

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

HOBBS OCD

Form C-141  
Revised October 10, 2003

MAY 08 2012 Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

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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 #606	Facility Type	Injection Well
Surface Owner	Deck Estate	Mineral Owner	State of NM
		Lease No.	30-025-06587

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	15	21S	37E	3375	FSL	3225	FEL	Lea

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

NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	15 bbl	Volume Recovered	10 bbl
Source of Release	Injection line leak	Date and Hour of Occurrence	01/21/12	Date and Hour of Discovery	01/21/12
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking		
By Whom?	Natalie Gladden	Date and Hour	01/23/12 3:57 pm		
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.\*

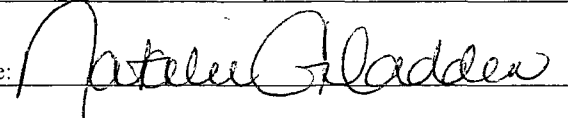

Describe Cause of Problem and Remedial Action Taken.\*

Injection well leaked in the area of the wellhead, 15 bbls of produced water was released and 10 bbls of produced water was recovered. Site was back-dragged after the standing fluid was picked up.

Describe Area Affected and Cleanup Action Taken.\*

The leak affected the caliche pad surrounding the wellhead. The well was repaired and returned to working order. 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 analysis. The excavation was backfilled with clean caliche and contoured to the surrounding area.

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: 	OIL CONSERVATION DIVISION	
Printed Name: Natalie Gladden	Approved by District Supervisor:  Environmental Specialist	
Title: EH&S Environmental Tech	Approval Date: 5/8/12	Expiration Date: -
E-mail Address: Natalie.gladden@apachecorp.com	Conditions of Approval: -	Attached <input type="checkbox"/>
Date: 11/9/12 Phone: (575) 390-4186	IRP-06-14-3074	

\* Attach Additional Sheets If Necessary

NSAD 417752725



EXPLORING WHAT'S POSSIBLE

HOBBS OCD

MAY 08 2012

RECEIVED

# APACHE CORPORATION

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

approved  
*Jeffrey Sekim*  
Environmental Specialist  
5/8/12

## NEDU #606

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# Closure Report

API 30-025-06587

Release Date: January 21, 2012

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

# Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241

Phone 575.393.4411 Fax 575.393.0293

**May 8, 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 #606 AD  
UL/F sec. 15 T21S R37E  
API No. 30-025-06587**

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 associated with the NEDU #606. The injection well leaked, releasing fluid onto the caliche pad surrounding the well head. An initial form C-141 was submitted by Apache Corporation on January 24, 2012 (Appendix A). The site is located north of Eunice, in unit letter 'F' of section 15, T21S, R37E in Lea County, New Mexico.

On January 23, 2012, RECS personnel initiated work on the NEDU #606 (Figure 1). Surface soil samples were collected and 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). Chloride ranged from 512 ppm (parts per million or mg/kg) to 1,490 ppm. TPH ranged from 10 ppm to 69.5 ppm.

On March 19, 2012, RECS personnel collected and field tested final samples from the 1.5 ft. deep excavation (Figure 2). The representative grab samples from the excavation walls and the composite sample from the excavation bottom were submitted to a laboratory for chloride and TPH analyses (Appendix C). Chloride did not exceed 96.0 ppm and TPH did not exceed 135 ppm.

Impacted soils were removed from the excavation and transported to a NMOCD approved disposal facility. The excavation was backfilled with clean caliche (80 ppm chloride, Appendix C) and leveled. 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 54 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 Final Excavation 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

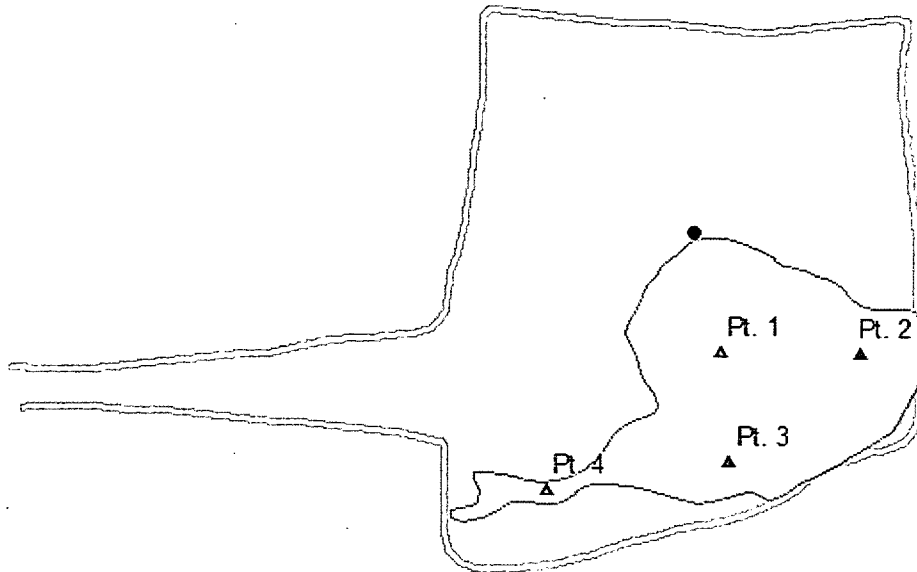
**RICE Environmental Consulting and Safety (RECS)**

