

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	NEDU #238	Facility Type	Producing Well

Surface Owner	McNeil Ranch	Mineral Owner	State of NM	Lease No.	30-025-35403
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
S	2	21S	37E	2500	FSL	1700	FWL	Lea

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

Type of Release	Oil/Produced Water	Volume of Release	20 bbl	Volume Recovered	7 bbl
Source of Release	Flow Line	Date and Hour of Occurrence	12/06/11	Date and Hour of Discovery	12/06/11
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking		
By Whom?	Natalie Gladden	Date and Hour	12/07/11 11:50 am		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

DTW=28'

Describe Cause of Problem and Remedial Action Taken.\*

Flow line busted due to freezing weather. Standing fluid was recovered and location was back-dragged until the one-call was cleared.

Describe Area Affected and Cleanup Action Taken.\*

The leak affected the well pad and pasture to the south. Impacted soils were removed to a NMOCD approved disposal facility. Representative soil samples were collected from the excavation and sent to a commercial laboratory for chloride and TPH confirmation. The well pad excavation was backfilled with clean caliche and leveled. The pasture area was backfilled with clean topsoil, contoured to the surrounding area, and seeded with a native vegetative blend.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	<i>Natalie Gladden</i>	OIL CONSERVATION DIVISION	
Printed Name:	Natalie Gladden	<i>Geoffrey Leking</i> Approved by District Superintendent Environmental Specialist	
Title:	EH&S Environmental Tech	Approval Date:	11/09/12
E-mail Address:	Natalie.gladden@apachecorp.com	Expiration Date:	-
Date:	11/9/12	Conditions of Approval:	-
Phone:	(575) 390-4186	Attached	<input type="checkbox"/>

IRP-6-14-3084

\* Attach Additional Sheets If Necessary

JUN 17 2014

NSA 141644803



EXPLORING WHAT'S POSSIBLE

# **APACHE CORPORATION**

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

## NEDU #238

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# Closure Report

API 30-025-35403

Release Date: December 6, 2011

Unit Letter S, Section 2, Township 21S, Range 37E

# Rice Environmental Consulting & Safety

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

**May 4, 2012**

Geoffrey Leking  
New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau – District 1  
1625 N. French Dr.  
Hobbs, NM 88240-9273

**RE: TERMINATION REQUEST  
Apache – NEDU #238 AD  
UL/S sec. 2 T21S R37E  
API No. 30-025-35403**

Mr. Leking:

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 and hydrocarbon fluids associated with the NEDU #238. A flow line ruptured and released fluids onto the well pad and pasture land south of the well pad. The line was repaired, and standing fluids were recovered. An initial form C-141 was submitted by Apache Corporation on December 13, 2011 (Appendix A). The site is located north of Eunice, east from NM Highway 248 in unit letter 'S' of section 2, T21S, R37E in Lea County, New Mexico.

On December 6, 2011, RECS personnel initiated work on the NEDU #238. Initial samples were collected from ground surface and 6 inches below ground surface (bgs) (Figure 1). The samples were field tested for chloride. 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). In the surface samples, chloride ranged from <16.0 ppm (parts per million or mg/kg) to 5,520 ppm. TPH ranged from 19.0 ppm to 33,300 ppm. The samples from Pt.1 and Pt.5 at 6 inches bgs showed <16.0 ppm for chloride and <10.0 ppm TPH.

On December 12, 2011, RECS personnel collected and field tested representative samples from 3 of the 4 excavations (Figure 2). The samples were submitted to a laboratory for chloride and TPH analyses (Appendix C). In the southeast excavation, grab samples from the walls and a composite sample of the bottom contained 16.0 ppm or less chloride and <10.0 ppm TPH. In the south scrape, a composite sample of the bottom contained <16.0 ppm chloride and <10.0 ppm TPH. In the southeast scrape, a composite sample of the bottom contained 16.0 ppm chloride and 96.3 ppm TPH (Appendix C).

On December 13, 2011, RECS personnel collected and field tested representative samples from the southwest scrape (Figure 3). Grab samples of the excavation walls and a composite sample of the bottom contained 112 ppm or less chloride and 13.9 ppm or less TPH (Appendix C).

Impacted soils were removed from the excavations and transported to a NMOCD approved disposal facility. The excavations were backfilled with clean caliche on the well pad (96 ppm chloride, <10.0 ppm TPH) and topsoil (<16.0 ppm chloride, <10.0 ppm TPH) in the pasture (Appendix C). The site was contoured to the surrounding area. The pasture area was seeded with a blend of native vegetation and is expected to return to a productive capacity at a normal rate. See Appendix B for photographs of field activities.

## Conclusion

According to the New Mexico Office of the State Engineer and the United States Geological Survey (USGS), depth to groundwater in the area approximated 37 ft bgs (Appendix D). Due to the removal of impacted soils relative to necessary groundwater depth, Apache submits the final C-141 (Appendix E) 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.

