



EXPLORING WHAT'S POSSIBLE

# APACHE CORPORATION

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

## Empire Abo Unit C49 SWD

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### Closure Report

2RP-1153

API 30-015-03184

Release Date: May 21, 2012

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

# Rice Environmental Consulting & Safety

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

**July 31, 2012**

Mike Bratcher  
New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau – District 2  
811 S. First St.  
Artesia, NM 88210

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

Mr. Bratcher:

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

## **Background and Previous Work**

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

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

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

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

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

### **Conclusion**

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

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

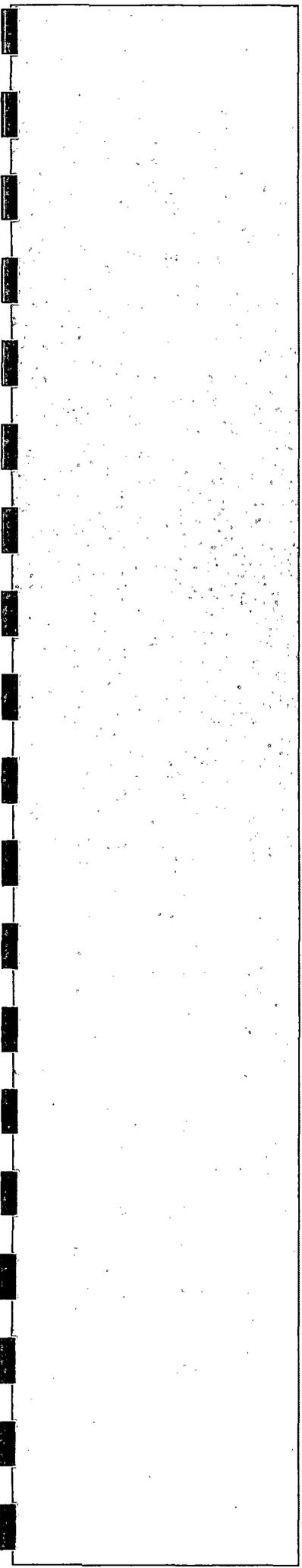
Sincerely,



Bruce Baker  
Head Foreman  
RECS  
(575) 631-5157

### Attachments:

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



# Figures

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

# Site Plat

Point 1			
Sample Description	Cl-	GRO	DRO
PT.1 SURFACE	6800	19.9	13.8

Point 2			
Sample Description	Cl-	GRO	DRO
PT.2 SURFACE	5200	<10	<10

Point 3			
Sample Description	Cl-	GRO	DRO
PT.3 SURFACE	7520	19.6	36.2

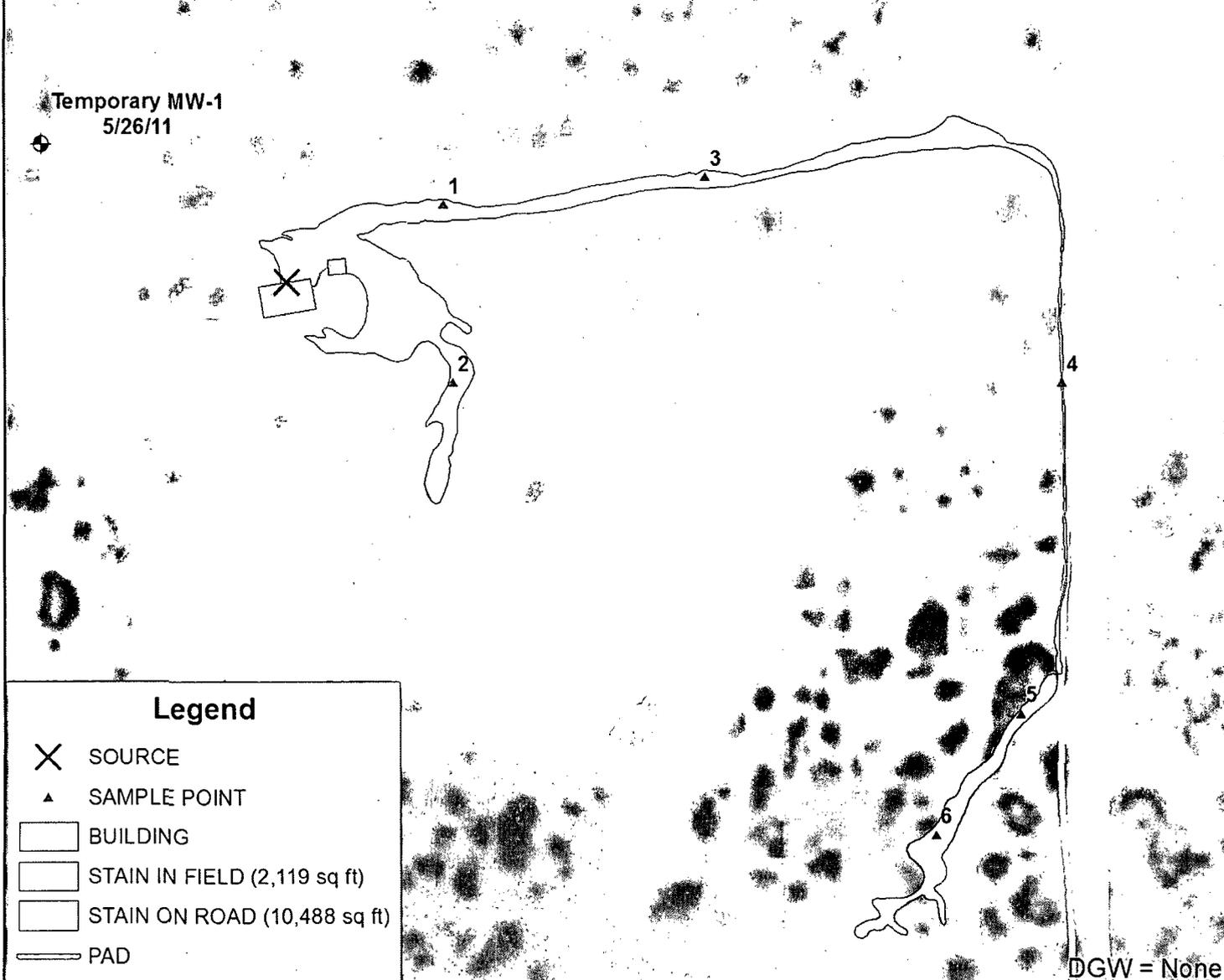
Point 4			
Sample Description	Cl-	GRO	DRO
PT.4 SURFACE	5520	<10	<10

