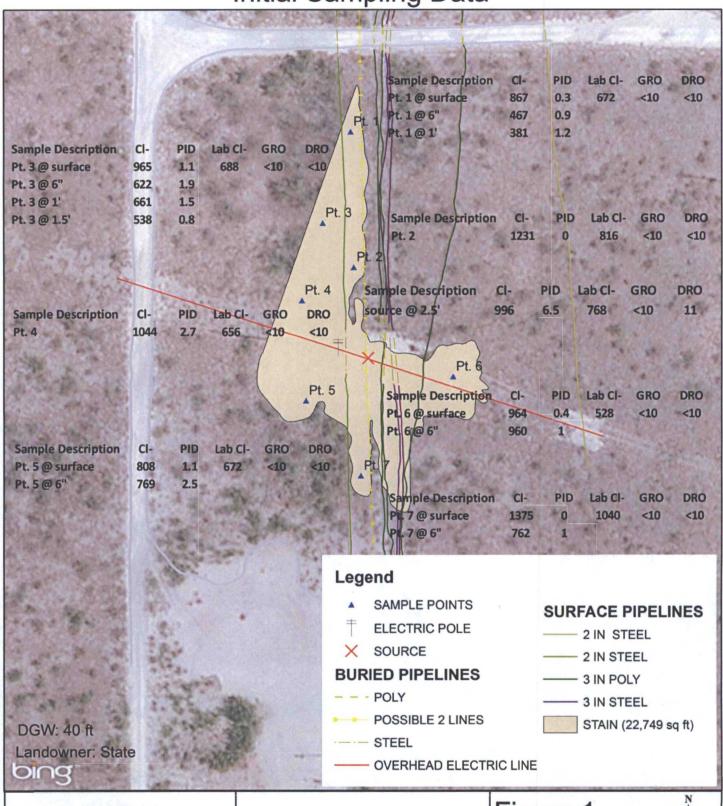
Appendix A – Laboratory Analyses

Appendix B – Temporary Monitor Well Documentation

Appendix C – Photo Documentation

Appendix D - Final C-141

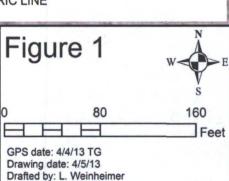
**Initial Sampling Data** 



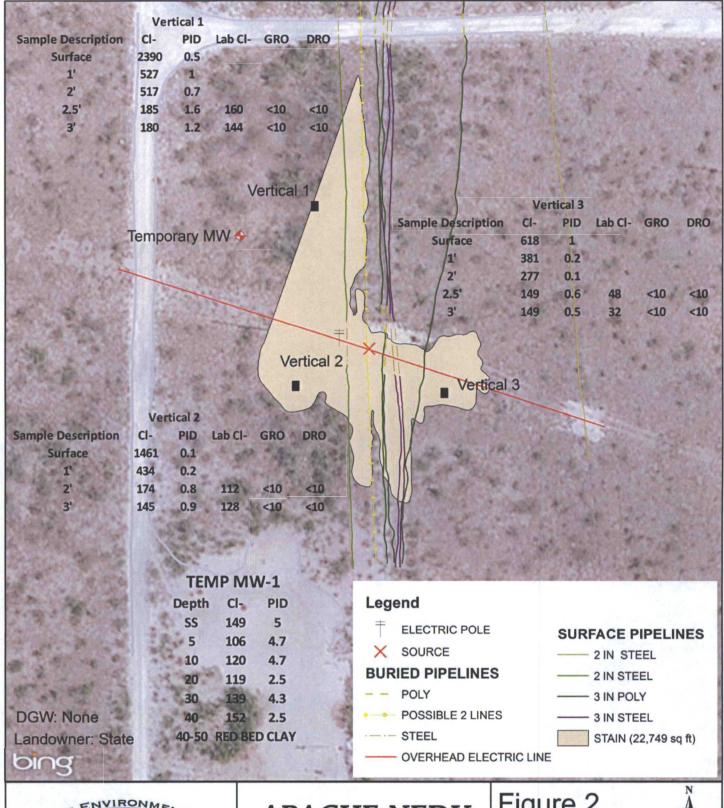


# APACHE NEDU #519

LEGALS: UL/A sec. 15 T-21-S R-37-E LEA COUNTY, NM



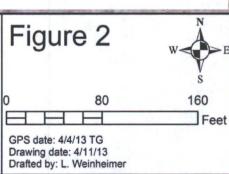
## Verticals and Temporary MW Installation