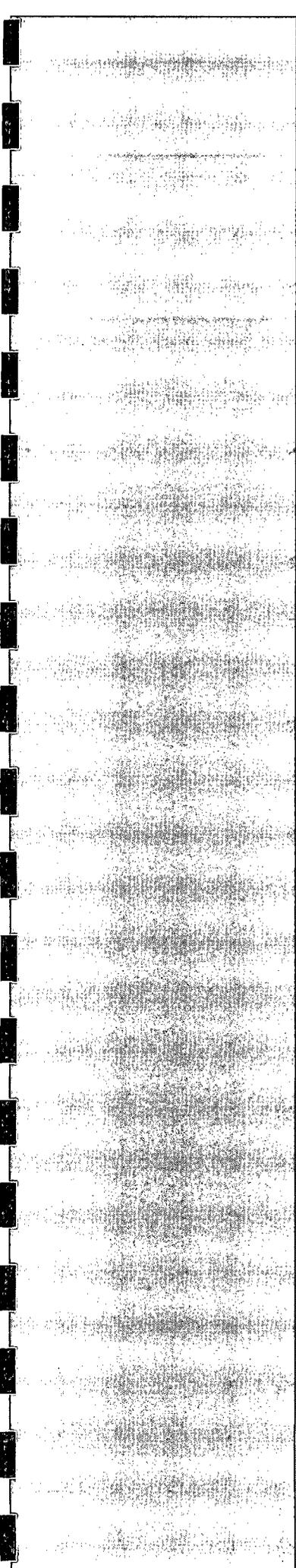
Sincerely,



Bruce Baker  
Head Foreman  
RECS  
(575) 631-5157

## Attachments:

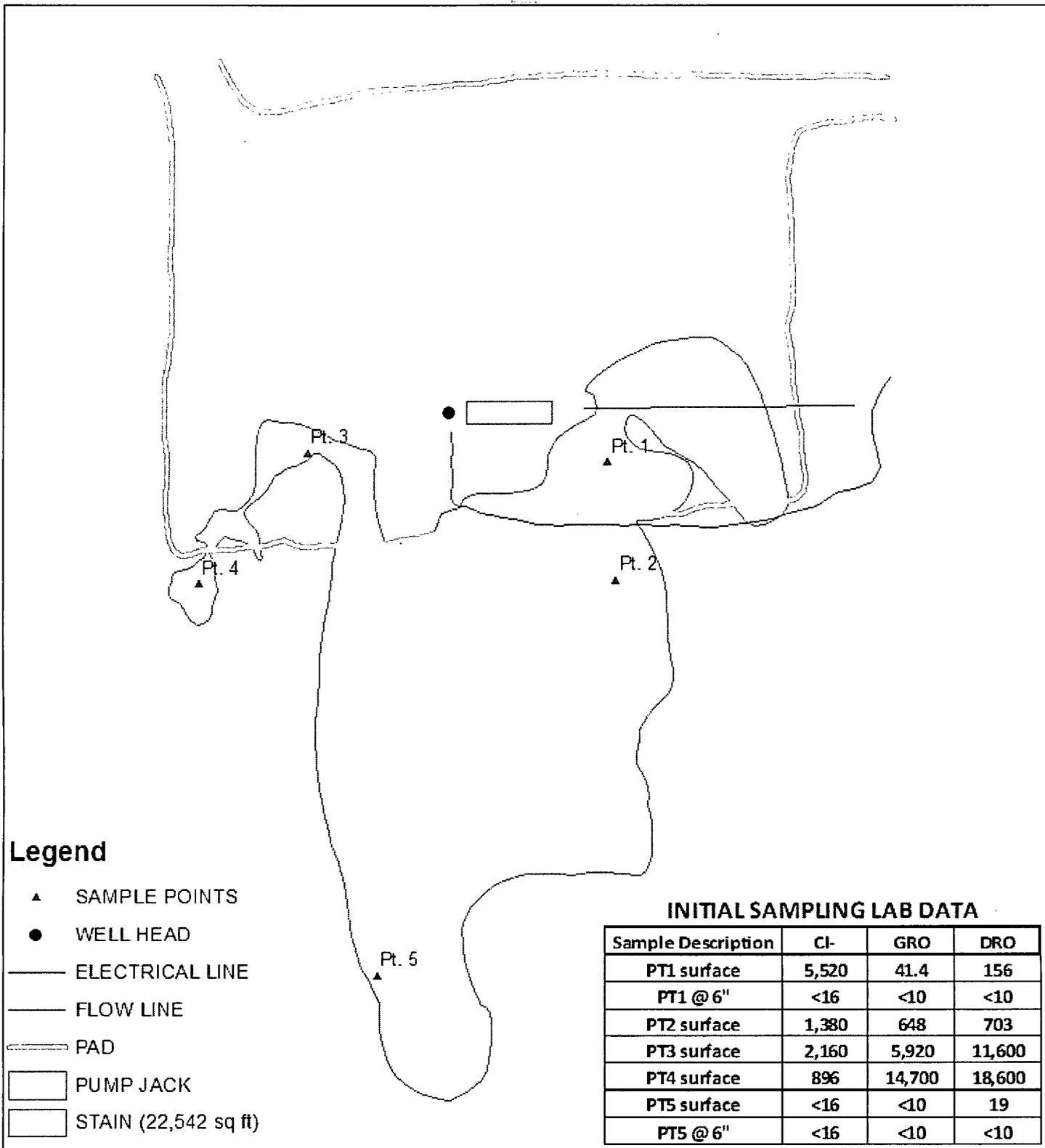
- Figure 1: Site Plat with Initial Sampling Lab Data
- Figure 2: Site Plat with Southeast Excavation, South Scrape, and Southeast Scrape Final Lab Data
- Figure 3: Site Plat with Southwest Scrape Final Lab Data
- Appendix A: Initial Form C-141
- Appendix B: Site Photographs
- Appendix C: Laboratory Results
- Appendix D: Groundwater Study
- Appendix E: Final Form C-141



# Figures

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

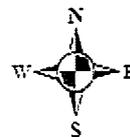
# Site Plat



## APACHE NEDU #238 AD

LEGALS: UL/S sec. 2  
T-21-S R-37-E  
DGW = 37 ft

Figure 1



0 15 30 60  
Feet

GPS date: 12/8/11 JK  
Drawing date: 12/12/11  
Drafted by: L. Weinheimer

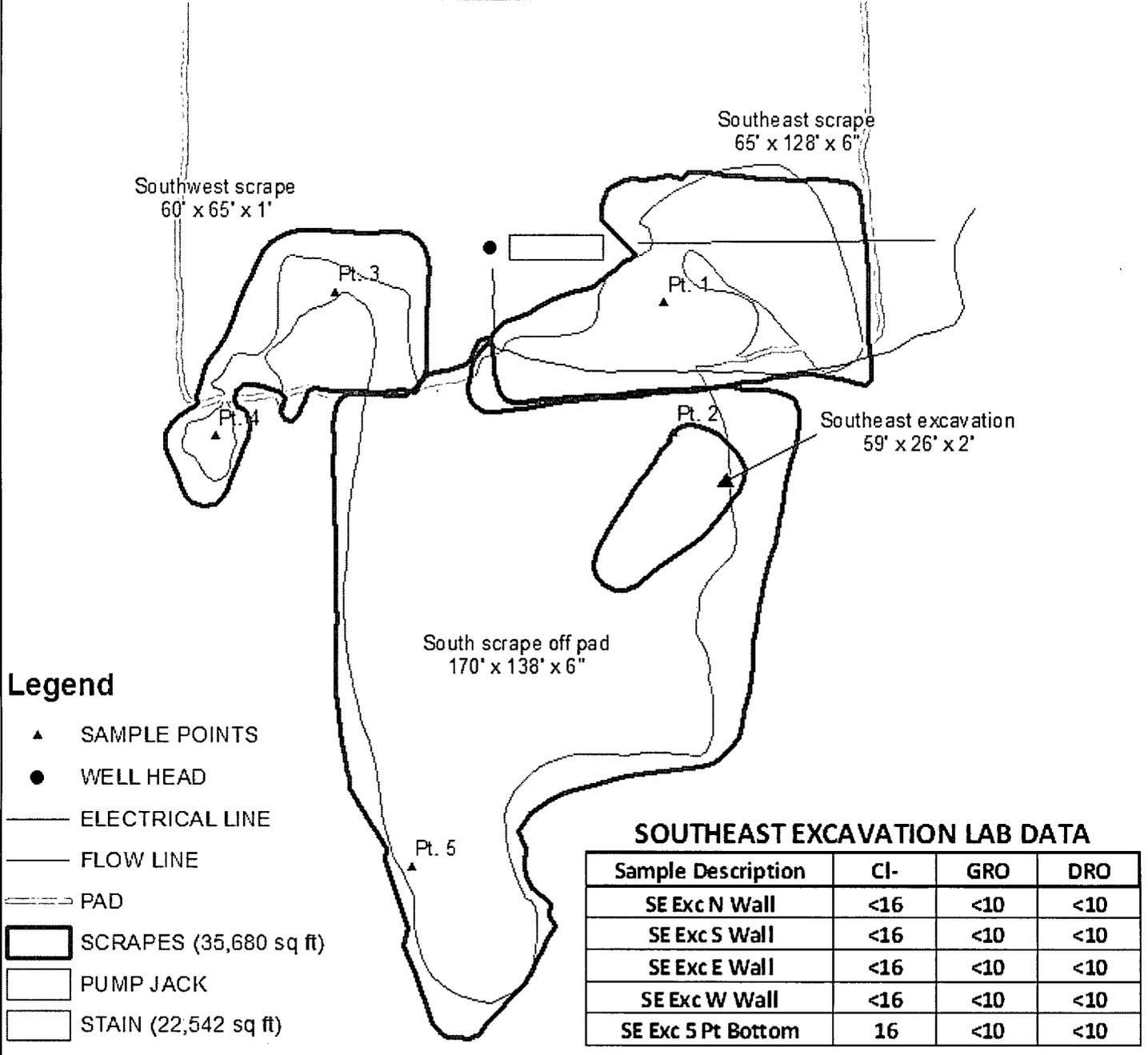
# Site Plat

## SOUTH SCRAPE OFF PAD LAB DATA

Sample Description	Cl-	GRO	DRO
S Scrape 5 Pt Comp	<16	<10	<10

## SOUTHEAST SCRAPE LAB DATA

Sample Description	Cl-	GRO	DRO
SE Scrape 5 Pt Comp	16	<10	96.3



### Legend

- ▲ SAMPLE POINTS
- WELL HEAD
- ELECTRICAL LINE
- FLOW LINE
- PAD
- ▭ SCRAPES (35,680 sq ft)
- ▭ PUMP JACK
- ▭ STAIN (22,542 sq ft)

## SOUTHEAST EXCAVATION LAB DATA

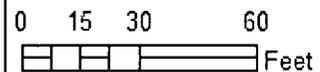
Sample Description	Cl-	GRO	DRO
SE Exc N Wall	<16	<10	<10
SE Exc S Wall	<16	<10	<10
SE Exc E Wall	<16	<10	<10
SE Exc W Wall	<16	<10	<10
SE Exc 5 Pt Bottom	16	<10	<10