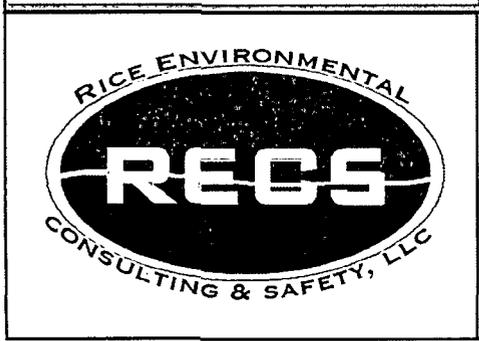
Point 5			
Sample Description	Cl-	GRO	DRO
PT.5 SURFACE	2720	<10	<10

Point 6			
Sample Description	Cl-	GRO	DRO
PT.6 SURFACE	4800	<10	<10



Legend	
X	SOURCE
▲	SAMPLE POINT
□	BUILDING
▭	STAIN IN FIELD (2,119 sq ft)
▭	STAIN ON ROAD (10,488 sq ft)
—	PAD



**APACHE**  
**EMPIRE ABO UNIT**  
**C-49 SWD AD**  
 UL/L SECTION 29  
 T-17-S R-29-E  
 EDDY COUNTY, NM

**Figure 1**

0 50 100  
 Feet

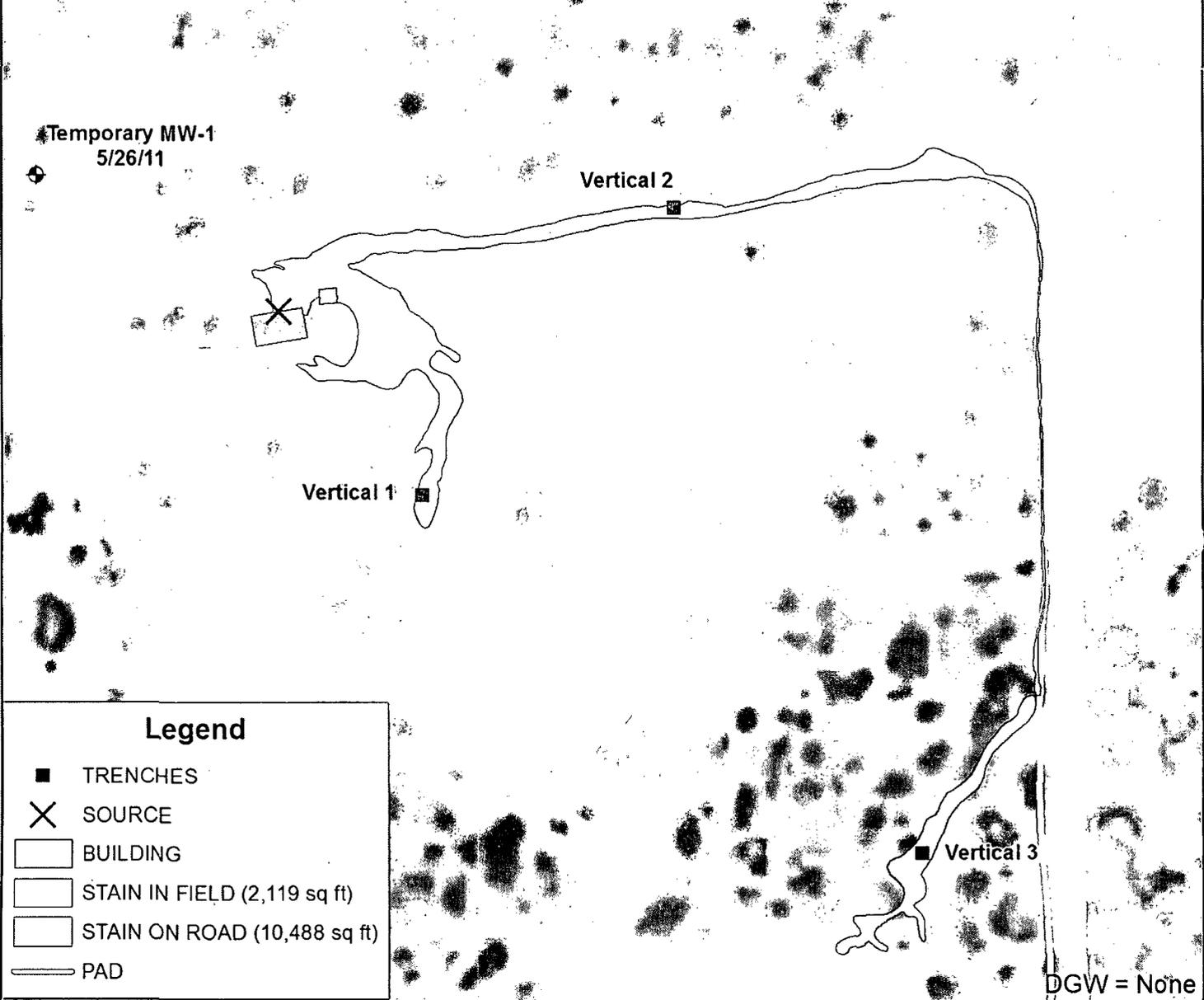
GPS date: 5/21/12 by DH  
 Drawing date: 5/24/12  
 Drafted by: T. Grieco, L. Weinheimer

# Site Plat

VERTICAL #1			
Sample Description	Cl-	GRO	DRO
Vertical #1 @ Surface	14,400	<10	<10
Vertical #1 @ 5'	160	<10	<10
Vertical #1 @ 6'	256	<10	<10

VERTICAL #3			
Sample Description	Cl-	GRO	DRO
Vertical #3 @ 4'	176	<10	<10
Vertical #3 @ 5'	192	<10	<10

VERTICAL #2			
Sample Description	Cl-	GRO	DRO
Vertical #2 @ 1'	16	<10	<10
Vertical #2 @ 2'	80	<10	19.7



Legend	
■	TRENCHES
×	SOURCE
□	BUILDING
□	STAIN IN FIELD (2,119 sq ft)
□	STAIN ON ROAD (10,488 sq ft)
—	PAD