# APACHE NEDU #519

LEGALS: UL/A sec. 15 T-21-S R-37-E LEA COUNTY, NM



Final Excavation Sampling North excavation North Excavation Final Wall Samples 158' x 50' x 2.5' PID Lab CI- GRO CI-DRO North Wall 142 <16 <10 <10 South Wall 104 <16 <10 <10 East Wall 146 <10 <10 West Wall 118 <10 <10 North Excavation 5 pt Bottom Comp VERTICAL CI-PID Lab CI- GRO DRO TEMP MW-1 149 <16 <10 <10 VERTICAL 2 South excavation VERTICAL 3 154' x 179' x 1.5' South Excavation Final Wall Samples CI-PID Lab Cl-GRO DRO North Wall 116 0 <16 <10 <10 South Wall 131 1.1 <16 <10 <10 East Wall 129 0 <16 <10 <10 West Wall 134 0.7 <16 <10 <10 Legend WALL SAMPLES South Excavation 5 pt Bottom Comp SURFACE PIPELINES PID Lab CI- GRO DRO **BOTTOM SAMPLES** 2 IN STEEL 159 128 <10 <10 TEMP MW-1 - 2 IN STEEL **ELECTRIC POLE** - 3 IN POLY × SOURCE 3 IN STEEL **BURIED PIPELINES** SCRAPE - - POLY POSSIBLE 2 LINES ·- STEEL DGW: None OVERHEAD ELECTRIC LINE Landowner: State Figure 3 APACHE NEDU #519



LEGALS: UL/A sec. 15 T-21-S R-37-E LEA COUNTY, NM



30 60 HHH

GPS date: 4/18/13 JK Drawing date: 4/22/13

Drafted by: L. Weinheimer, T. Grieco



April 11, 2013

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: NEDU CENTRAL BATTERY AD

Enclosed are the results of analyses for samples received by the laboratory on 04/08/13 14:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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> accredited 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. Keine

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

Received:

04/08/2013

Reported:

04/11/2013

Project Name: Project Number: NEDU CENTRAL BATTERY AD

Project Location:

NONE GIVEN

NOT GIVEN

Sampling Date:

Sampling Type:

04/04/2013

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

Sample ID: PT. 1 SURFACE (H300838-01)

Chloride, SM4500CI-B

Analyzed By: DW

chioriac, orribotor b	9	7 9	7						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	211	105	200	4.47	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	208	104	200	4.21	

Surrogate: 1-Chlorooctane

109 %

65.2-140

Surrogate: 1-Chlorooctadecane

112 %

108 %

63.6-154

63.6-154

### Sample ID: PT. 2 SURFACE (H300838-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	816	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	222	111	200	5.04	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	218	109	200	5.96	
Surrogate: 1-Chlorooctane	87.1	% 65.2-14	0					1	

### Cardinal Laboratories

Surrogate: 1-Chlorooctadecane

\*=Accredited Analyte

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Celey D. Keine



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

04/08/2013

04/11/2013 Reported:

Project Name: NEDU CENTRAL BATTERY AD

Project Number: NONE GIVEN

Project Location: NOT GIVEN Sampling Date:

04/04/2013

Sampling Type: Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

### Sample ID: PT. 3 SURFACE (H300838-03)

Received:

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	222	111	200	5.04	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	218	109	200	5.96	
Surrogate: 1-Chlorooctane	91.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	109	% 63.6-15	4						

## Sample ID: PT. 4 SURFACE (H300838-04)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	222	111	200	5.04	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	218	109	200	5.96	
Surrogate: 1-Chlorooctane	87.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	109	% 63 6-15	4						

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\*=Accredited Analyte

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Celey D. Keine



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

Received:

04/08/2013

Reported:

04/11/2013

Project Name:

NEDU CENTRAL BATTERY AD

Project Number: Project Location:

NOT GIVEN

NONE GIVEN

Sampling Date:

Sampling Date.