## APACHE NEDU #238 AD

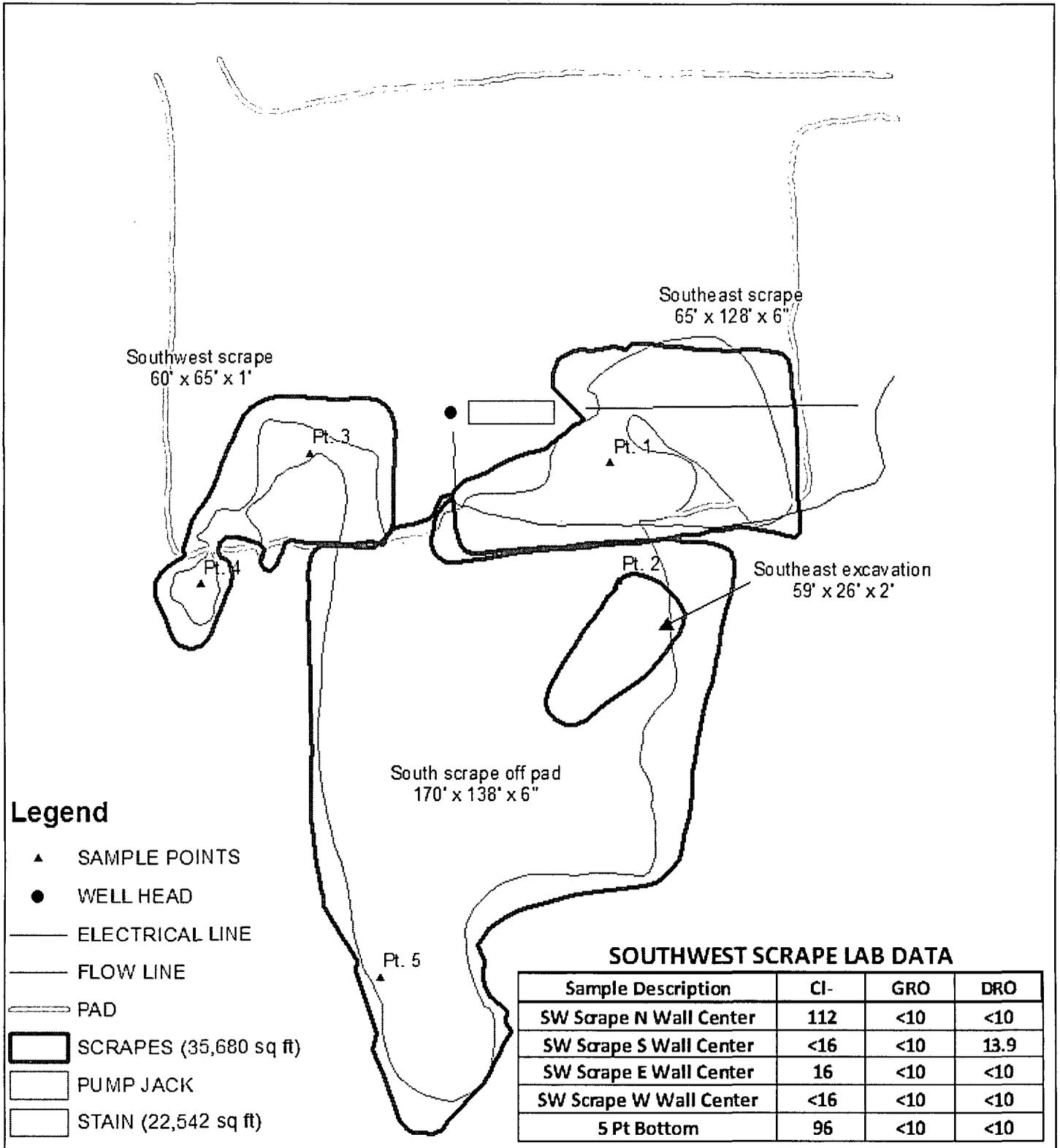
LEGALS: UL/S sec. 2  
T-21-S R-37-E  
DGW = 37 ft

### Figure 2



GFS date: 12/8/11 JK  
Drawing date: 12/12/11  
Drafted by: L. Weinheimer

# Site Plat



## Legend

- ▲ SAMPLE POINTS
- WELL HEAD
- ELECTRICAL LINE
- FLOW LINE
- PAD
- ▭ SCRAPES (35,680 sq ft)
- ▭ PUMP JACK
- ▭ STAIN (22,542 sq ft)

## SOUTHWEST SCRAPE LAB DATA

Sample Description	CI-	GRO	DRO
SW Scrape N Wall Center	112	<10	<10
SW Scrape S Wall Center	<16	<10	13.9
SW Scrape E Wall Center	16	<10	<10
SW Scrape W Wall Center	<16	<10	<10
5 Pt Bottom	96	<10	<10



## APACHE NEDU #238 AD

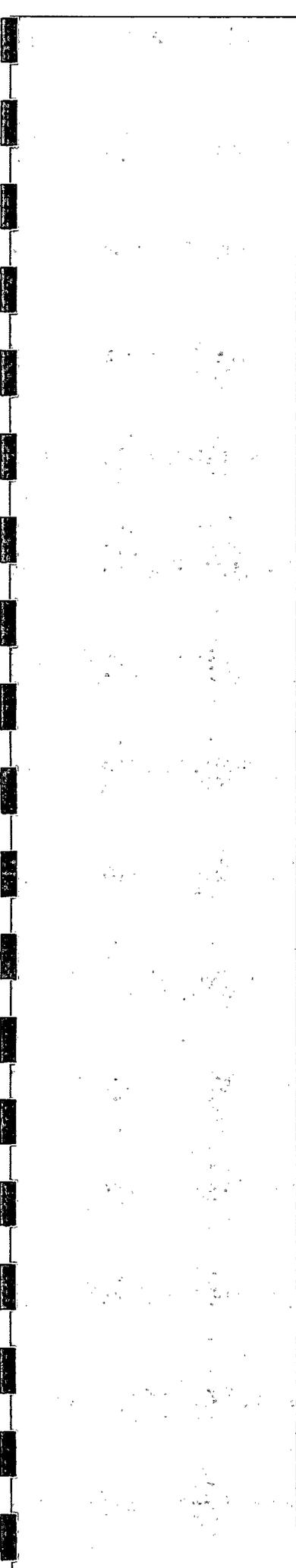
LEGALS: UL/S sec. 2  
T-21-S R-37-E  
DGW = 37 ft

## Figure 3



0 15 30 60  
Feet

GPS date: 12/8/11 JK  
Drawing date: 12/12/11  
Drafted by: L. Weinheimer



# 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

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
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 August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company Apache Corporation	Contact Natalie Gladden
Address PO Box 1849 Eunice, NM 88231	Telephone No. 575-390-4186
Facility Name Nedu #238	Facility Type Producing well

Surface Owner McNeil Ranch	Mineral Owner State of NM	API No. 30-025-35403
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
S	2	21S	37E	2500	FSL	1700	FWL	Lea

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

Type of Release Oil/Produced Water	Volume of Release 20	Volume Recovered 7
Source of Release Flowline	Date and Hour of Occurrence 12/06/11	Date and Hour of Discovery 12/06/11
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geofrey Leking	
By Whom? Natalie Gladden	Date and Hour 12/07/11 11:50am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

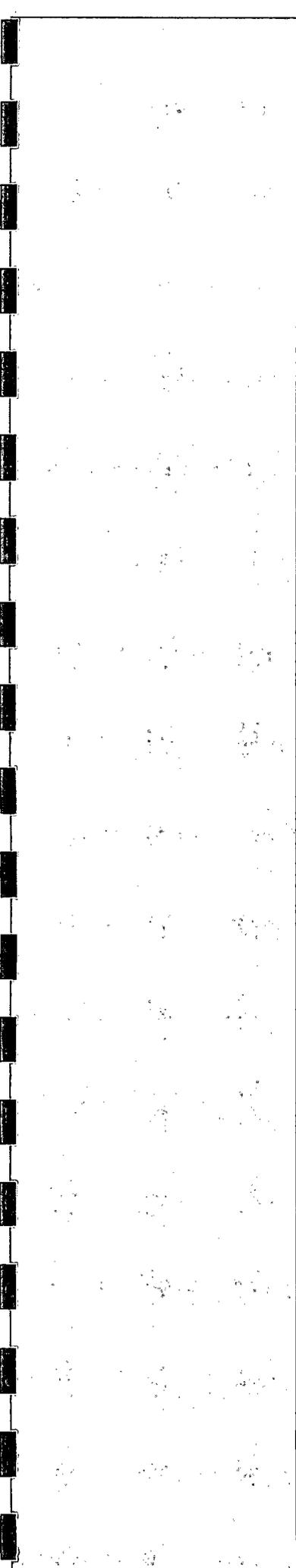
Describe Cause of Problem and Remedial Action Taken.\*  
Flowline busted due to freezing weather. Standing fluid was recovered and location was back-dragged until the one-call was cleared.