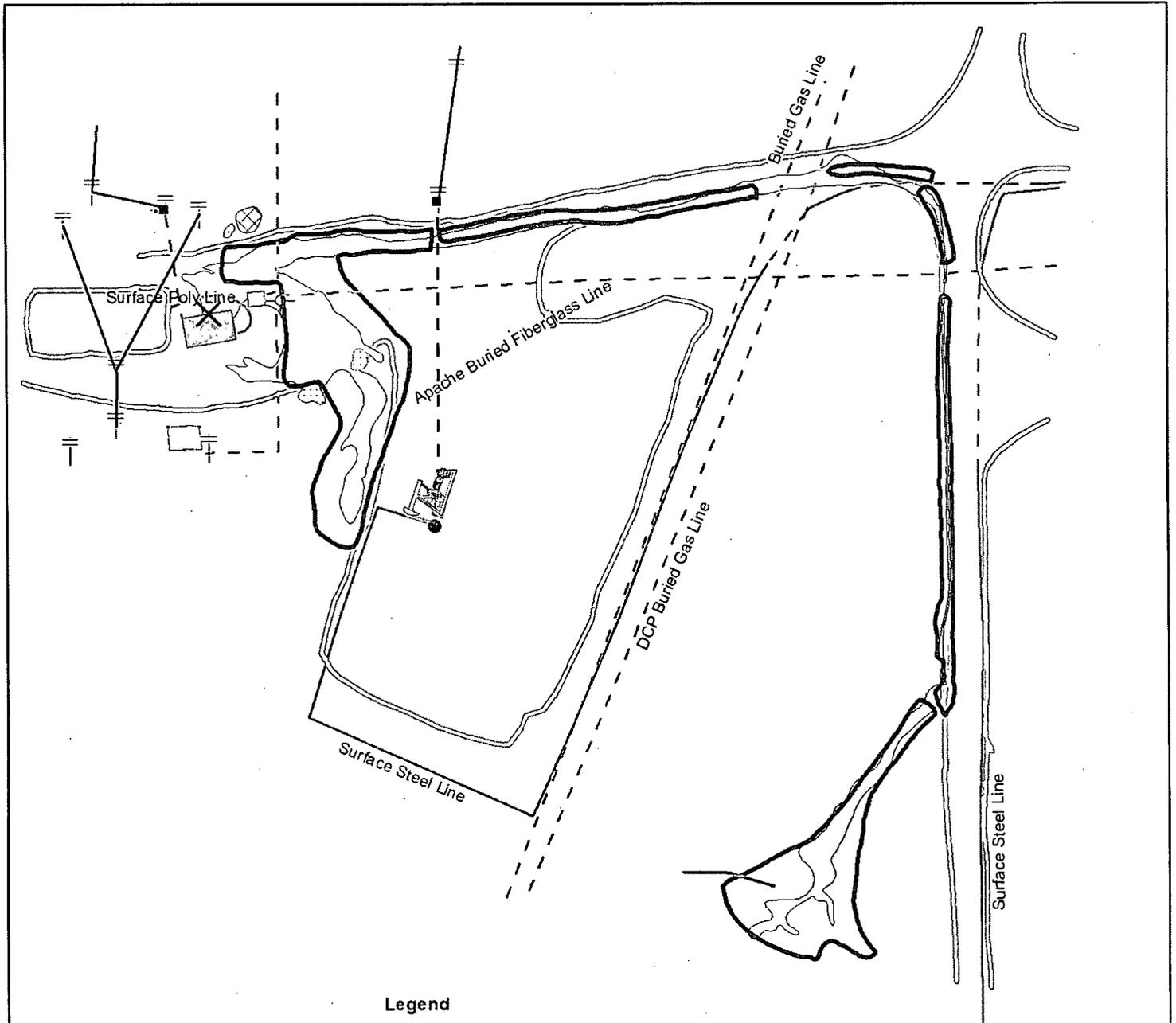
**APACHE  
EMPIRE ABO UNIT  
C-49 SWD AD**

UL/L SECTION 29  
T-17-S R-29-E  
EDDY COUNTY, NM

**Figure 2**

GPS date: 5/21/12 by DH  
Drawing date: 6/04/12  
Drafted by: L. Weinheimer

# Site Plat



### Legend

- |  |                        |  |                                 |  |                              |
|--|------------------------|--|---------------------------------|--|------------------------------|
|  | ELECTRIC POLE          |  | BURIED PIPELINE                 |  | CALICHE PILE                 |
|  | ELECTRIC SWITCH        |  | BURIED STEEL PIPE               |  | GRAVEL PILE                  |
|  | ELECTRICAL BOX ON POLE |  | GUARD                           |  | JUNK CEMENT PILE             |
|  | P&A MARKER             |  | LINEFINDER POSSIBLE BURIED LINE |  | PUMP JACK                    |
|  | WELLHEAD               |  | OVERHEAD ELECTRIC LINE          |  | SMALL TANK FENCE             |
|  | SOURCE                 |  | SURFACE POLY                    |  | BUILDING                     |
|  | BURIED ELECTRIC LINE   |  | SURFACE STEEL PIPE              |  | STAIN IN FIELD (2,119 sq ft) |
|  |                        |  | SCRAPE                          |  | STAIN ON ROAD (10,488 sq ft) |
|  |                        |  |                                 |  | PAD                          |

DGW = None



## APACHE EMPIRE ABO UNIT C-49 SWD AD

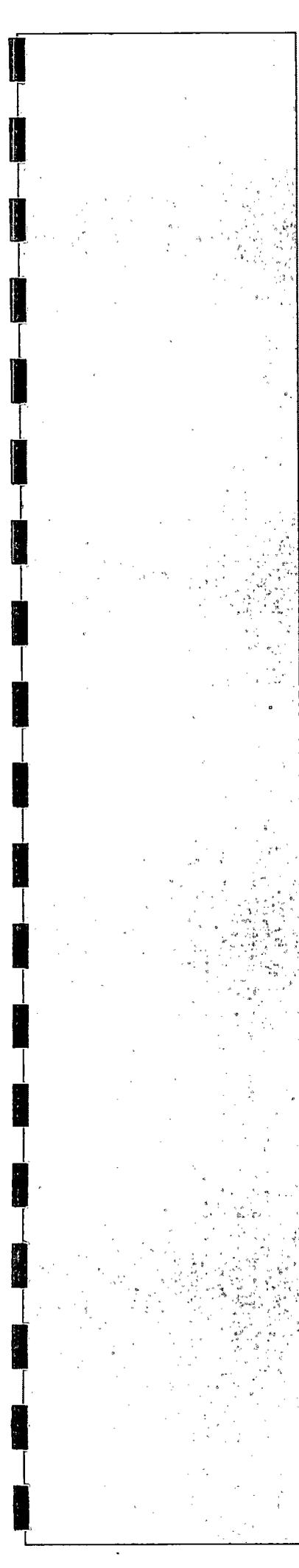
UL/L SECTION 29  
T-17-S R-29-E  
EDDY COUNTY, NM