Soil

Sampling Type: Sampling Condition:

Cool & Intact

Sample Received By:

cool & Intact

04/04/2013

Jodi Henson

Sample ID: PT. 5 SURFACE (H300838-05)

Chloride, SM4500CI-B

mg/kg

Analyzed By: DW

	9		7						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	222	111	200	5.04	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	218	109	200	5.96	

Surrogate: 1-Chlorooctane

90.3 %

65.2-140

Surrogate: 1-Chlorooctadecane

109 %

109 %

63.6-154

63.6-154

### Sample ID: PT. 6 SURFACE (H300838-06)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	222	111	200	5.04	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	218	109	200	5.96	
Surrogate: 1-Chlorooctane	88.5	% 65.2-14	0						

### Cardinal Laboratories

Surrogate: 1-Chlorooctadecane

\*=Accredited Analyte

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Celey D. Keene



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

Received:

04/08/2013

Reported:

04/11/2013

Project Name: Project Number: NEDU CENTRAL BATTERY AD

Project Location:

NONE GIVEN

NOT GIVEN

Sampling Date:

Sampling Type:

04/04/2013

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

Sample ID: PT. 7 SURFACE (H300838-07)

Chloride, SM4500CI-B

mg/kg

Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1040	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	222	111	200	5.04	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	218	109	200	5.96	

Surrogate: 1-Chlorooctane 89.8 % Surrogate: 1-Chlorooctadecane 107% 65.2-140

63.6-154

Cardinal Laboratories \*=Accredited Analyte

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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

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keine

# 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	Company Name: Apache Corp.				(4)				1.5	18/8 7	0		WANT TO SERVE THE PROPERTY OF				ANA	ANALYSIS		REQUEST	ST			_
roject Manage	Project Manager: Natalie Gladden				-		0.	P.O. #:		-								8						
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Sity:	State:	Zip:					A	Attn:				.1		-			ior							
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roject #:	Project Owner:	er:					Ö	City:					5	-		Н			2				. 4	
Project Name: NEDL	Cate	5	1	7			St	State:		Zip:			эр	91		qT		_						
roject Location:		1	r				ď	Phone #:	#				inc	_				Da						
sampler Name: JKAMPLAIN	JKAMPLAIN						T	Fax #:					기니	_	B	-		_						
FOR LAB USE ONLY		L			MA	MATRIX		PRE	PRESERV.		SAMPLING	(D	C		_	_	namph-the							
		C)OMP.			<i>)</i>						-			_		L	əldu							
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4	of the ho	6	~		/	,			7	5	8	: 50	1	1										-
٥	PT556 600	3	-		1				1		2	:55	1	1										
7	457 Sn. G. 2	6	7		/				7	/		0:00	/	1	1									
																					-			
											-													-
*									_															
		I																						

gas. Cardinal's fability and client's exclusive remedy for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the LEASE NOTE: Liability and Dar

hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; Zconder@rice-ecs.com; Bbaker@rice-ecs.com; natalie.gladden@apachecorp.com JKAMPLAIN@RICE-ECS.COM email results Time: Sampler - UPS - Bus - Other: Delivered By: (Circle One)

† Cardinal cannot accept verbal changes. Please fax written changes to 505-395-2476



April 11, 2013

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: NEDU CENTRAL BATTERY AD

Enclosed are the results of analyses for samples received by the laboratory on 04/08/13 14:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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/qa/lab">www.tceq.texas.gov/field/qa/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.

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

Received:

04/08/2013

Reported:

04/11/2013

Project Name: Project Number: NEDU CENTRAL BATTERY AD

Project Location:

NONE GIVEN

**NOT GIVEN** 

Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By:

Soil

Cool & Intact Jodi Henson

04/08/2013

Sample ID: VERTICAL 1 @ 2.5' (H300837-01)

Chloride, SM4500CI-B

ma/ka

Analyzed By: DW

		- 3							
Analyte Chloride	Result	Reporting Limit	Analyzed 04/10/2013	Method Blank	BS 432	% Recovery	True Value QC	RPD 3.77	Qualifier
Cilioride	100	10.0	04/10/2013	ND	732	100	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	04/10/2013	ND	211	105	200	4.47	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	208	104	200	4.21	