Describe Area Affected and Cleanup Action Taken.\*  
Remediation will follow the NMOCD Guidelines to closure.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Natalie Gladden	Approved by Environmental Specialist:	
Title: EHS Environmental Tech	Approval Date:	Expiration Date:
E-mail Address: natalie.gladden@apachecorp.com	Conditions of Approval:	
Date: 12/13/11 Phone: 575-390-4186	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary



# 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

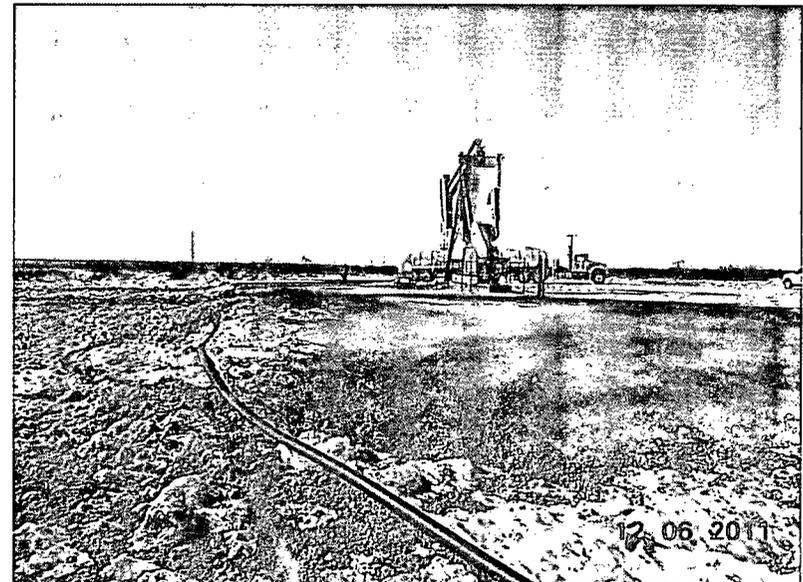
# NEDU #238

Unit Letter S, Section 2, T21S R37E



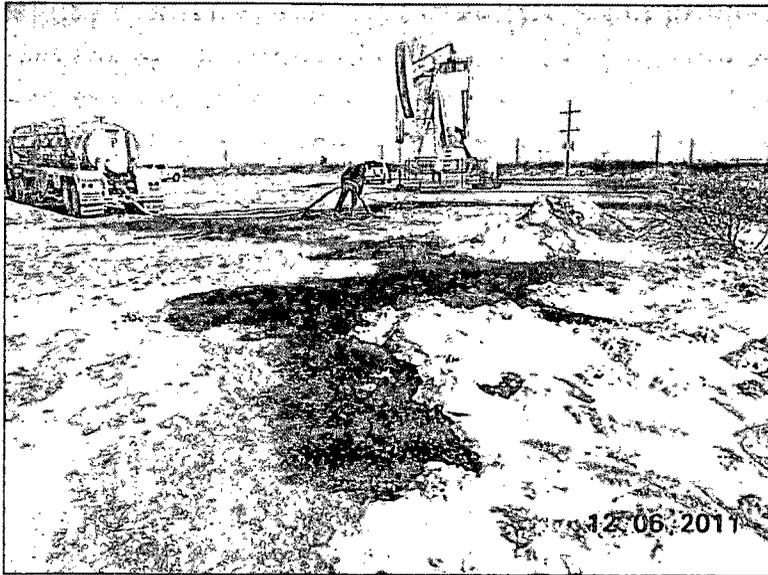
Location sign, facing south

12/6/2011



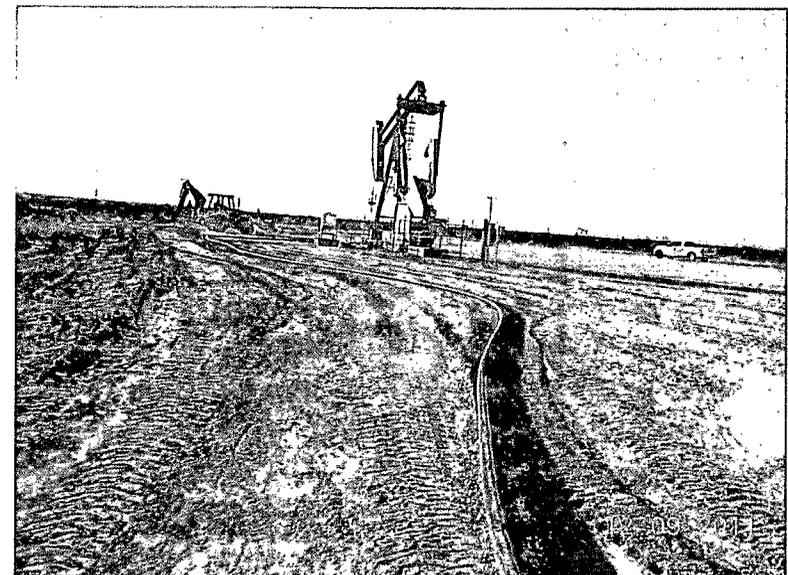
Impacted area, facing northwest

12/6/2011



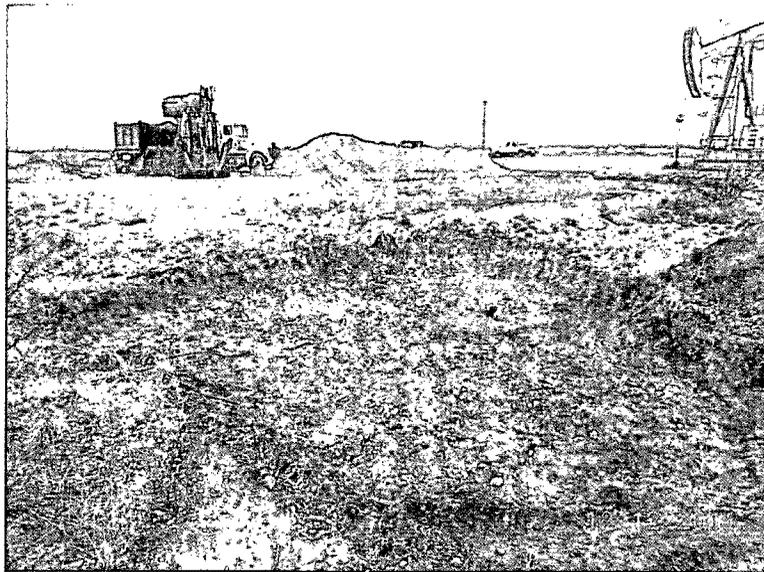
Impacted area, facing northeast

12/6/2011



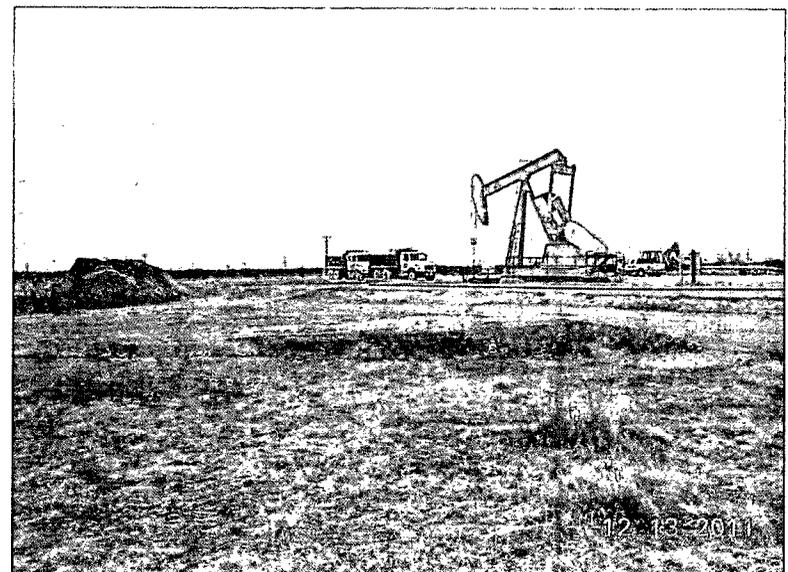
Scraping impacted area, facing northwest

12/9/2011



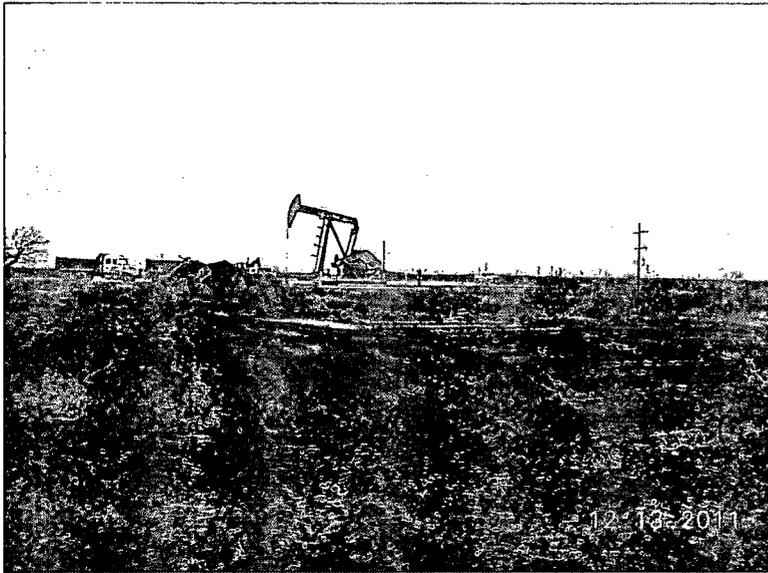
Exporting impacted soil, facing northeast