### Figure 3



0 50 100  
 Feet

GPS date: 5/21/12 by DH & 5/24/12 by TG  
Drawing date: 5/22/12 & 5/24/12  
Drafted by: T. Grieco, 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  
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

**RECEIVED**  
MAY 29 2012  
NMOCD ARTESIA

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
220 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**

*NMLB/215846960*

<b>OPERATOR</b>		<input checked="" type="checkbox"/> Initial Report	<input checked="" type="checkbox"/> Final Report
Name of Company	Apache Corporation <i>873</i>	Contact	Natalie Gladden
Address	PO Box 1849 Eunice, NM 88231	Telephone No.	575-390-4186
Facility Name	Empire Abo Unit C49 SWD (nearest well EAU C50)	Facility Type	SWD
Surface Owner	BLM	Mineral Owner	OCD
		Lease No.	30-015-03184

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	29	17S	29E	2310'	FSL	1650'	FWL	Eddy

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

**NATURE OF RELEASE**

Type of Release	Produced Water	Volume of Release	100	Volume Recovered	20
Source of Release	Circulating pump line	Date and Hour of Occurrence	05/21/12 6am	Date and Hour of Discovery	05/21/12 8am
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher		
By Whom?	Natalie Gladden	Date and Hour	05/21/11 @ 12pm		
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.* Hole in circulating pump line, which is inside pump building.					
Describe Area Affected and Cleanup Action Taken.* NMOCD Guidelines will be followed to closure. No ground water in this area which was determined after 03/29 release at this facility.					

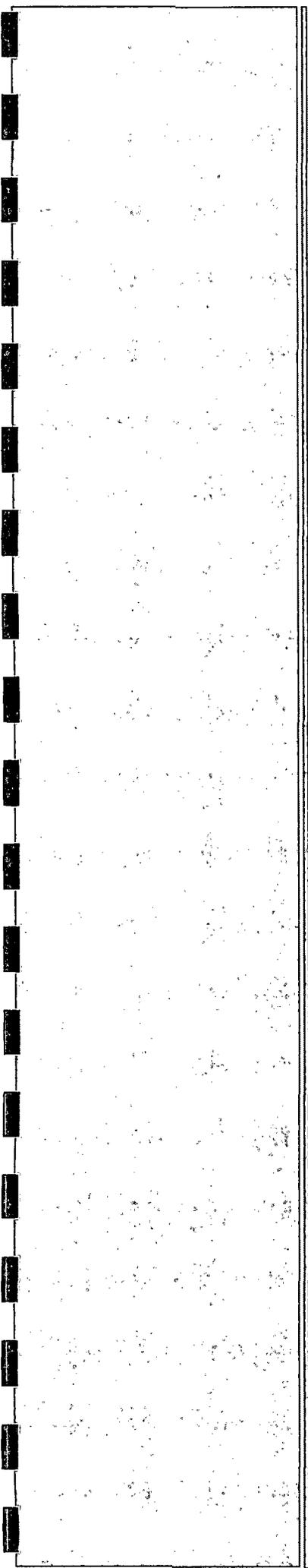
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger 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>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Natalie Gladden	Approved by District Supervisor: <i>Mike Bratcher</i>	
Title: EHS Environmental Tech	Approval Date: JUN 06 2012	Expiration Date: _____
E-mail Address: natalie.gladden@apachecorp.com	Conditions of Approval: <i>Approved as Initial Report ONLY</i>	Attached <input type="checkbox"/>
Date: 05/21/11 Phone: 575-3904186		

\* Attach Additional Sheets If Necessary

Remediation per OCD Rules & Guidelines. **SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:**  
*Discussed remediation proposal*  
6/4/12

*2RP-1153*



# Appendix B

## Site Photographs

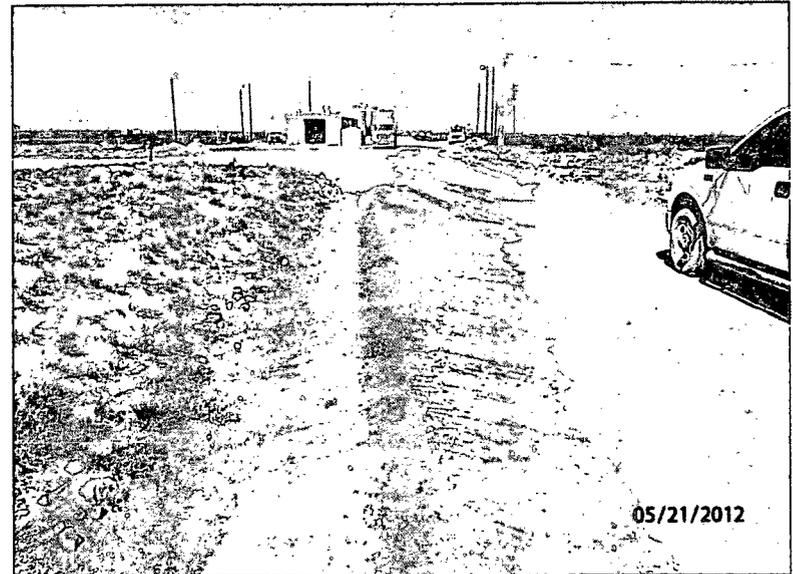
**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 5630 Hobbs, NM 88241  
Phone 575.393.4411 Fax 575.393.0293