Surrogate: 1-Chlorooctane

80.7 %

65.2-140

Surrogate: 1-Chlorooctadecane

97.6%

63.6-154

### Sample ID: VERTICAL 1 @ 3' (H300837-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	04/10/2013	ND	432	108	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS			1-		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/10/2013	ND	211	105	200	4.47	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	208	104	200	4.21	
Surrogate: 1-Chlorooctane	94.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	108	% 63.6-15	4						

### Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keine



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

Received: Reported: 04/08/2013

04/11/2013

Project Name: Project Number: NEDU CENTRAL BATTERY AD

Project Location:

NONE GIVEN

NOT GIVEN

Sampling Date:

Sampling Type:

04/08/2013

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

Sample ID: VERTICAL 2 @ 2' (H300837-03)

Chloride, SM4500CI-B

mg/kg

Analyzed By: DW

chiorac, si-14300ci b	mg/	K9	Allaryzo	u by. bw					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	211	105	200	4.47	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	208	104	200	4.21	

Surrogate: 1-Chlorooctane

90.4%

65.2-140

Surrogate: 1-Chlorooctadecane

106%

104%

63.6-154

63.6-154

### Sample ID: VERTICAL 2 @ 3' (H300837-04)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	211	105	200	4.47	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	208	104	200	4.21	
Surrogate: 1-Chlorooctane	87.4	% 65.2-14	0						

### Cardinal Laboratories

Surrogate: 1-Chlorooctadecane

\*=Accredited Analyte

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

Celey D. Keine



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

Received: Reported: 04/08/2013

04/11/2013

Project Name: Project Number: Project Location: NEDU CENTRAL BATTERY AD

NONE GIVEN

Sampling Date:

04/08/2013

Sampling Type: Soil

Soll

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

Sample ID: VERTICAL 3 @ 2.5' (H300837-05)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: DW

Chloride, SM4500CI-B	mg	кg	Anaiyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	211	105	200	4.47	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	208	104	200	4.21	

Surrogate: 1-Chlorooctane

89.2 %

65.2-140

Surrogate: 1-Chlorooctadecane

108 %

63.6-154

### Sample ID: VERTICAL 3 @ 3' (H300837-06)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/10/2013	ND	432	108	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	04/10/2013	ND	211	105	200	4.47	
DRO >C10-C28	<10.0	10.0	04/10/2013	ND	208	104	200	4.21	
Surrogate: 1-Chlorooctane	92.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	108	% 63.6-15	4						

### Cardinal Laboratories

\*=Accredited Analyte

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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

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keine

# 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 Corp.		7:7	(3/2/2/20)	SEHER			ANALYSIS		REQUEST			_
Project Manager	Project Manager: Natalie Gladden		P.O. #:			:							_
Address:			Company:					SL			_		
City:	State:	Zip:	Attn:					IOi		·	-		-
Phone #:	Fax#:		Address:					u∀	-	-			
Project #:	Project Owner:		City:			M	Η	//S					
Project Name:	NEDG CALI Baston	AD	State:	Zip:	əp	X SI	dТ			9			
Project Location:			Phone #:			E 30			DS				
Sampler Name: JKAMPLAIN	JKAMPLAIN		Fax #:										_
FOR LAB USE ONLY		MATRIX	PRESERV	SAMPLING	-	_	_	Ð:		_	-		_
, ,	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL	OTHER: OTHER: OTHER: OTHER:	DATE TIME		I.L	L	Complet	*.				
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				** * * * * * * * * * * * * * * * * * * *									

hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; Zconder@rice-ecs.com; Bbaker@rice-ecs.com; natalie.gladden@apachecorp.com JKAMPLAIN@RICE-ECS.COM email results Fax Result: REMARKS: Sampler - UPS - Bus - Other: Delivered By: (Circle One) Relinquished By:

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393 247

# 26



April 19, 2013

STEVEN FLEMING

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: NEDU CENTRAL BATTERY AD

Enclosed are the results of analyses for samples received by the laboratory on 04/18/13 15:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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/qa/lab">www.tceq.texas.gov/field/qa/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.