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

# Site Plat

## INITIAL LAB DATA

Sample Description	Cl-	GRO	DRO
Pt. 1	512	<10	36.2
Pt. 2	1490	<10	69.5
Pt. 3	544	<10	10
Pt. 4	1170	10.2	13.1



## Legend

- ▲ SAMPLE POINTS
- WELLHEAD
- STAIN (3,679 sq ft)
- WELL PAD

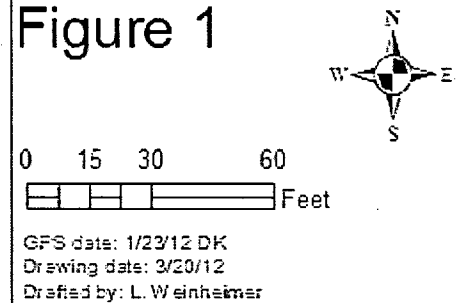
DGW = 54 ft



## APACHE NEDU #606 AD

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

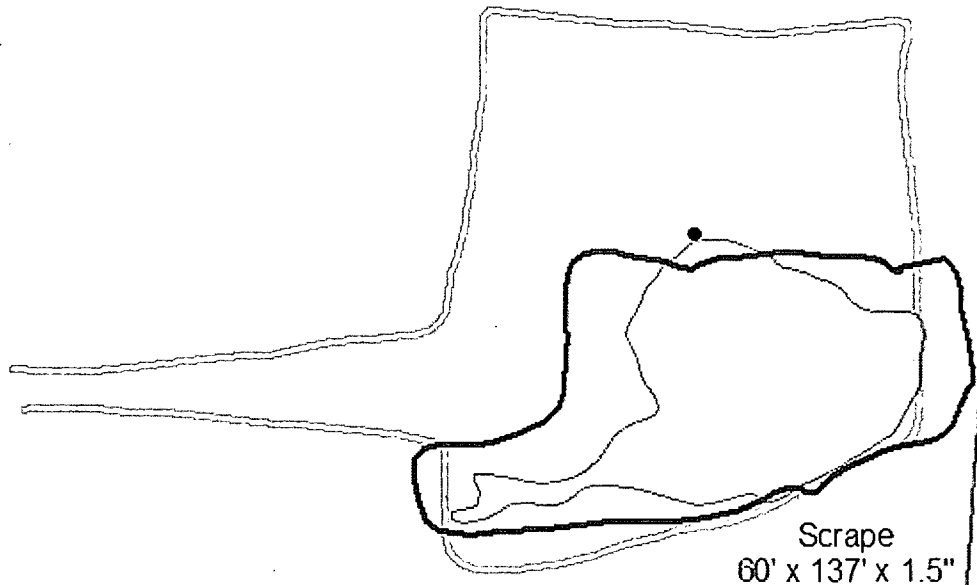
## Figure 1



# Site Plat

## FINAL EXCAVATION LAB DATA

Sample Description	Cl-	GRO	DRO
North Wall Center	<16	<10	<10
South Wall Center	96	<10	<10
East Wall Center	80	<10	<10
West Wall Center	32	<10	135
5 Pt Bottom	80	<10	<10



LEASE ROAD

### Legend

- WELLHEAD
- ▭ SCRAPE
- ▭ STAIN (3,679 sq ft)
- ▭ WELL PAD

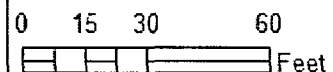
DGW = 54 ft



**APACHE  
NEDU #606 AD**

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

**Figure 2**



GFS date: 1/23/12 DK  
Drawing date: 3/20/12  
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  
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811 S. First St., Artesia, NM 88210  
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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 606	Facility Type Injection well	
Surface Owner Deck	Mineral Owner State of NM	API No. 30-025-06587

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	15	21S	37E	3375'	FSL	3225'	FEL	Lea

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

#### NATURE OF RELEASE

Type of Release Produced water	Volume of Release 15	Volume Recovered 10
Source of Release Injection line leak	Date and Hour of Occurrence 01/21/12 6:40am	Date and Hour of Discovery 01/21/12 6:40am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leaking	
By Whom? Natalie Gladden	Date and Hour 01/23/12 3:57pm	
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.* Injection well leaked in the area of the wellhead, 15bbbls of produced water was released and 10bbbls of produced water was recovered. Site was backdragged after the standing fluid was picked up.		
Describe Area Affected and Cleanup Action Taken.* All of the fluid remained on the location pad. A pulling unit will move onto well to determine cause of leak. Once well has been put back to production, then the site will be remediated to NMOCD Standards. Ground water depth is 40-58' bgs.		
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: 	OIL CONSERVATION DIVISION	
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:	Attached <input type="checkbox"/>
Date: 01/24/12 Phone: 575-390-4186		