# Empire Abo Unit C-49 SWD

Unit Letter K, Section 29, T17S, R29E



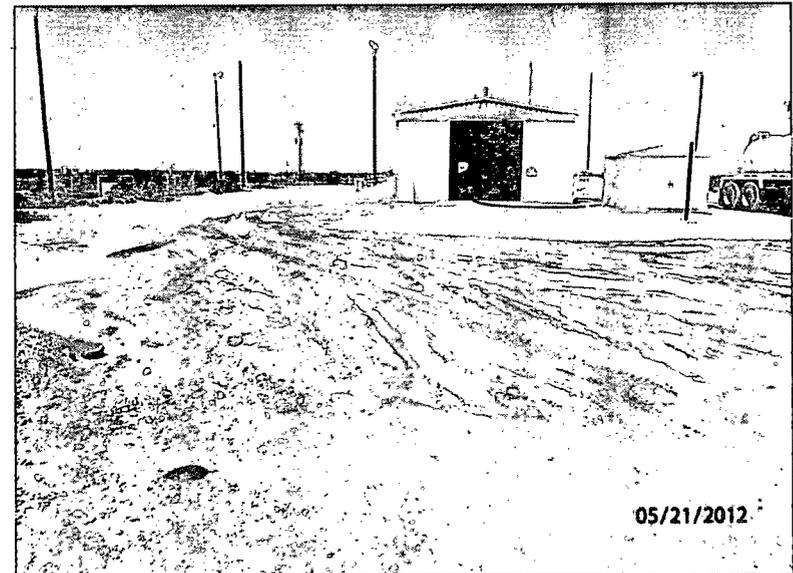
Initial release in pasture, facing north 5/21/2012



Initial release, facing west 5/21/2012



Initial release, facing north 5/21/2012



Initial release, facing west 5/21/2012



Excavating Vertical #1, facing west 5/29/2012



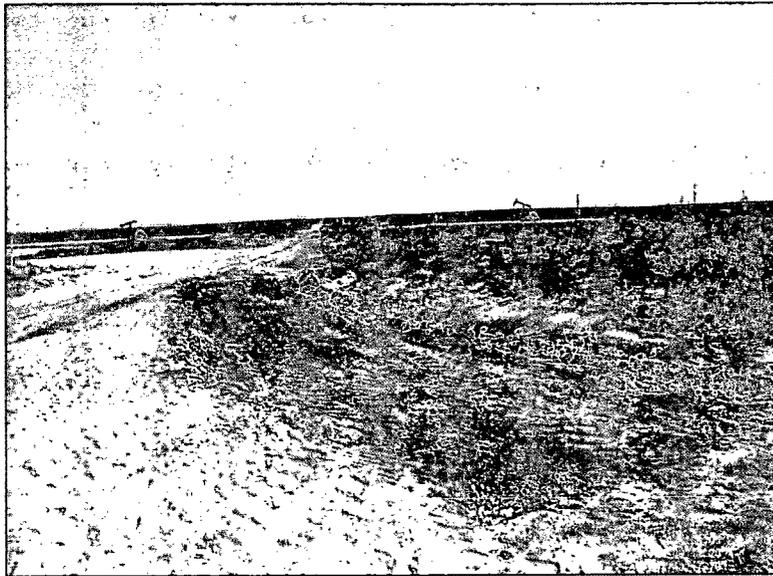
Excavating Vertical #2, facing east 5/29/2012



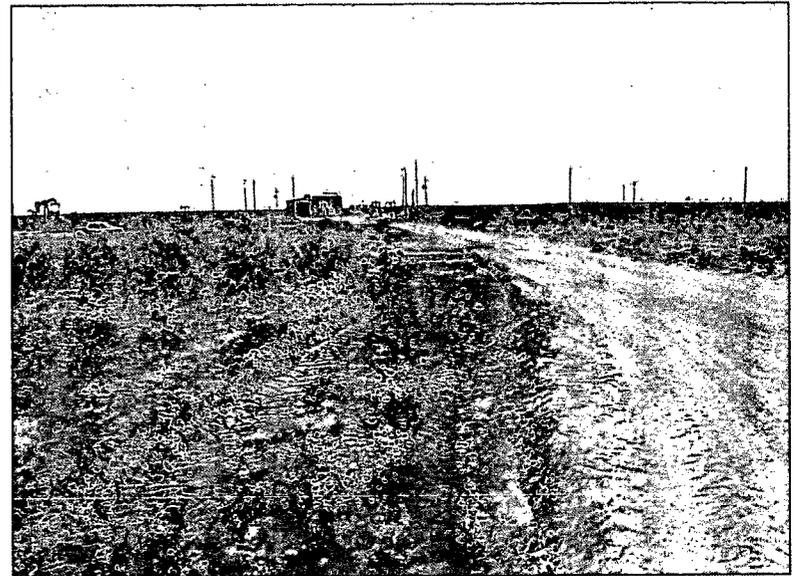
Excavating Vertical #3, facing east 5/29/2012



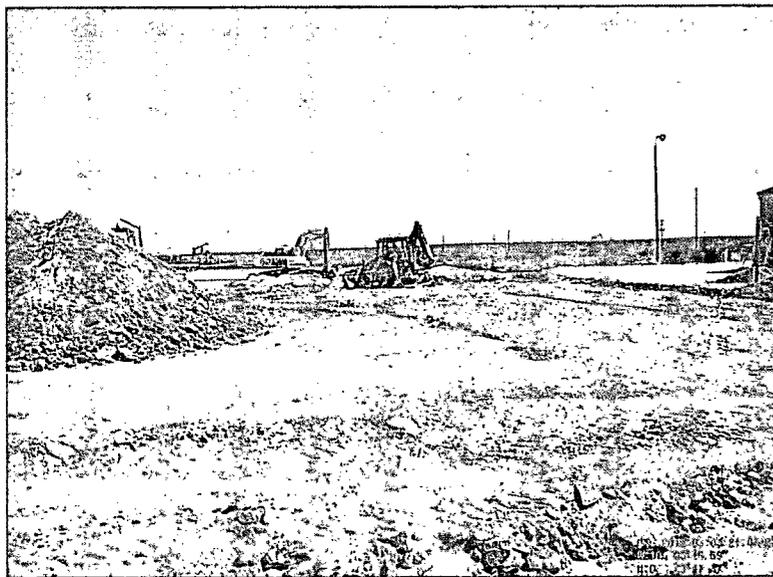
Excavating in pasture, facing northeast 6/1/2012