12/12/2011



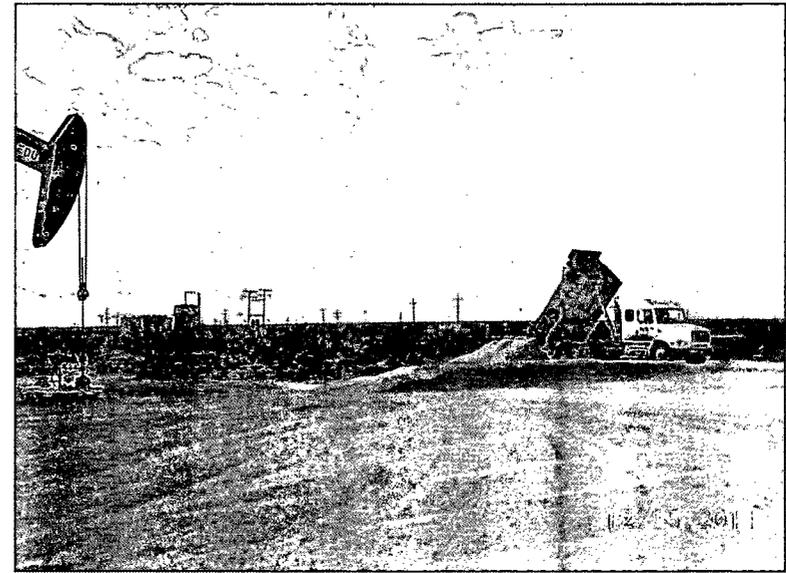
Final excavation, facing northwest

12/13/2011



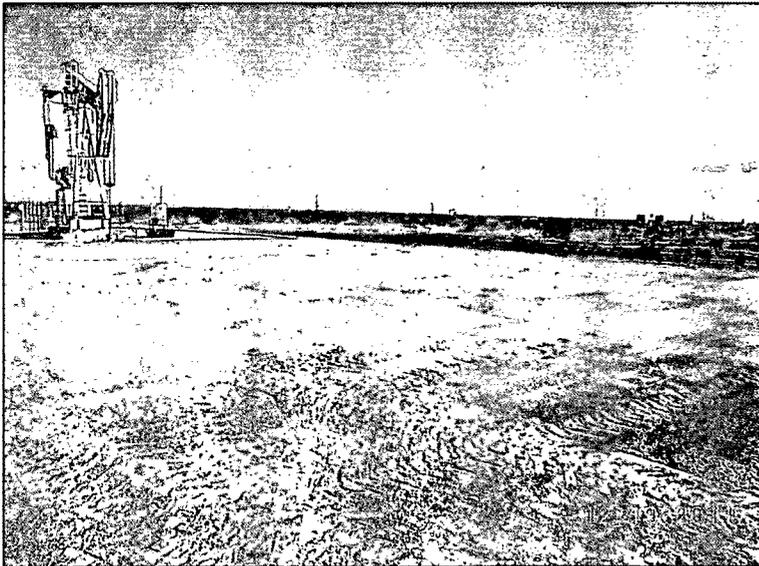
Final excavation, facing north

12/13/2011



Importing soil, facing southwest

12/15/2011



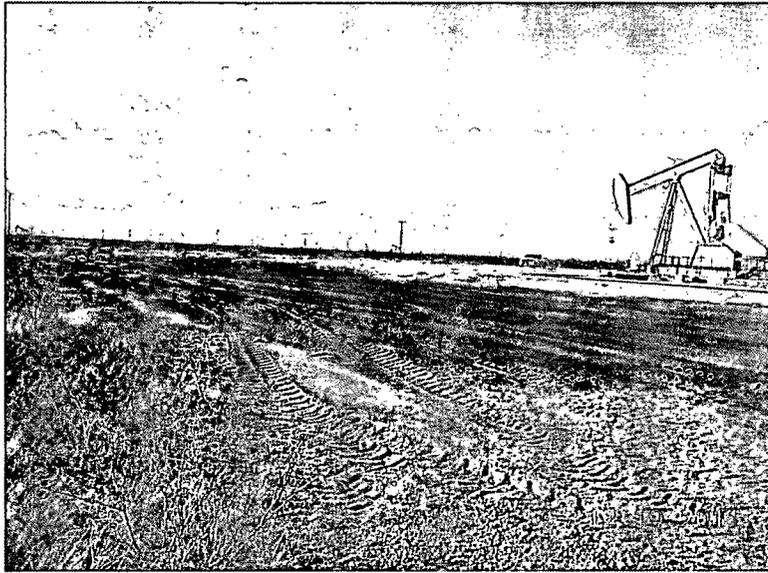
Site backfilled, facing southeast

12/19/2011



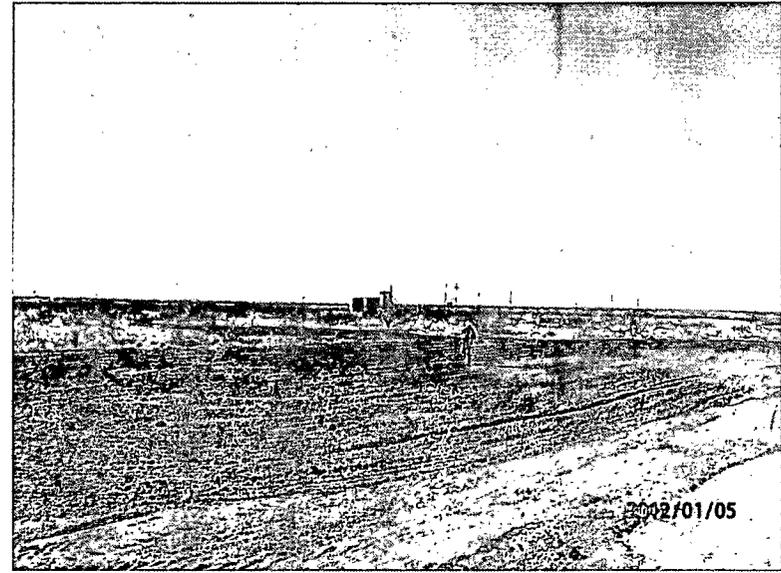
Site backfilled, facing northeast

12/19/2011



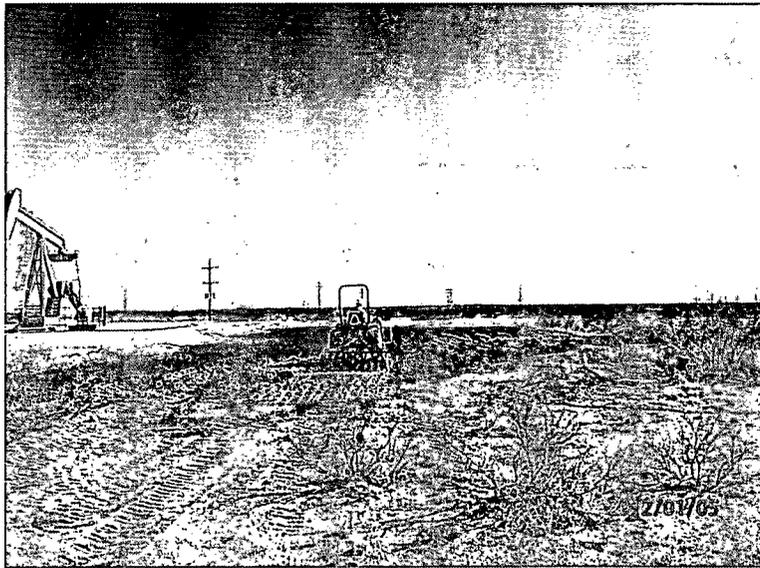
Site backfilled, facing northwest

12/19/2011



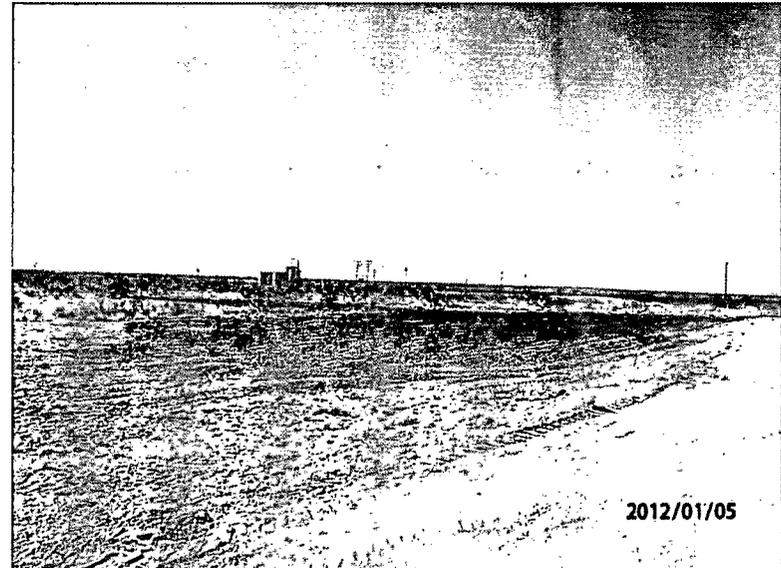
Seeding site, facing southwest

1/5/2012



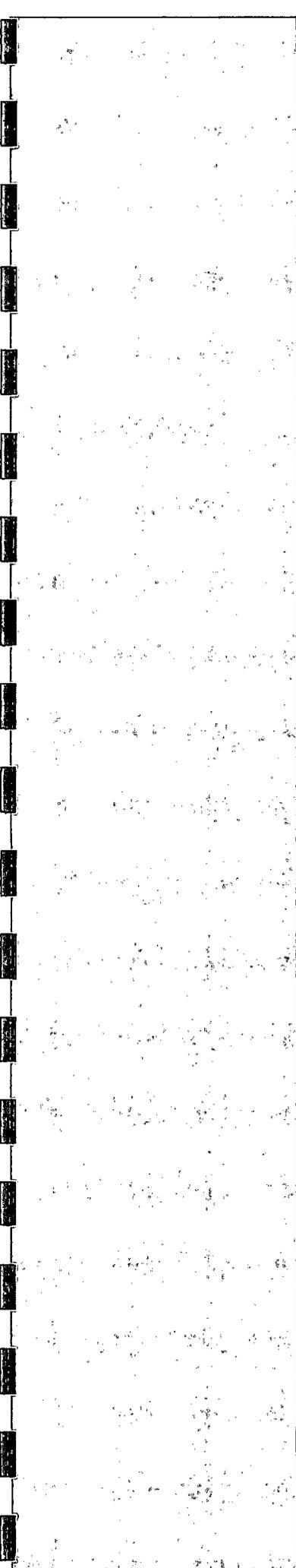
Tilling seed, facing east

1/5/2012



Site complete, facing southwest

1/5/2012



# 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

**Analytical Results For:**

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

 Received: 12/07/2011  
 Reported: 12/14/2011  
 Project Name: NEDU #238 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 12/06/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT. 1 @ SS (H102611-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>5520</b>	16.0	12/07/2011	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>41.4</b>	10.0	12/07/2011	ND	197	98.5	200	0.173		
<b>DRO &gt;C10-C28</b>	<b>156</b>	10.0	12/07/2011	ND	168	84.0	200	4.20		

Surrogate: 1-Chlorooctane 92.4 % 55.5-154

Surrogate: 1-Chlorooctadecane 80.1 % 57.6-158

**Sample ID: PT. 2 @ SS (H102611-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1380</b>	16.0	12/07/2011	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>648</b>	100	12/07/2011	ND	197	98.5	200	0.173		
<b>DRO &gt;C10-C28</b>	<b>703</b>	100	12/07/2011	ND	168	84.0	200	4.20		

Surrogate: 1-Chlorooctane 91.6 % 55.5-154

Surrogate: 1-Chlorooctadecane 81.6 % 57.6-158

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.



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: 12/07/2011  
 Reported: 12/14/2011  
 Project Name: NEDU #238 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 12/06/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT. 3 @ SS (H102611-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>2160</b>	16.0	12/07/2011	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>5920</b>	100	12/07/2011	ND	197	98.5	200	0.173		
<b>DRO &gt;C10-C28</b>	<b>11600</b>	100	12/07/2011	ND	168	84.0	200	4.20		

Surrogate: 1-Chlorooctane 252 % 55.5-154  
 Surrogate: 1-Chlorooctadecane 217 % 57.6-158

**Sample ID: PT. 4 @ SS (H102611-04)**

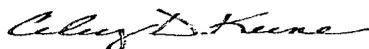
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>896</b>	16.0	12/07/2011	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>14700</b>	100	12/07/2011	ND	197	98.5	200	0.173		
<b>DRO &gt;C10-C28</b>	<b>18600</b>	100	12/07/2011	ND	168	84.0	200	4.20		

Surrogate: 1-Chlorooctane 323 % 55.5-154  
 Surrogate: 1-Chlorooctadecane 272 % 57.6-158

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.



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:	12/07/2011	Sampling Date:	12/06/2011
Reported:	12/14/2011	Sampling Type:	Soil
Project Name:	NEDU #238 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 5 @ SS (H102611-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2011	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/08/2011	ND	197	98.5	200	0.173		
<b>DRO &gt;C10-C28</b>	<b>19.0</b>	10.0	12/08/2011	ND	168	84.0	200	4.20		

<i>Surrogate: 1-Chlorooctane</i>	83.3 %	55.5-154
<i>Surrogate: 1-Chlorooctadecane</i>	80.9 %	57.6-158

**Sample ID: PT. 1 @ 6" (H102611-06)**

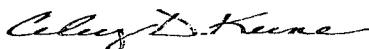
Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2011	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/08/2011	ND	197	98.5	200	0.173		
DRO >C10-C28	<10.0	10.0	12/08/2011	ND	168	84.0	200	4.20		

<i>Surrogate: 1-Chlorooctane</i>	88.2 %	55.5-154
<i>Surrogate: 1-Chlorooctadecane</i>	87.1 %	57.6-158

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\*=Accredited Analyte

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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: 12/07/2011  
 Reported: 12/14/2011  
 Project Name: NEDU #238 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 12/06/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT. 5 @ 6" (H102611-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/07/2011	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/08/2011	ND	197	98.5	200	0.173		
DRO >C10-C28	<10.0	10.0	12/08/2011	ND	168	84.0	200	4.20		
<i>Surrogate: 1-Chlorooctane</i>		<i>85.2 %</i>	<i>55.5-154</i>							
<i>Surrogate: 1-Chlorooctadecane</i>		<i>80.3 %</i>	<i>57.6-158</i>							

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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: 12/14/2011  
 Reported: 12/16/2011  
 Project Name: NEDU #238 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 12/12/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S. E. EXC N. WALL (H102679-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	221	110	200	9.35		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	242	121	200	17.3		

Surrogate: 1-Chlorooctane 100 % 55.5-154

Surrogate: 1-Chlorooctadecane 108 % 57.6-158

**Sample ID: S. E. EXC S. WALL (H102679-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	221	110	200	9.35		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	242	121	200	17.3		

Surrogate: 1-Chlorooctane 99.8 % 55.5-154

Surrogate: 1-Chlorooctadecane 107 % 57.6-158

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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: 12/14/2011  
 Reported: 12/16/2011  
 Project Name: NEDU #238 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 12/12/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S. E. EXC E. WALL (H102679-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	221	110	200	9.35		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	242	121	200	17.3		

*Surrogate: 1-Chlorooctane* 101 % 55.5-154

*Surrogate: 1-Chlorooctadecane* 107 % 57.6-158

**Sample ID: S. E. EXC W. WALL (H102679-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	221	110	200	9.35		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	242	121	200	17.3		

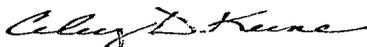
*Surrogate: 1-Chlorooctane* 105 % 55.5-154

*Surrogate: 1-Chlorooctadecane* 116 % 57.6-158

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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:	12/14/2011	Sampling Date:	12/12/2011
Reported:	12/16/2011	Sampling Type:	Soil
Project Name:	NEDU #238 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: S.E. EXC 5 PT. BOTTOM (H102679-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>16.0</b>	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	221	110	200	9.35		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	242	121	200	17.3		

Surrogate: 1-Chlorooctane 102 % 55.5-154  
 Surrogate: 1-Chlorooctadecane 110 % 57.6-158

**Sample ID: S. E. SCRAPE 5 PT COMP (H102679-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>16.0</b>	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	221	110	200	9.35		
<b>DRO &gt;C10-C28</b>	<b>96.3</b>	10.0	12/15/2011	ND	242	121	200	17.3		

Surrogate: 1-Chlorooctane 102 % 55.5-154  
 Surrogate: 1-Chlorooctadecane 119 % 57.6-158