\* 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

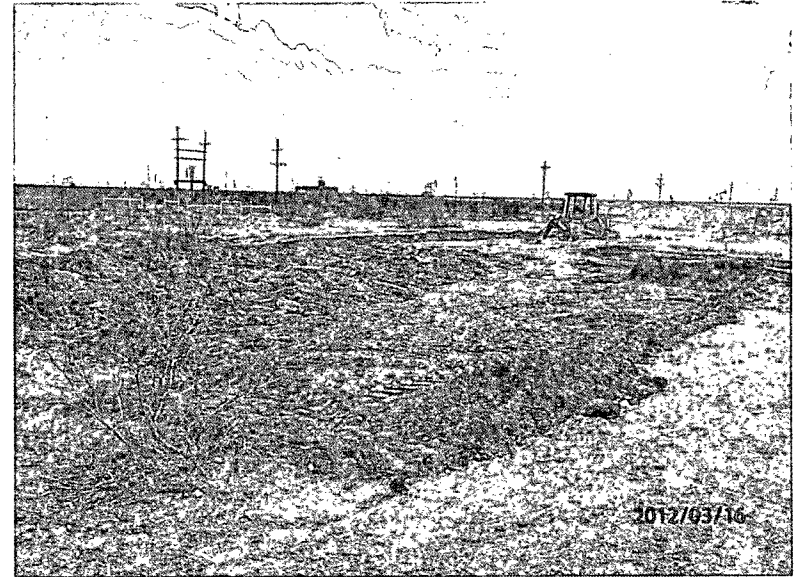
# Apache NEDU # 606

Unit Letter F, Section 15, T21S R37E



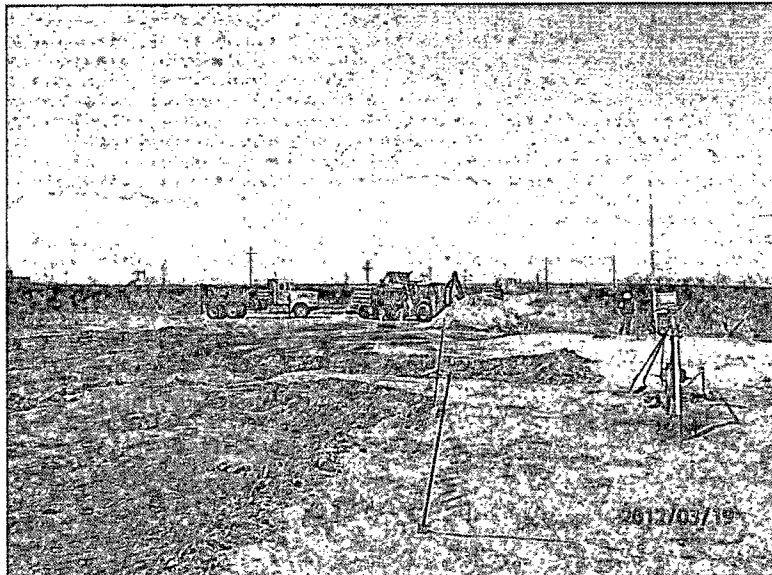
Initial release, facing north

1/23/2012



Excavating release area, facing southwest

3/16/2012



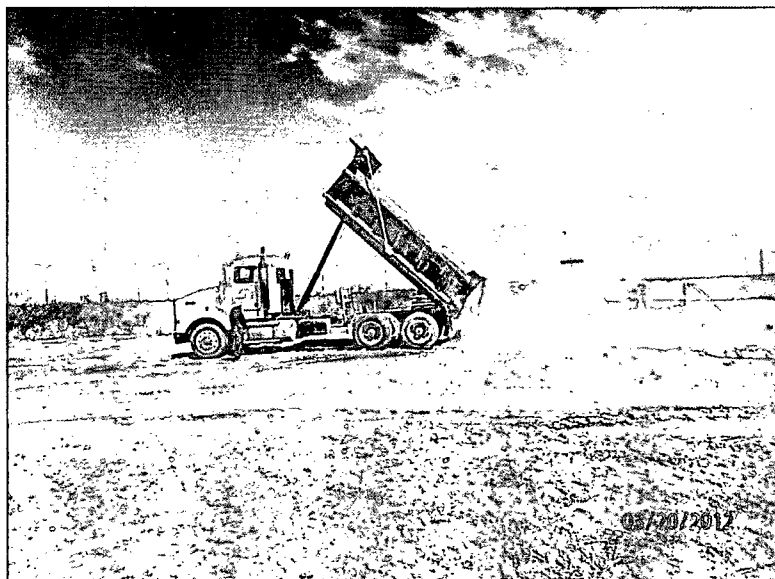
Exporting soil, facing southwest

3/19/2012



Final excavation, facing southwest

3/19/2012



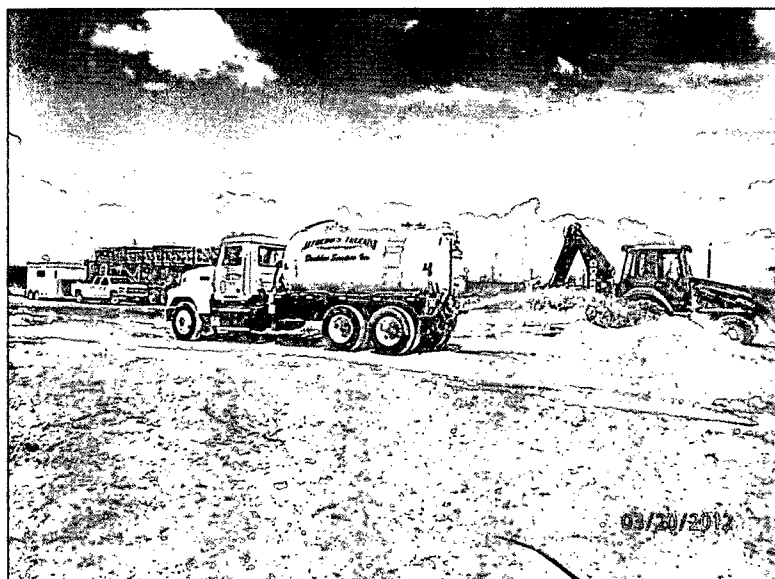
Importing caliche, facing north

3/20/2012



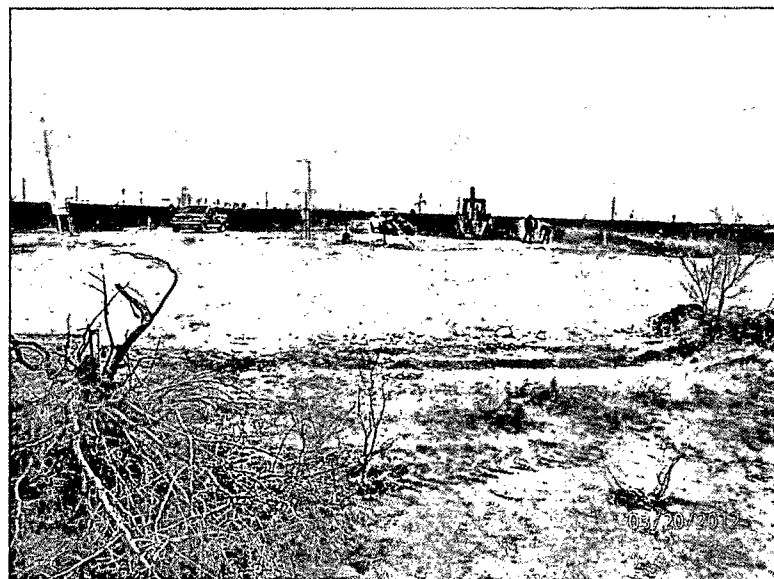
Backfilling excavation, facing west

3/20/2012



Applying water to caliche, facing north

3/20/2012



Site backfilled, facing north

3/20/2012

# 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: 01/23/2012  
 Reported: 01/27/2012  
 Project Name: NEDU #606 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 01/23/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT. 1 (H200165-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	01/26/2012	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	01/26/2012	ND	174	86.8	200	0.0835	
DRO >C10-C28	36.2	10.0	01/26/2012	ND	225	113	200	6.70	

Surrogate: 1-Chlorooctane 98.7 % 55.5-154

Surrogate: 1-Chlorooctadecane 129 % 57.6-158

**Sample ID: PT. 2 (H200165-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1490	16.0	01/26/2012	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	01/26/2012	ND	174	86.8	200	0.0835	
DRO >C10-C28	69.5	10.0	01/26/2012	ND	225	113	200	6.70	

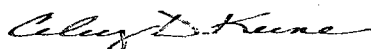
Surrogate: 1-Chlorooctane 99.3 % 55.5-154

Surrogate: 1-Chlorooctadecane 124 % 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: 01/23/2012  
 Reported: 01/27/2012  