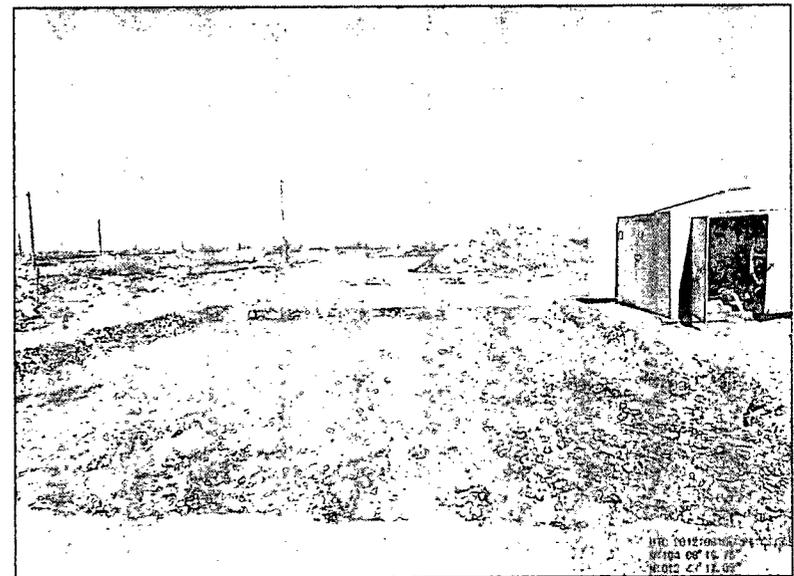
Road excavation complete, facing southwest 6/5/2012



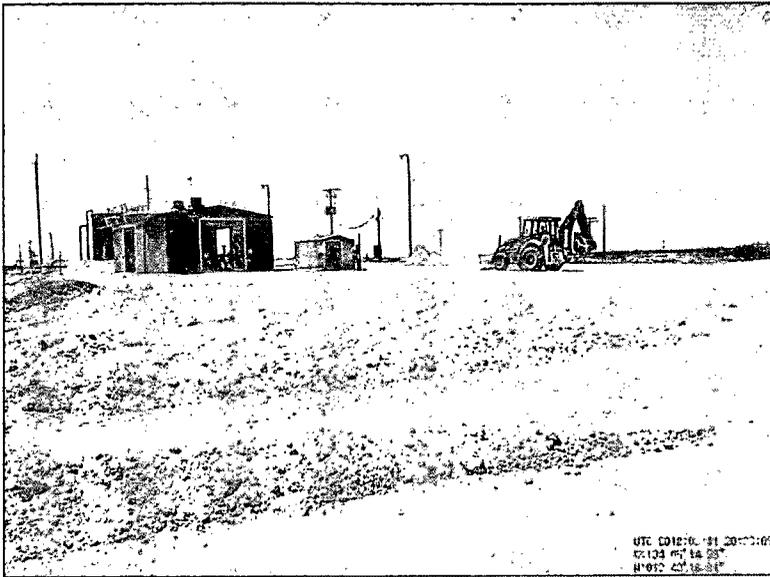
Road excavation complete, facing west 6/5/2012



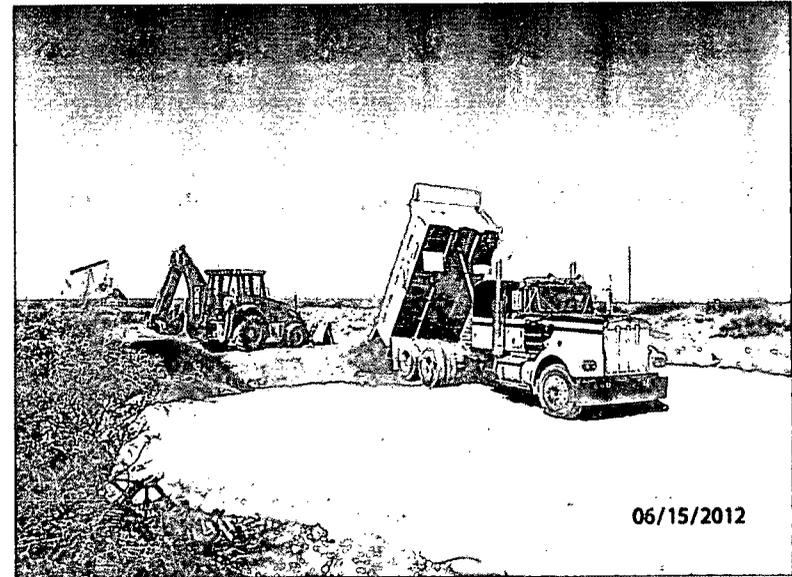
Excavating pad, facing southwest 6/6/2012



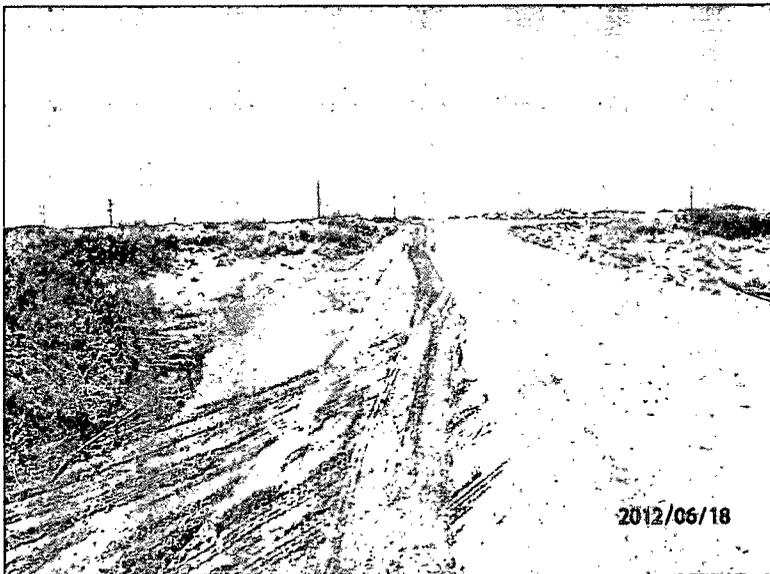
Pad excavation complete, facing east 6/6/2012