Celeg D. Keine

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 STEVEN FLEMING P. O. BOX 1849 EUNICE NM, 88231 Fax To: 394-2425

Received:

04/18/2013

Sampling Date:

04/17/2013

Reported:

04/19/2013

Sampling Type:

Soil

Project Name:

NEDU CENTRAL BATTERY AD

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

NOT GIVEN

Sample ID: N EXC- N WALL CENTER (H300926-01)

Chl	loric	le,	SM	14	5	00	CI	-	B
							_	_	-

### Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/19/2013	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	04/19/2013	ND	210	105	200	4.29	
DRO >C10-C28	<10.0	10.0	04/19/2013	ND	204	102	200	4.96	
Surrogate: 1-Chlorooctane	80.3	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	96.8	% 63.6-15	4						

### Sample ID: N EXC- S WALL CENTER (H300926-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/19/2013	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS				1	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2013	ND	210	105	200	4.29	
DRO >C10-C28	<10.0	10.0	04/19/2013	ND	204	102	200	4.96	
Surrogate: 1-Chlorooctane	80.2	% 65.2-14	0	-					
Surrogate: 1-Chlorooctadecane	98.8	% 63.6-15	4						

### Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keine



APACHE - EUNICE STEVEN FLEMING P. O. BOX 1849 **EUNICE NM, 88231** 

Fax To:

394-2425

Received:

04/18/2013

Reported:

04/19/2013 NEDU CENTRAL BATTERY AD

Project Name: Project Number:

NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

04/17/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

### Sample ID: N EXC- E WALL CENTER (H300926-03)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/19/2013	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	04/19/2013	ND	210	105	200	4.29	
DRO >C10-C28	<10.0	10.0	04/19/2013	ND	204	102	200	4.96	
Surrogate: 1-Chlorooctane	71.1	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	87.7	% 63.6-15	4						

### Sample ID: N EXC- W WALL CENTER (H300926-04)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/19/2013	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	04/19/2013	ND	210	105	200	4.29	
DRO >C10-C28	<10.0	10.0	04/19/2013	ND	204	102	200	4.96	
Surrogate: 1-Chlorooctane	82.3	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	98.6	% 63.6-15	4						

### Cardinal Laboratories

\*=Accredited Analyte

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Celeg D. Keine



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

Received:

04/18/2013

Sampling Date:

04/17/2013

Reported:

04/19/2013

Sampling Type:

Soil

Project Name:

NEDU CENTRAL BATTERY AD

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

NOT GIVEN

Sample ID: N EXC- 5 PT. BTTM @ 2.5' (H300926-05)

Chloride,	SM4500CI-B

_	_	_	. 1	"	_	_
п	п	O	1		c	c

### Analyzed By: DW

Cilioritacy Striboodi D	9	7 9	741141720						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/19/2013	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	04/19/2013	ND	210	105	200	4.29	
					204	102	200	4.96	

Surrogate: 1-Chlorooctane

74.2 %

65.2-140

Surrogate: 1-Chlorooctadecane

952%

63.6-154

### Sample ID: S EXC- N WALL CENTER (H300926-06)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/19/2013	ND	416	104	400	200	
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	04/19/2013	ND	210	105	200	4.29	
DRO >C10-C28	<10.0	10.0	04/19/2013	ND	204	102	200	4.96	
Surrogate: 1-Chlorooctane	77.3	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	99.5	% 63.6-15	4						

### Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keine



APACHE - EUNICE STEVEN FLEMING P. O. BOX 1849 **EUNICE NM, 88231** 

Fax To:

394-2425

Received:

04/18/2013

Sampling Date:

04/18/2013

Reported:

04/19/2013

Sampling Type:

Soil

Project Name:

NEDU CENTRAL BATTERY AD

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Project Location:

NOT GIVEN

Sample Received By:

Jodi Henson

### Sample ID: S EXC- S WALL CENTER (H300926-07)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/19/2013	ND	416	104	400	200	
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	04/19/2013	ND	210	105	200	4.29	
DRO >C10-C28	<10.0	10.0	04/19/2013	ND	204	102	200	4.96	
Surrogate: 1-Chlorooctane	85.1	% 65.2-14	0						

Surrogate: 1-Chlorooctadecane

103 %

63.6-154

### Sample ID: S EXC- E WALL CENTER (H300926-08)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/19/2013	ND	416	104	400	200	
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	04/19/2013	ND	210	105	200	4.29	
DRO >C10-C28	<10.0	10.0	04/19/2013	ND	204	102	200	4.96	
Surrogate: 1-Chlorooctane	82.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	103	% 63.6-15	4						

### Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keine



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

Received:

04/18/2013

Reported:

04/19/2013

Project Name: Project Number: NEDU CENTRAL BATTERY AD

Project Location:

Surrogate: 1-Chlorooctadecane

NONE GIVEN

96.9 %

63.6-154

NOT GIVEN

Sampling Date:

04/18/2013

Sampling Type:

Sampling Condition:

Cool & Intact

Soil

Sample Received By:

Jodi Henson

### Sample ID: S EXC- W WALL CENTER (H300926-09)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/19/2013	ND	416	104	400	200	
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	04/19/2013	ND	210	105	200	4.29	
DRO >C10-C28	<10.0	10.0	04/19/2013	ND	204	102	200	4.96	
Surrogate: 1-Chlorooctane	79.4	% 65.2-14	0						

### Sample ID: S EXC- 5 PT. BTTM @ 1.5' (H300926-10)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	04/19/2013	ND	416	104	400	200	
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	04/19/2013	ND	210	105	200	4.29	
DRO >C10-C28	<10.0	10.0	04/19/2013	ND	204	102	200	4.96	
Surrogate: 1-Chlorooctane	80.2	% 65.2-14	0						×
Surrogate: 1-Chlorooctadecane	101	% 63.6-15	4						

### Cardinal Laboratories

\*=Accredited Analyte

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Celeg 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

**Cardinal Laboratories** 

\*=Accredited Analyte

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Celeg D. Keene

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

4RDINAL 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:	3: Apache Corp.			13/14/20					ANALYSIS	- 1	REQUEST	_		
Project Manage	De Steven F	enings	P.O. #:				3							-
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City:	State:	Zip:	Attu:						IOi	(A (A)				
Phone #:	Fax#:		Address	.88:					u					
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Project Name:			State:	Zip:										
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Sampler Name: IKAMPI AIN	IKAMPI AIN		Fax #:			-		_		1				
FOR LAB USE ONLY		MA	MATRIX PR	PRESERV. SAM	SAMPLING	_	-	-	9			_		
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PLEASE NOTE: Liability analyses, All delms includ	PLEASE NOTE: Liability and Damages. Cardinal's fability and client's exclusive remedy for any dalim straing w analyses, All dalims including those for negligence and any other cause whatboever stable determed warwed us	any daim arising whether based a deemed waived unless made it	in contract or tort, shi writing and received	Another based in contract or tort, shalt be limited to the amount paid by the client for the Interes made in writing and eccebed by Corticulas Within 30 days after completion of the applicable Interests the amount one of this or force of the contract to client in an interest the contract.	it paid by the client for the after completion of the	applicable								
service. In no event snail affiliates or successors arts	out of or related to the performance of		such claim is based up	claim is based upon any of the above stated reasons or otherwise	d reasons or otherwise		- 1		A deligation	7				
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Sampler - UPS	Sampler - UPS - Bus - Other:	30	Tes Tes	Y	JKAMPLAIN@RICE-ECS.COM	MIN	@RIC	E-EC	S.CON	_	)			

+ Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2478



April 09, 2013

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

**EUNICE, NM 88231** 

RE: NEDU CENTRAL BATTERY AD

Enclosed are the results of analyses for samples received by the laboratory on 04/08/13 14:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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> accredited 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.

Celeg D. Keine

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

Received:

04/08/2013

Sampling Date:

04/05/2013

Reported:

04/09/2013

Sampling Type:

Soil

Project Name:

NEDU CENTRAL BATTERY AD

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

**NOT GIVEN** 

Sample ID: IMPORTED SOIL (H300836-01)

Chloride, SM4500CI-B

mg/kg

Analyzed By: DW

Analyte

Analyzed

Method Blank

BS

% Recovery

True Value QC

**RPD** 

Qualifier

Chloride

Result 64.0

Reporting Limit 16.0

04/09/2013

ND

432

108

400

0.00

Cardinal Laboratories

\*=Accredited Analyte

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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 SM4500CI-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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Celeg D. Keine