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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: 12/14/2011  
 Reported: 12/16/2011  
 Project Name: NEDU #238 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 12/12/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S. SCRAPE 5 PT COMP (H102679-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	221	110	200	9.35		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	242	121	200	17.3		
<i>Surrogate: 1-Chlorooctane</i>	<i>95.4 %</i>	<i>55.5-154</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>103 %</i>	<i>57.6-158</i>								

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Celest D. Keene, Lab Director/Quality Manager

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



**CARDINAL 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.		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>												
Project Manager: Natalie Gladden		P.O. #:		Chlorides TPH 8015 M BTEX Texas TPH Complete Cations/Anions TDS												
Address:		Company:														
City:	State:	Zip:	Attn:													
Phone #:	Fax #:	Address:														
Project #:	Project Owner:		City:													
Project Name:		State:	Zip:													
Project Location: 1/EDL # 238 AD		Phone #:														
Sampler Name: 1/Kepler		Fax #:														
FOR LAB USE ONLY																
Lab I.D.	Sample I.D.	(C)RAB OR (C)OMP.	# CONTAINERS	MATRIX				PRESERV.	SAMPLING							
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME		
H102.1679	S.E. Excavation	9	1			/				/			12-12-11	9:00	✓	✓
1	N. wall	9	1			/				/			12-12-11	9:05	✓	✓
2	S. wall	9	1			/				/			12-12-11	9:10	✓	✓
3	E. wall	9	1			/				/			12-12-11	9:15	✓	✓
4	W. wall	9	1			/				/			12-12-11	9:20	✓	✓
5	5 pt. Bottom	9	1			/				/			12-12-11	9:25	✓	✓
6	S.E. scrape 5pt. Comp	9	1			/				/			12-12-11	9:35	✓	✓
7	S. scrape 5pt. Comp	9	1			/				/			12-12-11	9:40	✓	✓

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 analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 12-14-11	Received By:	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time: 7:30		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date: 12-14-11	Received By:	REMARKS:	
	Time: 8:10		email results	
Delivered By: (Circle One)		Sample Condition	natalie.gladden@apachecorp.com	
Sampler - UPS - Bus - Other: -42		Cool Intact	Zconder@rice-ecs.com; Bbaker@rice-ecs.com;	
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com	
		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
		CHECKED BY:		

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

#26

**Analytical Results For:**

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

Received:	12/14/2011	Sampling Date:	12/13/2011
Reported:	12/16/2011	Sampling Type:	Soil
Project Name:	NEDU #238 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: S.W. SCRAPE N. WALL CENTER (H102680-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>112</b>	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	206	103	200	1.05		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	168	84.1	200	1.48		
<i>Surrogate: 1-Chlorooctane</i>	<i>110 %</i>	<i>55.5-154</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>131 %</i>	<i>57.6-158</i>								

**Sample ID: S.W. SCRAPE S. WALL CENTER (H102680-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>&lt;16.0</b>	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/16/2011	ND	206	103	200	1.05		
<b>DRO &gt;C10-C28</b>	<b>13.9</b>	10.0	12/16/2011	ND	168	84.1	200	1.48		
<i>Surrogate: 1-Chlorooctane</i>	<i>105 %</i>	<i>55.5-154</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>132 %</i>	<i>57.6-158</i>								

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\* = Accredited Analyte

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Celest 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:	12/14/2011	Sampling Date:	12/13/2011
Reported:	12/16/2011	Sampling Type:	Soil
Project Name:	NEDU #238 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: S.W. SCRAPE E. WALL CENTER (H102680-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	206	103	200	1.05		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	168	84.1	200	1.48		

Surrogate: 1-Chlorooctane 115 % 55.5-154  
 Surrogate: 1-Chlorooctadecane 140 % 57.6-158

**Sample ID: S.W. SCRAPE W. WALL CENTER (H102680-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	206	103	200	1.05		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	168	84.1	200	1.48		

Surrogate: 1-Chlorooctane 121 % 55.5-154  
 Surrogate: 1-Chlorooctadecane 146 % 57.6-158

Cardinal Laboratories

\*=Accredited Analyte

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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: 12/14/2011  
 Reported: 12/16/2011  
 Project Name: NEDU #238 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 12/13/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: 5 PT. BOTTOM (H102680-05)**

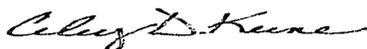
Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>96.0</b>	16.0	12/15/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	206	103	200	1.05		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	168	84.1	200	1.48		

Surrogate: 1-Chlorooctane 107 % 55.5-154  
 Surrogate: 1-Chlorooctadecane 129 % 57.6-158

Cardinal Laboratories

\*=Accredited Analyte

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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: 12/14/2011  
 Reported: 12/17/2011  
 Project Name: NEDU #238 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 12/14/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: CALICHE BACKFILL (H102691-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>96.0</b>	16.0	12/16/2011	ND	432	108	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/15/2011	ND	206	103	200	1.05		
DRO >C10-C28	<10.0	10.0	12/15/2011	ND	168	84.1	200	1.48		

Surrogate: 1-Chlorooctane 74.0 % 55.5-154

Surrogate: 1-Chlorooctadecane 79.4 % 57.6-158

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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:	12/19/2011	Sampling Date:	12/17/2011
Reported:	12/22/2011	Sampling Type:	Soil
Project Name:	NEDU #238 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 8 PT BACKFILL FROM GRIZZLE PIT (H102724-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/20/2011	ND	416	104	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/21/2011	ND	216	108	200	1.74		
DRO >C10-C28	<10.0	10.0	12/21/2011	ND	197	98.7	200	12.2		
<i>Surrogate: 1-Chlorooctane</i>	<i>116 %</i>	<i>55.5-154</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>114 %</i>	<i>57.6-158</i>								

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\*=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.



Celey D. Keene, Lab Director/Quality Manager



# Appendix D

## Groundwater Study

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

Apache  
Company

NEDU #238  
site name

S  
Unit Letter

2  
Section

T21S  
Township

R37E  
Range

Groundwater Depth: 37 ft

Compiled by: Amy C. Ruth

Date: 12/13/2011

Comments: \_\_\_\_\_

○ = Wells of unknown use(USGS)

○ = Non-production wells  
(commercial, sanitation, domestic, stock)

★ = Subject Site

T20S R37E	34	35 <sub>○</sub> <sup>52'</sup>	36	
T21S R37E	22' <sub>○</sub> 3	2 ★	1	
	10	11	12	



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,  
 O=orphaned,  
 C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE)  
 (quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Code	Subbasin	County	Q Q Q	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00197			LE	1	4	1	01	21S	37E	676611	3598599*	85
											Average Depth to Water:	--
											Minimum Depth:	--
											Maximum Depth:	--

**Record Count: 1**

**PLSS Search:**

Section(s): 1, 2, 3, 10, 11, 12      Township: 21S      Range: 37E

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



---

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

---

No records found.