Backfilling with caliche, facing northwest 6/11/2012



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



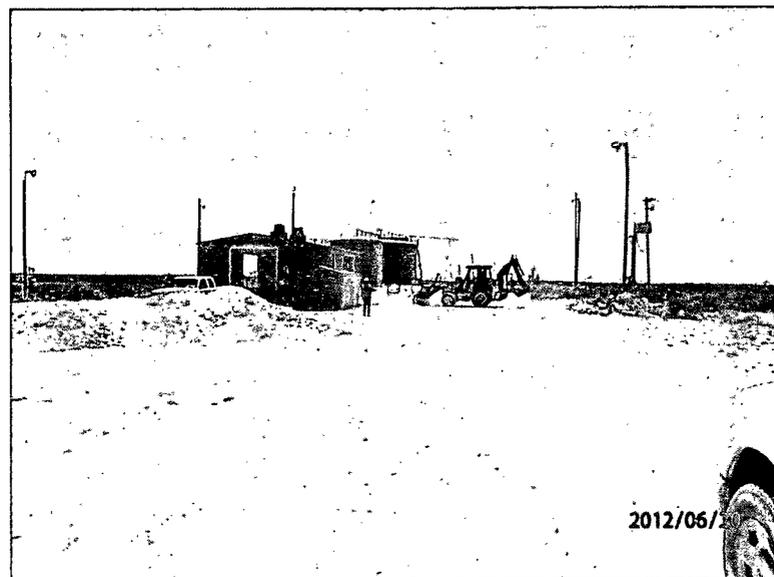
Road backfilled, facing north 6/18/2012



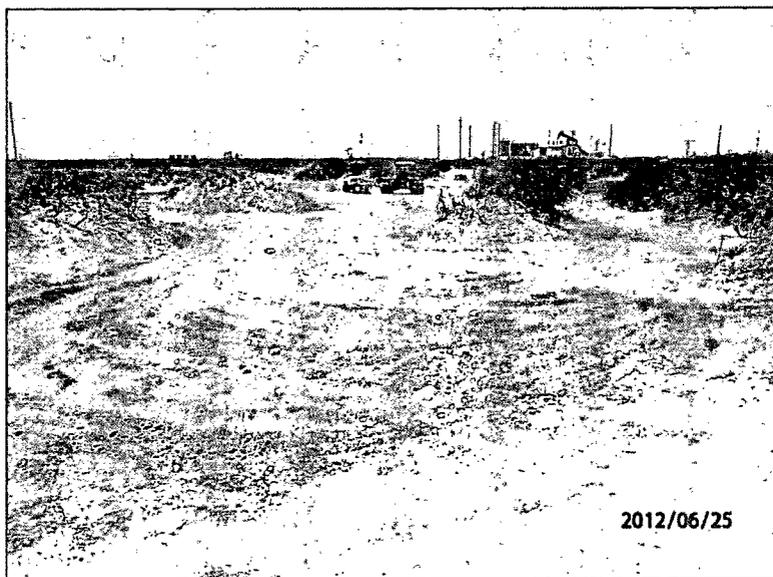
Road backfilled, facing south 6/18/2012



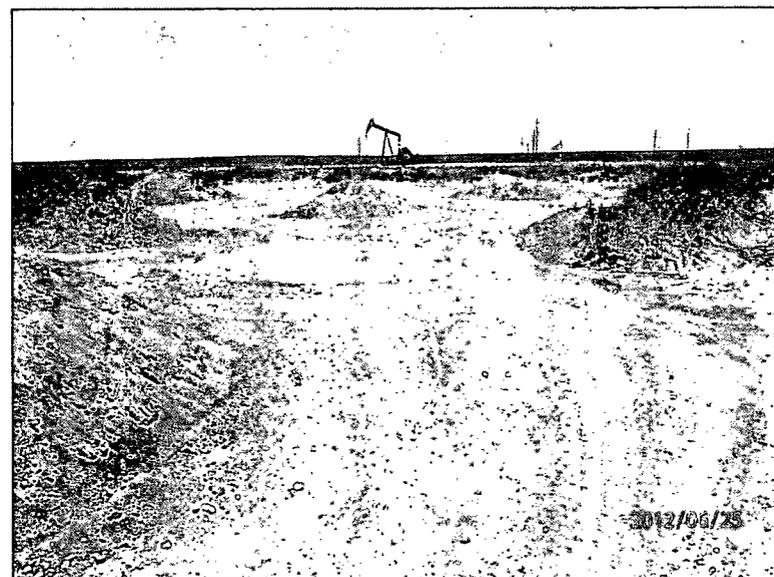
Topsoil backfill complete, facing north 6/20/2012



Building berms, facing west 6/20/2012



Seeding pasture, facing west 6/25/2012



Site complete, facing south 6/25/2012

# Appendix C

## Laboratory Results

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

**Analytical Results For:**

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

 Received: 05/22/2012  
 Reported: 05/23/2012  
 Project Name: EMPIRE ABO UNIT C-49 SWD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/21/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT 1 SURFACE (H201145-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6800	16.0	05/23/2012	ND	416	104	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	19.9	10.0	05/22/2012	ND	186	92.9	200	4.00		
DRO >C10-C28	13.8	10.0	05/22/2012	ND	187	93.6	200	6.08		

Surrogate: 1-Chlorooctane 83.1 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 93.0 % 63.6-154

**Sample ID: PT 2 SURFACE (H201145-02)**

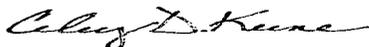
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5200	16.0	05/23/2012	ND	416	104	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/22/2012	ND	186	92.9	200	4.00		
DRO >C10-C28	<10.0	10.0	05/22/2012	ND	187	93.6	200	6.08		

Surrogate: 1-Chlorooctane 78.4 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 92.1 % 63.6-154

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: 05/22/2012  
 Reported: 05/23/2012  
 Project Name: EMPIRE ABO UNIT C-49 SWD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/21/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT 3 SURFACE (H201145-03)**

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>7520</b>	16.0	05/23/2012	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	
<b>GRO C6-C10</b>	<b>19.6</b>	10.0	05/22/2012	ND	186	92.9	200	4.00		
<b>DRO &gt;C10-C28</b>	<b>36.2</b>	10.0	05/22/2012	ND	187	93.6	200	6.08		

Surrogate: 1-Chlorooctane 84.9 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 102 % 63.6-154

**Sample ID: PT 4 SURFACE (H201145-04)**

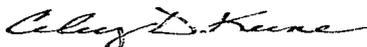
Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>5520</b>	16.0	05/23/2012	ND	416	104	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/22/2012	ND	186	92.9	200	4.00		
DRO >C10-C28	<10.0	10.0	05/22/2012	ND	187	93.6	200	6.08		

Surrogate: 1-Chlorooctane 84.2 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 96.6 % 63.6-154

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: 05/22/2012  
 Reported: 05/23/2012  
 Project Name: EMPIRE ABO UNIT C-49 SWD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/21/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT 5 SURFACE (H201145-05)**

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>2720</b>	16.0	05/23/2012	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	05/22/2012	ND	186	92.9	200	4.00		
DRO >C10-C28	<10.0	10.0	05/22/2012	ND	187	93.6	200	6.08		