# 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:	e: Apache Corp.	ğ-,								110	16 18 6	57[62]760]					AN	ANALYSIS		REQUEST	JEST					
Project Manage	Project Manager: Natalie Gladden						=1	P.O.#:	#								-							-		
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Sampler Name: JKAMPLAIN	JKAMPLAIN							Fax #:	*				οJU	3 F	B	_		_								
FOR LAB USE ONLY		L		L	M	MATRIX	×	4	PRESERV.	ERV.	SAMPLING	ING	C	lc		_	-	0				_				
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hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; JKAMPLAIN@RICE-ECS.COM Zconder@rice-ecs.com; Bbaker@rice-ecs.com; natalie.gladden@apachecorp.com email results Phone Resur Fax Result: REMARKS: 60 Sampler - UPS - Bus - Other: Delivered By: (Circle One)

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

Logger: Kyle Norman

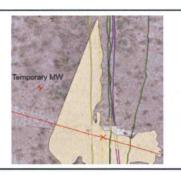
Driller: Harrison & Cooper, Inc.

Drilling Method: Air rotary

Start Date: 4/8/2013

End Date: 4/8/2013

End Date: 4/8/2013





Apache NEDU #519 Well ID:

SB-1

Comments:

DRAFTED BY: L. Weinheimer

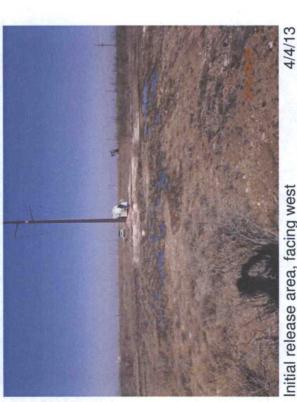
Location: UL/I sec. 15 T-21-S R-37-E

Lat: 32°29'7.996"N

County: Lea State: NM

	TD = 50	ft		GW = 39 ft	Long: 103 %'40.724"W	State: NM
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	ell Construction
				6 " Brown Sand Top Soil		
	-					
SS	149		5			
5 ft	106		4.7			
				*,		
10 ft	120		4.7			
1011	120		4.7	Caliche/Sandstone		bentonite
						seal
20 ft	119		2.5			
30 ft	139		4.3			
40 ft	152	<u> </u>	2.5	Red Bed Clay		
50 ft						