 Project Name: NEDU #606 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 01/23/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT. 3 (H200165-03)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	01/26/2012	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	01/26/2012	ND	174	86.8	200	0.0835	
DRO >C10-C28	10.0	10.0	01/26/2012	ND	225	113	200	6.70	
Surrogate: 1-Chlorooctane		97.3 %	55.5-154						
Surrogate: 1-Chlorooctadecane		131 %	57.6-158						

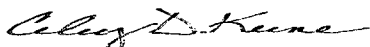
**Sample ID: PT. 4 (H200165-04)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1170	16.0	01/26/2012	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	10.2	10.0	01/26/2012	ND	174	86.8	200	0.0835	
DRO >C10-C28	13.1	10.0	01/26/2012	ND	225	113	200	6.70	
Surrogate: 1-Chlorooctane		95.7 %	55.5-154						
Surrogate: 1-Chlorooctadecane		134 %	57.6-158						

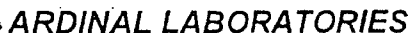
Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

**Analytical Results For:**

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

Received: 03/20/2012  
Reported: 03/22/2012  
Project Name: NEDU #606 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 03/19/2012  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: NORTH WALL CENTER (H200677-01)**

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	03/21/2012	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	03/21/2012	ND	177	88.5	200	3.05	
DRO >C10-C28	<10.0	10.0	03/21/2012	ND	166	82.9	200	2.14	

Surrogate: 1-Chlorooctane 108 % 55.5-154

Surrogate: 1-Chlorooctadecane 110 % 57.6-158

**Sample ID: SOUTH WALL CENTER (H200677-02)**

Chloride, SM4500CI-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	03/21/2012	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	03/21/2012	ND	177	88.5	200	3.05	
DRO >C10-C28	<10.0	10.0	03/21/2012	ND	166	82.9	200	2.14	