Surrogate: 1-Chlorooctane 86.7 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 98.9 % 63.6-154

**Sample ID: PT 6 SURFACE (H201145-06)**

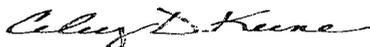
Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>4800</b>	16.0	05/23/2012	ND	416	104	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/22/2012	ND	186	92.9	200	4.00		
DRO >C10-C28	<10.0	10.0	05/22/2012	ND	187	93.6	200	6.08		

Surrogate: 1-Chlorooctane 91.8 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 102 % 63.6-154

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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: 05/29/2012  
 Reported: 05/30/2012  
 Project Name: EMPIRE ABO UNIT C-49 SWD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/29/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Amanda Ponce

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

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>14400</b>	16.0	05/30/2012	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	05/29/2012	ND	191	95.4	200	1.35		
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68		

 Surrogate: 1-Chlorooctane 82.6 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 91.6 % 63.6-154

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

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>160</b>	16.0	05/30/2012	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	05/29/2012	ND	191	95.4	200	1.35		
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68		

 Surrogate: 1-Chlorooctane 85.1 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 95.6 % 63.6-154

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\*=Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 05/29/2012  
 Reported: 05/30/2012  
 Project Name: EMPIRE ABO UNIT C-49 SWD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/29/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Amanda Ponce

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

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>256</b>	16.0	05/30/2012	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	05/29/2012	ND	191	95.4	200	1.35		
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68		

Surrogate: 1-Chlorooctane 76.2 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 92.0 % 63.6-154

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

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>16.0</b>	16.0	05/30/2012	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	05/29/2012	ND	191	95.4	200	1.35		
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68		

Surrogate: 1-Chlorooctane 79.4 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 99.5 % 63.6-154

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

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

Chloride, 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>80.0</b>	16.0	05/30/2012	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	05/29/2012	ND	191	95.4	200	1.35		
<b>DRO &gt;C10-C28</b>	<b>19.7</b>	10.0	05/29/2012	ND	193	96.6	200	1.68		

Surrogate: 1-Chlorooctane 77.6 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 91.1 % 63.6-154

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

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>176</b>	16.0	05/30/2012	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	05/29/2012	ND	191	95.4	200	1.35		
<b>DRO &gt;C10-C28</b>	<b>&lt;10.0</b>	10.0	05/29/2012	ND	193	96.6	200	1.68		

Surrogate: 1-Chlorooctane 79.4 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 93.9 % 63.6-154

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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: 05/29/2012  
 Reported: 05/30/2012  
 Project Name: EMPIRE ABO UNIT C-49 SWD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/29/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Amanda Ponce

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

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>192</b>	16.0	05/30/2012	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	05/29/2012	ND	191	95.4	200	1.35		
DRO >C10-C28	<10.0	10.0	05/29/2012	ND	193	96.6	200	1.68		

Surrogate: 1-Chlorooctane 80.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.4 % 63.6-154

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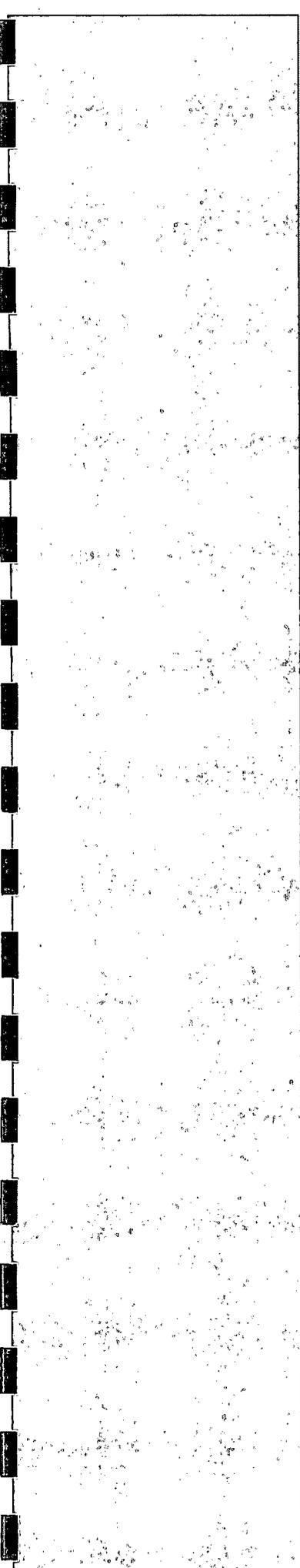
\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





# Appendix D

Final Form C-141

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

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company Apache Corp.	Contact Natalie Gladden
Address P.O. Box 1849, Eunice, NM, 88231	Telephone No. (575) 390-4186
Facility Name Empire Abo Unit C49 SWD (nearest well EAU C50)	Facility Type SWD
Surface Owner BLM	Mineral Owner OCD
API No. 30-015-03184	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	29	17S	29E	2310	FSL	1650	FWL	Eddy

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

**NATURE OF RELEASE**

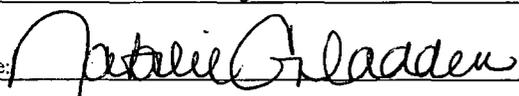
Type of Release Produced water	Volume of Release 100 bbls	Volume Recovered 20 bbls
Source of Release Circulating pump line	Date and Hour of Occurrence 5/21/2012	Date and Hour of Discovery 5/21/2012 8 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher	
By Whom? Natalie Gladden	Date and Hour 5/21/2012 12 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.\*  
Hole in circulating pump line, which is inside pump building.

Describe Area Affected and Cleanup Action Taken.\*  
The leak affected a total area of 12,607 square feet including a lease road and 2,119 square feet of pasture land. Samples were collected and sent to a commercial lab for chloride and TPH analyses. The leak was excavated to a clean depth and impacted soils were removed to a NMOCD approved disposal facility. The excavation in the pasture was backfilled with imported caliche to approximately 1' below ground surface and the remaining 1' was backfilled with topsoil and contoured to the surrounding area. The excavation in the lease road was backfilled with clean imported caliche and leveled.

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 Supervisor:	
Title: EH&S Environmental Tech	Approval Date:	Expiration Date:
E-mail Address: Natalie.gladden@apachecorp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 11/9/12	Phone: (575) 390-4186	

\* Attach Additional Sheets If Necessary