# Apache NEDU #519 Unit Letter A, Section 15, T21S, R37E



Initial release area, facing west

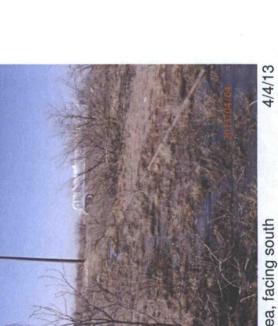


Initial release area, facing north



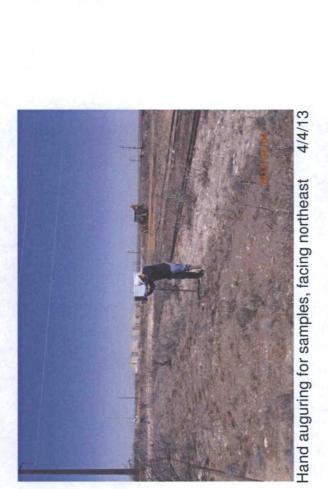


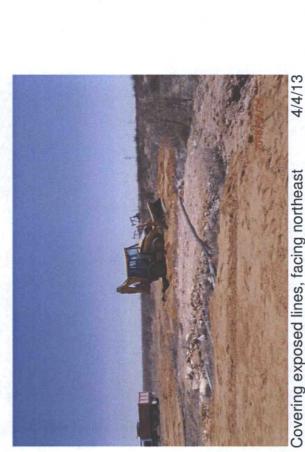
Initial release area, facing south



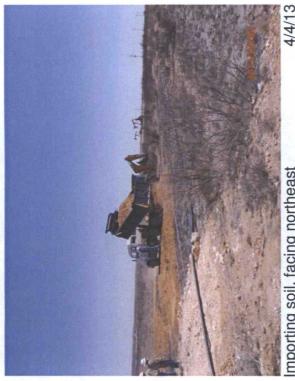
Covering exposed lines, facing south

4/4/13





Covering exposed lines, facing northeast



Importing soil, facing northeast



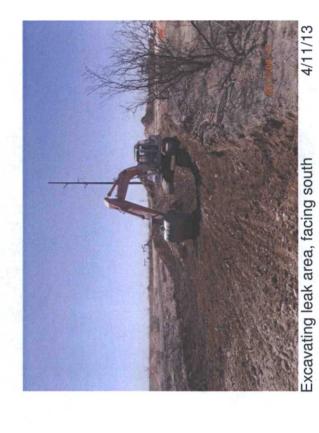
Spotting lines, facing northeast

4/4/13



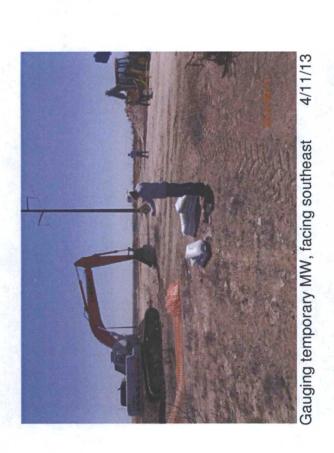
Building pad, facing northwest





Digging vertical, facing southwest

4/8/13

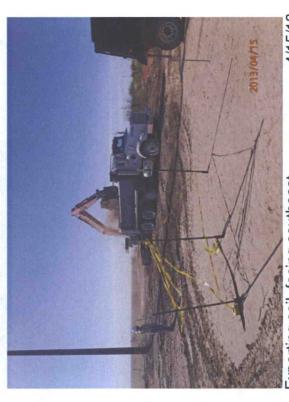




Plugging temporary MW in total with bentonite, facing southeast 4/11/13 southeast

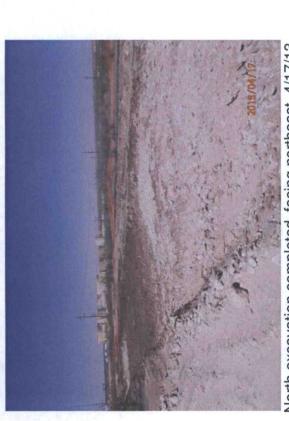


Completed temporary MW, facing southeast 4/11/13



Exporting soil, facing southeast

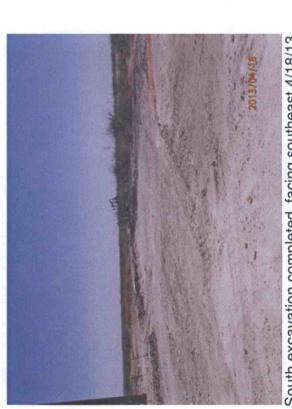
4/15/13



North excavation completed, facing northeast 4/17/13



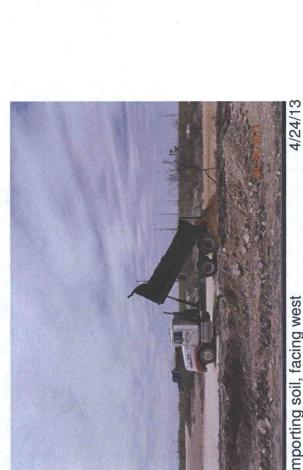
North excavation completed, facing northwest 4/17/13



South excavation completed, facing southeast 4/18/13



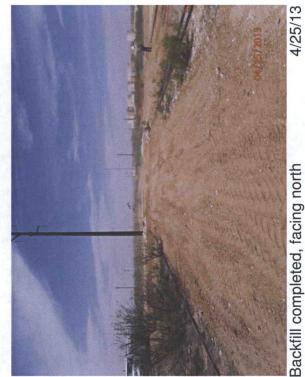
South excavation completed, facing southeast 4/18/13



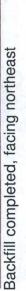
Importing soil, facing west



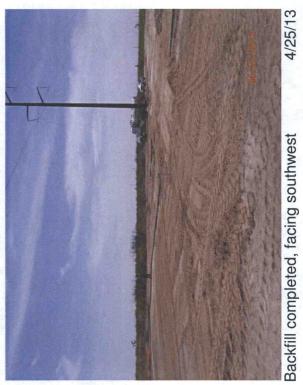
Backfilling site, facing west



Backfill completed, facing north









4/25/13 Backfill completed, facing northwest