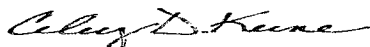
Surrogate: 1-Chlorooctane 108 % 55.5-154

Surrogate: 1-Chlorooctadecane 110 % 57.6-158

Cardinal Laboratories

\*=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: 03/20/2012  
 Reported: 03/22/2012  
 Project Name: NEDU #606 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 03/19/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: EAST WALL CENTER (H200677-03)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	03/21/2012	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	03/21/2012	ND	177	88.5	200	3.05		
DRO >C10-C28	<10.0	10.0	03/21/2012	ND	166	82.9	200	2.14		
Surrogate: 1-Chlorooctane		120 %	55.5-154							
Surrogate: 1-Chlorooctadecane		121 %	57.6-158							

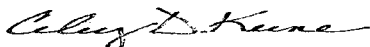
**Sample ID: WEST WALL CENTER (H200677-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/21/2012	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	03/21/2012	ND	177	88.5	200	3.05	
DRO >C10-C28	135	10.0	03/21/2012	ND	166	82.9	200	2.14	
Surrogate: 1-Chlorooctane		111 %	55.5-154						
Surrogate: 1-Chlorooctadecane		114 %	57.6-158						

Cardinal Laboratories

\* = 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: 03/20/2012  
 Reported: 03/22/2012  
 Project Name: NEDU #606 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 03/19/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

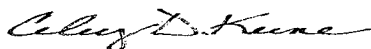
**Sample ID: 5 PT BOTTOM (H200677-05)**

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>80.0</b>	16.0	03/21/2012	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	03/21/2012	ND	177	88.5	200	3.05	
DRO >C10-C28	<10.0	10.0	03/21/2012	ND	166	82.9	200	2.14	
Surrogate: 1-Chlorooctane	98.0 %	55.5-154							
Surrogate: 1-Chlorooctadecane	102 %	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: 03/20/2012  
Reported: 03/22/2012  
Project Name: NEDU #606 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 03/20/2012  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

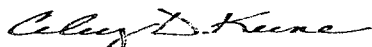
**Sample ID: IMPORTED SOIL (H200687-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/21/2012	ND	384	96.0	400	4.08	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

# 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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache				<b>BILL TO</b>				ANALYSIS REQUEST											
Project Manager: Natalie Gladden				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div> </div>											
Address:				Company:															
City: State: NM Zip:				Attn:															
Phone #: Fax #:				Address:															
Project #: Project Owner:				City:															
Project Name: <i>NEOU#606</i>				State: Zip:															
Project Location:				Phone #:															
Sampler Name: DAKSTON HARRIS				Fax #:															
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP. # CONTAINERS		MATRIX		PRESERV.		SAMPLING							
								GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:		ACID/BASE ICE / COOL OTHER:		DATE TIME							
		<i>H200687</i>		<i>Imported Soil</i>		<i>G-1</i>		<i>✓</i>				<i>3/20/12 2:30</i>		<i>✓</i>					

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in 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: <i>Dakston Harris</i>		Date: <i>3/20/12</i>		Received By: <i>Jodi Benson</i>		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Phone #:	
Time: <i>4:03</i>		Date:		Received By:		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS:  email results Natalie.Gladden@usa.apachecorp.com; Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com			
Time:									
Delivered By: (Circle One)									
Sampler - UPS - Bus - Other:		<i>22°C</i>		Sample Condition		CHECKED BY:			
				Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		(Initials) <i>[Signature]</i>			

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

*#26*

# 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 #606  
site name

F  
Unit Letter

15  
Section

T21S  
Township

R37E  
Range

Groundwater Depth: 54 ft

Compiled by: Amy C. Ruth

Date: 1/24/2012

Comments:

○ = Wells of unknown use (USGS)

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

☆ = Subject Site

	9 ○ 58'	10	11	
	16 ● Stock 70'	☆ 15	14 ○ 28'	
	21	22 ○ 43'	23 ● Stock 65' ● Mult Domestic 65' ○ 52'	● Domestic 53'



# 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 64	Q 16	Q 4	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00014			LE	1	3	2	23	21S	37E		675492	3593749*	84		
CP 00212			LE	2	2	1	14	21S	37E		675254	3595753*	46		
CP 00224			LE	4	3	3	23	21S	37E		674902	3592730*	96		
CP 00235			LE	2	2	1	23	21S	37E		675283	3594144*	81		
CP 00236			LE	3	1	2	23	21S	37E		675485	3593952*	83		
CP 00238			LE	3	3	2	23	21S	37E		675492	3593549*	81		
CP 00239			LE	1	1	2	23	21S	37E		675485	3594152*	89		
CP 00240			LE	4	2	1	23	21S	37E		675283	3593944*	72		
CP 00241			LE	4	2	1	23	21S	37E		675283	3593944*	76		
CP 00251			LE	2	3	4	22	21S	37E		674099	3592915*	103		
CP 00252			LE	4	2	4	22	21S	37E		674493	3593125*	106		
CP 00554			LE		2	2	16	21S	37E		672744	3595610*	80	70	10
CP 00562			LE	1	2	2	23	21S	37E		675887	3594159*	136	65	71
CP 00700			LE			2	23	21S	37E		675794	3593851*	75	65	10
CP 00881			LE		4	4	22	21S	37E		674402	3592824*	95	53	42

Average Depth to Water: 63 feet

Minimum Depth: 53 feet

Maximum Depth: 70 feet

**Record Count: 15**

**PLSS Search:**

Section(s): 9, 10, 11, 14,  
15, 16, 21, 22,  
23      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.