**PLSS Search:**

**Section(s):** 34, 35, 36

**Township:** 20S

**Range:** 37E

---

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

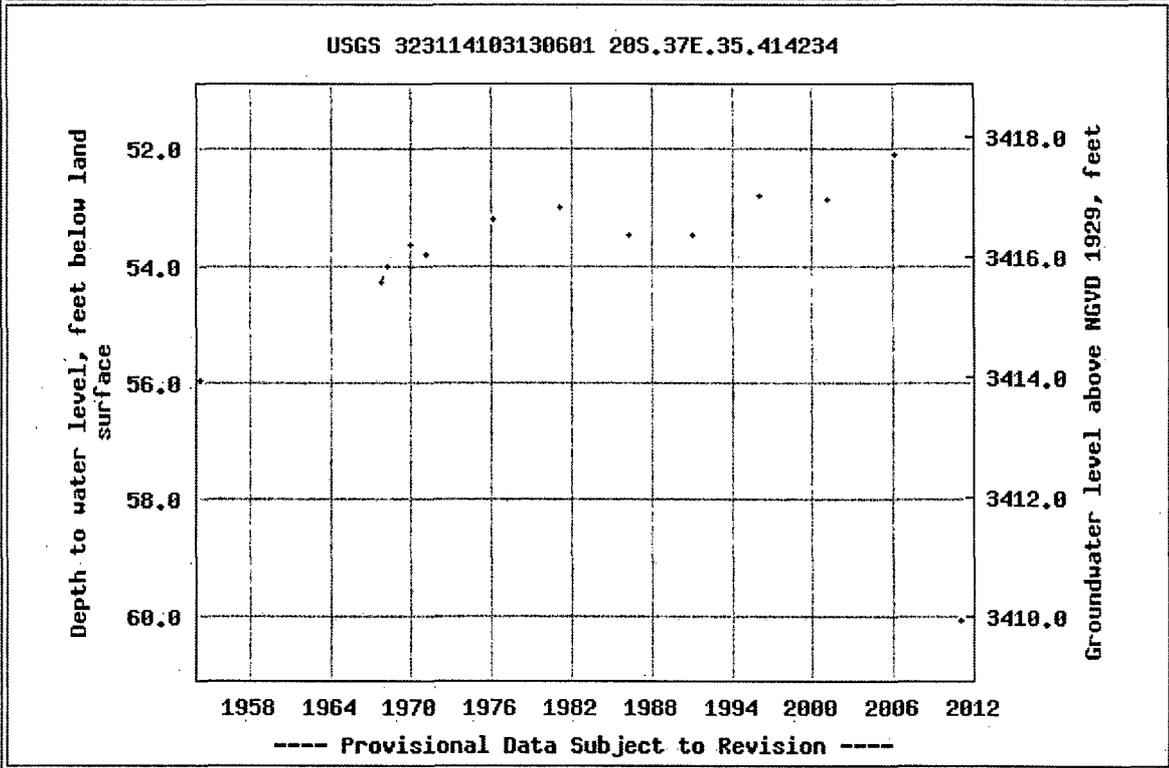
---

### USGS 323114103130601 20S.37E.35.414234

Available data for this site

Groundwater: Field measurements

<p>Lea County, New Mexico                  Hydrologic Unit Code 13070007                  Latitude 32°31'37", Longitude 103°13'06" NAD27                  Land-surface elevation 3,469.90 feet above NGVD29                  The depth of the well is 63 feet below land surface.                  This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.</p>	<p><b>Output formats</b></p> <p><input type="button" value="Table of data"/></p> <p><input type="button" value="Tab-separated data"/></p> <p><input type="button" value="Graph of data"/></p> <p><input type="button" value="Reselect period"/></p>
--	---



### USGS 323016103092001 21S.37E.03.31221

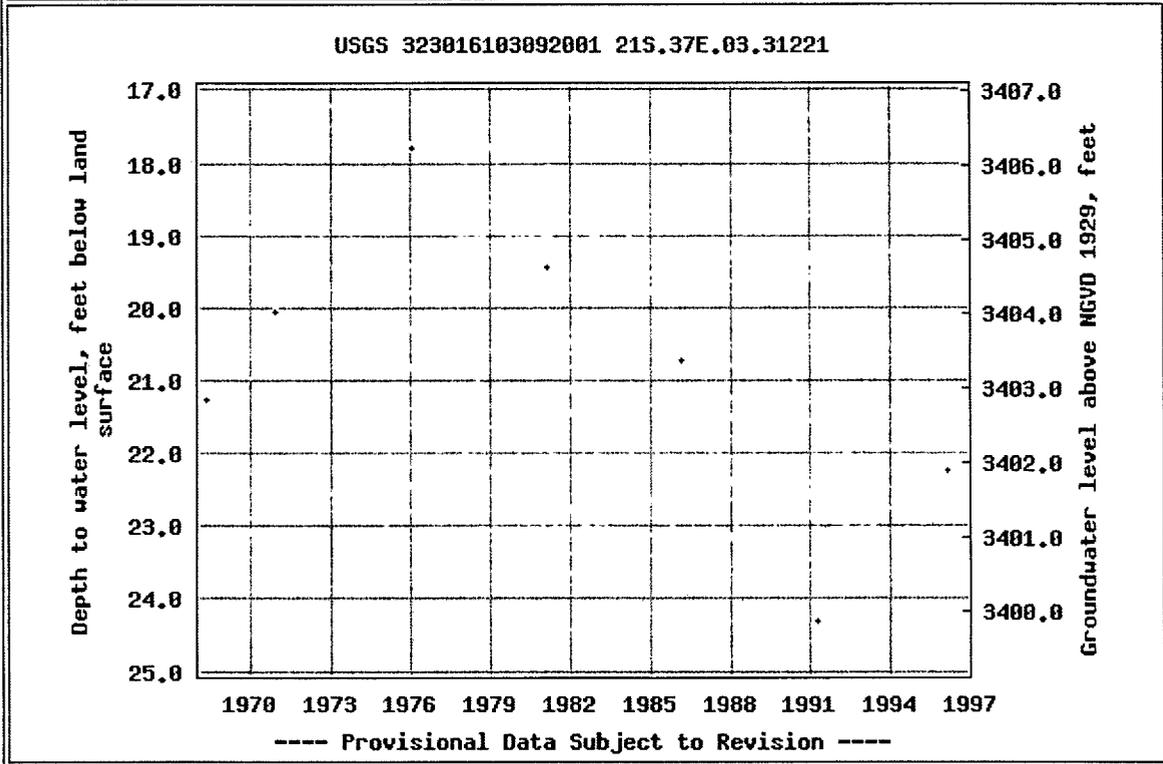
Available data for this site

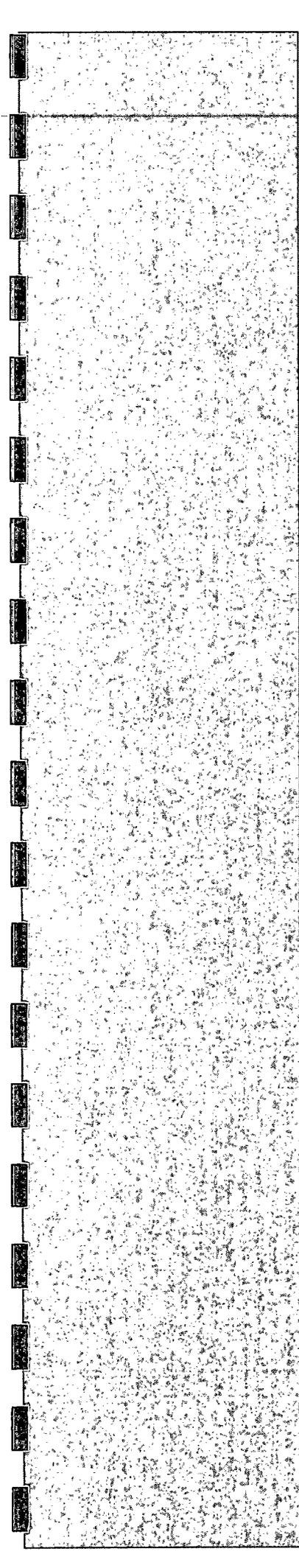
Groundwater:

Lea County, New Mexico  
 Hydrologic Unit Code 13070007  
 Latitude 32°30'40", Longitude 103°19'21" NAD27  
 Land-surface elevation 3,424.10 feet above NGVD29  
 The depth of the well is 36 feet below land surface.  
 This well is completed in the Alluvium, Bolson Deposits  
 and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

- 
- 
- 
- 





# Appendix E

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

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

**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	NEDU #238	Facility Type	Producing Well

Surface Owner	McNeil Ranch	Mineral Owner	State of NM	Lease No.	30-025-35403
---------------	--------------	---------------	-------------	-----------	--------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
S	2	21S	37E	2500	FSL	1700	FWL	Lea

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

Type of Release	Oil/Produced Water	Volume of Release	20 bbl	Volume Recovered	7 bbl
Source of Release	Flow Line	Date and Hour of Occurrence	12/06/11	Date and Hour of Discovery	12/06/11
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking		
By Whom?	Natalie Gladden	Date and Hour	12/07/11 11:50 am		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

DTW=28'

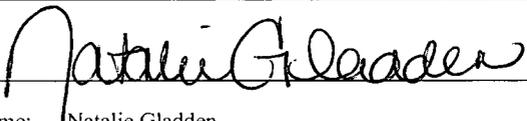
Describe Cause of Problem and Remedial Action Taken.\*

Flow line busted due to freezing weather. Standing fluid was recovered and location was back-dragged until the one-call was cleared.

Describe Area Affected and Cleanup Action Taken.\*

The leak affected the well pad and pasture to the south. Impacted soils were removed to a NMOCD approved disposal facility. Representative soil samples were collected from the excavation and sent to a commercial laboratory for chloride and TPH confirmation. The well pad excavation was backfilled with clean caliche and leveled. The pasture area was backfilled with clean topsoil, contoured to the surrounding area, and seeded with a native vegetative blend.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:		<b>OIL CONSERVATION DIVISION</b>	
Printed Name:	Natalie Gladden	 Approved by District Superintendent <b>Environmental Specialist</b>	
Title:	EH&S Environmental Tech	Approval Date:	11/09/12
E-mail Address:	Natalie.gladden@apachecorp.com	Expiration Date:	-
Date:	11/9/12	Conditions of Approval:	-
Phone:	(575) 390-4186	Attached	<input type="checkbox"/>
		IRP-6-14-3084	

\* Attach Additional Sheets If Necessary