



EXPLORING WHAT'S POSSIBLE



# APACHE CORPORATION

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

## Loco Federal #1 Central Battery

### Closure Report

2RP-1131

API 30-015-30144

Release Date: December 6, 2011

Unit Letter B, Section 21, Township 17S, Range 30E

# Rice Environmental Consulting & Safety

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

**May 29, 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 – Loco Federal #1 Central Battery AD**  
**UL/B sec. 21 T17S R30E**  
**API No. 30-015-30144**  
**2RP-1131**

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 hydrocarbons associated with the Loco Federal #1 Central Battery. A “T” connector from the circulating pump to the header ruptured and released fluids onto the caliche pad within the battery containment. NMOCD was notified, and an initial form C-141 was submitted by Apache Corporation on December 7, 2011 (Appendix A). The site is located in Loco Hills, New Mexico, in unit letter ‘B’ of section 21, T17S, R30E in Eddy County.

On December 6, 2011, RECS personnel initiated work at the Loco Federal #1 Central Battery (Figure 1). Soil samples were collected from the site at ground surface and at 6 inches below ground surface (bgs), 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 48 ppm (parts per million or mg/kg) to 6,960 ppm. GRO ranged from 21.4 ppm to 13,500 ppm and DRO ranged from 74.3 ppm to 15,100 ppm.

The leak area was excavated to 1 ft. bgs (Figure 2). On December 20, 2011, RECS personnel collected and field tested representative grab samples from the excavation walls and a composite sample from the excavation bottom. The samples were submitted to a laboratory for analyses (Appendix C). The walls contained 16.0 ppm chloride and <10.0 ppm TPH with the exception of the E Wall S End sample (368 ppm chloride, 758 ppm TPH). The excavation bottom contained 64.0 ppm chloride and 17.1 ppm TPH.

Impacted soils were removed from the excavation and transported to a NMOCD approved disposal facility. The excavation was backfilled with clean caliche and leveled. See Appendix B for photographs of field activities.

### **Conclusion**

According to data obtained from the installation of several temporary groundwater monitoring wells in the surrounding vicinity, no groundwater exists beneath the site (Appendix D – data compiled from nearest site with temporary monitoring well installation, Apache Red Federal Water Station in April 2011). Due to the removal of the majority of impacted soils and the non-existence of groundwater, 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 Documentation
- 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

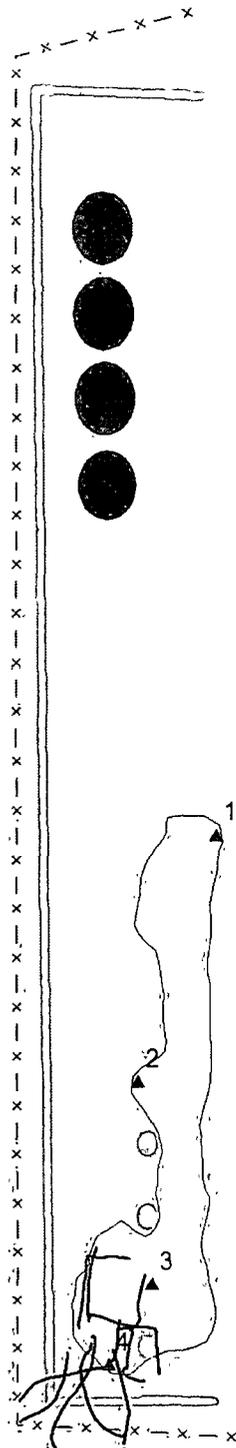
# Site Plat

## INITIAL SAMPLING LAB DATA

Sample Description	Cl-	GRO	DRO
PT 1 SURFACE	112	8,820	14,600
PT 1 @6"	48	21.4	93.5
PT 2 SURFACE	432	13,500	15,100
PT 2 @6"	336	81.3	262
PT 3 SURFACE	4,960	10,900	14,200
PT 3 @6"	928	23.3	124
PT 4 SURFACE	6,960	8,500	10,500
PT 4 @6"	640	23.8	74.3

### Legend

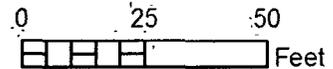
- ▲ SAMPLE POINT
- ▬ BERM
- x - x - FENCE
- LINE
- POLY LINE
- STAIN
- TANK
- TREATER



**APACHE  
LOCO FEDERAL #1  
CENTRAL BATTERY AD**

UL/B SECTION 21

Figure 1



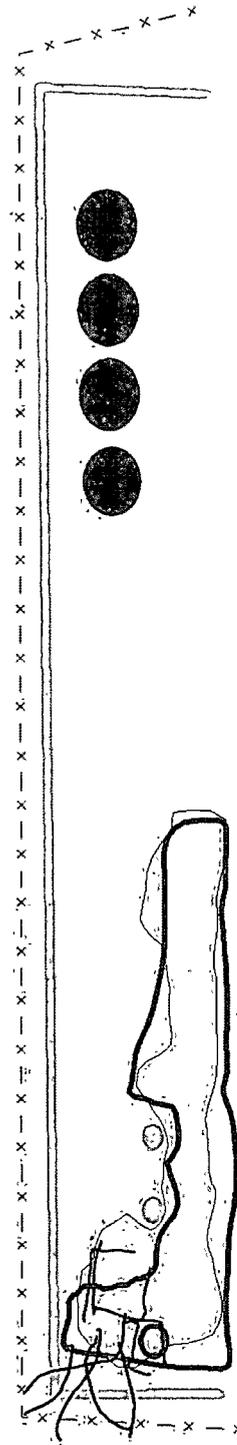
# Site Plat

## FINAL EXCAVATION LAB DATA

Sample Description	Cl-	GRO	DRO
E WALL N END	16	<10.0	<10.0
E WALL S END	368	<50.0	.758
N WALL CENTER	16	<10.0	<10.0
S WALL CENTER	16	<10.0	<10.0
W WALL S END	16	<10.0	<10.0
W WALL N END	192	<10.0	<10.0
5 PT. BOTTOM. COMP @ 1'	64	<10.0	17.1