**USGS 322738103075901 21S.37E.23.23333**

Available data for this site

Groundwater: Field measurements



Lea County, New Mexico

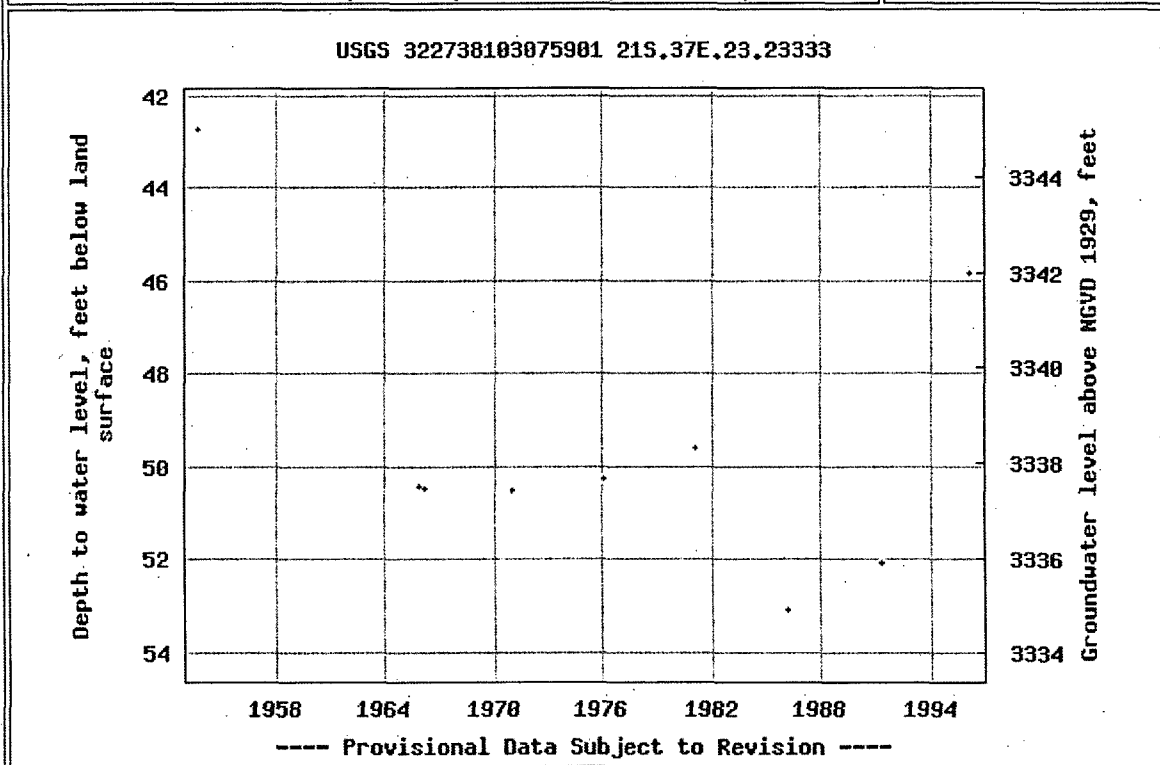
Hydrologic Unit Code 13070007

Latitude 32°27'53", Longitude 103°08'00" NAD27

Land-surface elevation 3,387.90 feet above NGVD29

The depth of the well is 81 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

**Output formats**[Table of data](#)[Tab-separated data](#)[Graph of data](#)[Reselect period](#)

**USGS 322803103085701 21S.37E.22.211214**

Available data for this site

Groundwater: Field measurements

[GO]

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°28'15", Longitude 103°08'58" NAD27

Land-surface elevation 3,411.10 feet above NGVD29

The depth of the well is 80 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

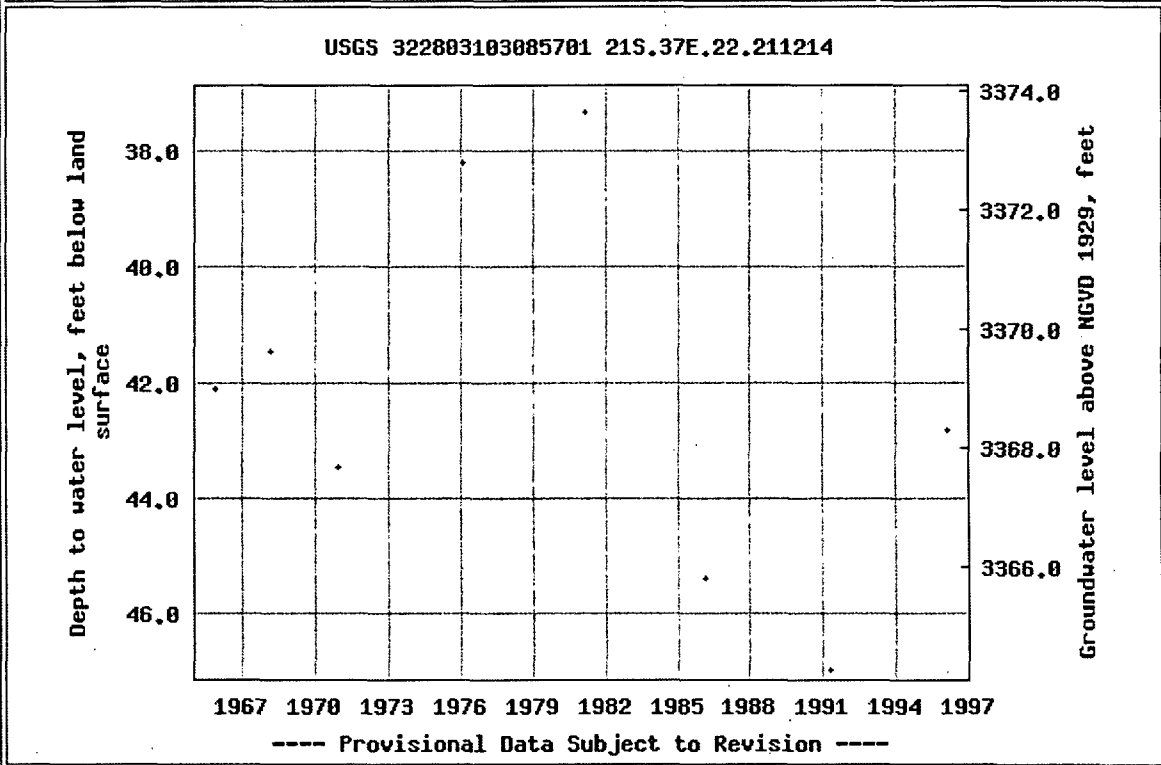
**Output formats**

Table of data

Tab-separated data

Graph of data

Reselect period

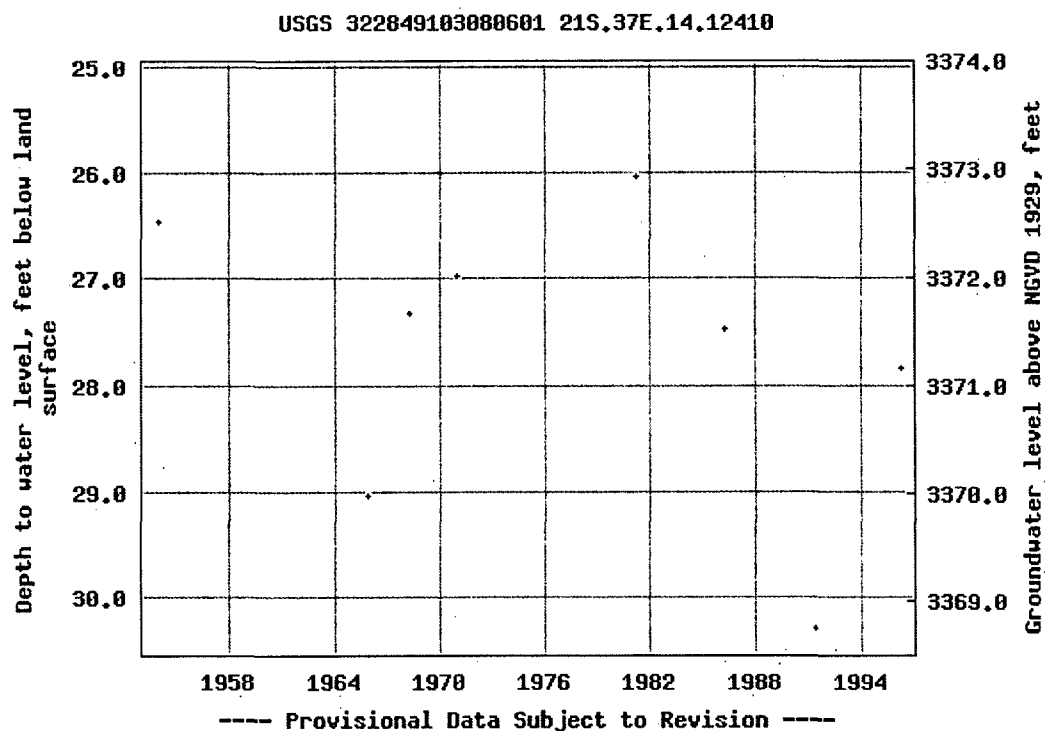


**USGS 322849103080601 21S.37E.14.12410**

Available data for this site

Groundwater: Field measurements

Lea County, New Mexico  
Hydrologic Unit Code 13070007  
Latitude 32°29'01", Longitude 103°08'06" NAD27  
Land-surface elevation 3,399.00 feet above NGVD29  
The depth of the well is 48 feet below land surface.  
This well is completed in the Alluvium, Bolson Deposits  
and Other Surface Deposits (110AVMB) local aquifer.

**Output formats**[Table of data](#)[Tab-separated data](#)[Graph of data](#)[Reselect period](#)

Breaks in the plot represent a gap of at least one year between field measurements.

[Download a presentation-quality graph](#)

**USGS 322937103094501 21S.37E.09.241211**

Available data for this site

Groundwater: Field measurements

**[GO]**

Lea County, New Mexico

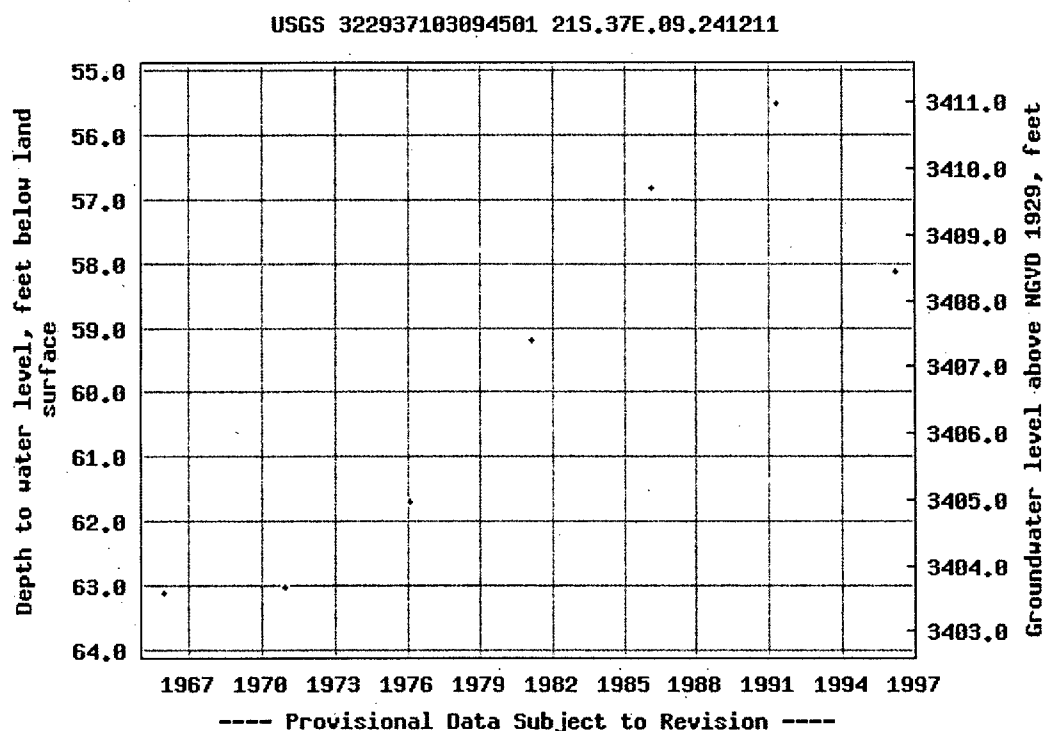
Hydrologic Unit Code 13070007

Latitude 32°29'49", Longitude 103°09'45" NAD27

Land-surface elevation 3,466.60 feet above NGVD29

The depth of the well is 90 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

**Output formats**[Table of data](#)[Tab-separated data](#)[Graph of data](#)[Reselect period](#)

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

HOBBS OCD

Form C-141  
Revised October 10, 2003

MAY 08 2012 Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

RECEIVED

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 #606	Facility Type	Injection Well

Surface Owner	Deck Estate	Mineral Owner	State of NM	Lease No.	30-025-06587
---------------	-------------	---------------	-------------	-----------	--------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	15	21S	37E	3375	FSL	3225	FEL	Lea

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

NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	15 bbl	Volume Recovered	10 bbl
Source of Release	Injection line leak	Date and Hour of Occurrence	01/21/12	Date and Hour of Discovery	01/21/12
Was Immediate Notice Given?	If YES, To Whom?				
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	Geoffrey Leking				
By Whom?	Natalie Gladden	Date and Hour	01/23/12 3:57 pm		
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.				
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

If a Watercourse was Impacted, Describe Fully.\*

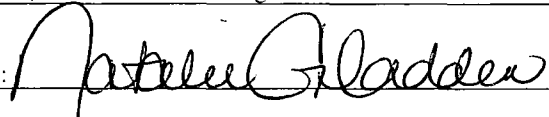
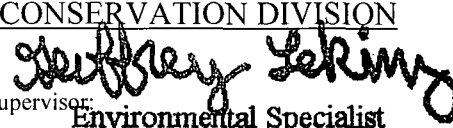
Describe Cause of Problem and Remedial Action Taken.\*

Injection well leaked in the area of the wellhead, 15 bbls of produced water was released and 10 bbls of produced water was recovered. Site was back-dragged after the standing fluid was picked up.

Describe Area Affected and Cleanup Action Taken.\*

The leak affected the caliche pad surrounding the wellhead. The well was repaired and returned to working order. 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 analysis. The excavation was backfilled with clean caliche and contoured to the surrounding area.

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: 	OIL CONSERVATION DIVISION	
Printed Name: Natalie Gladden	Approved by District Supervisor:  Environmental Specialist	
Title: EH&S Environmental Tech	Approval Date: 5/8/12	Expiration Date: -
E-mail Address: Natalie.gladden@apachecorp.com	Conditions of Approval: -	Attached <input type="checkbox"/>
Date: 11/9/12 Phone: (575) 390-4186		IRP-06-14-3074

\* Attach Additional Sheets If Necessary