### Legend

-  BERM
-  FENCE
-  LINE
-  POLY LINE
-  SCRAPE
-  STAIN
-  TANK
-  TREATER



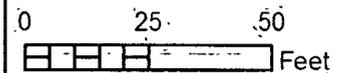
Scrape.  
112' x 19' x 1'



**APACHE  
LOCO FEDERAL #1  
CENTRAL BATTERY AD**

UL/B SECTION 21  
T-17-S R-30-E  
EDDY COUNTY, NM

**Figure 2**



GPS date: 12/7/11 by RP.  
Drawing date: 12/7/11  
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  
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 Loco Federal Battery (Loco Federal #1)	Facility Type Production Facility
Surface Owner Unknown	Mineral Owner BLM
API No. 30-015-30144	

**LOCATION OF RELEASE**

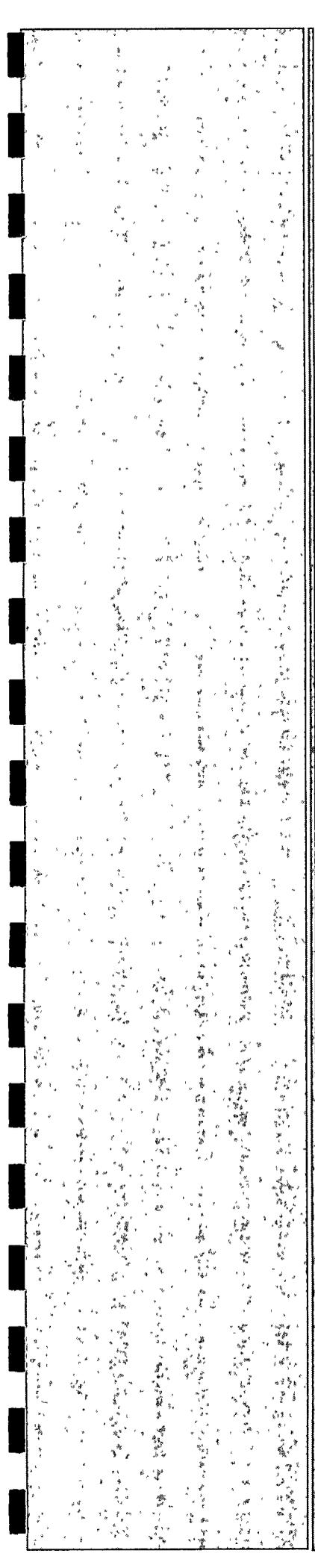
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	21	17S	30E	990'	FNL	2310	FEL	Eddy

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

**NATURE OF RELEASE**

Type of Release Hydrocarbons	Volume of Release 10	Volume Recovered 9
Source of Release "T" Connector	Date and Hour of Occurrence 12/6/11	Date and Hour of Discovery 12/6/11
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 12/07/11 11:53am	
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.* The "T" connector to the header from the circulating pump broke		
Describe Area Affected and Cleanup Action Taken.* Contamination will be hand dug and will meet 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:	Attached <input type="checkbox"/>
Date: 12/07/11      Phone: 575-390-4186		

\* Attach Additional Sheets If Necessary



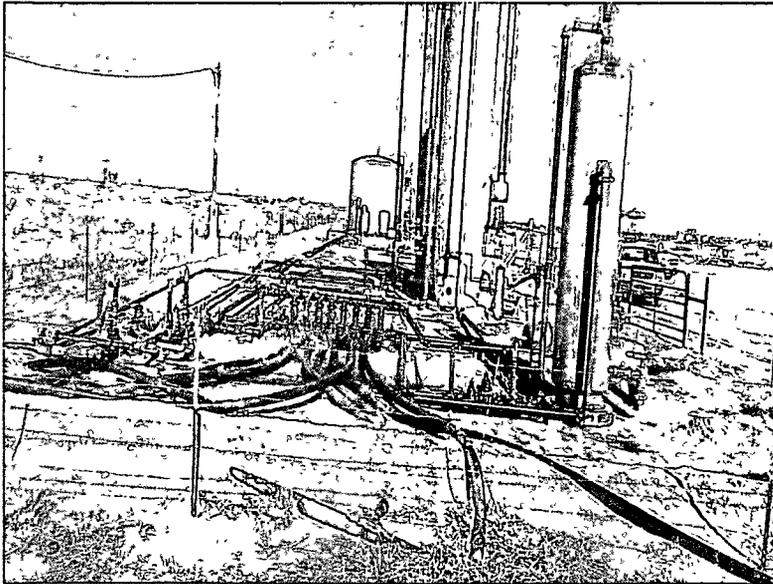
# Appendix B

## Site Photographs

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

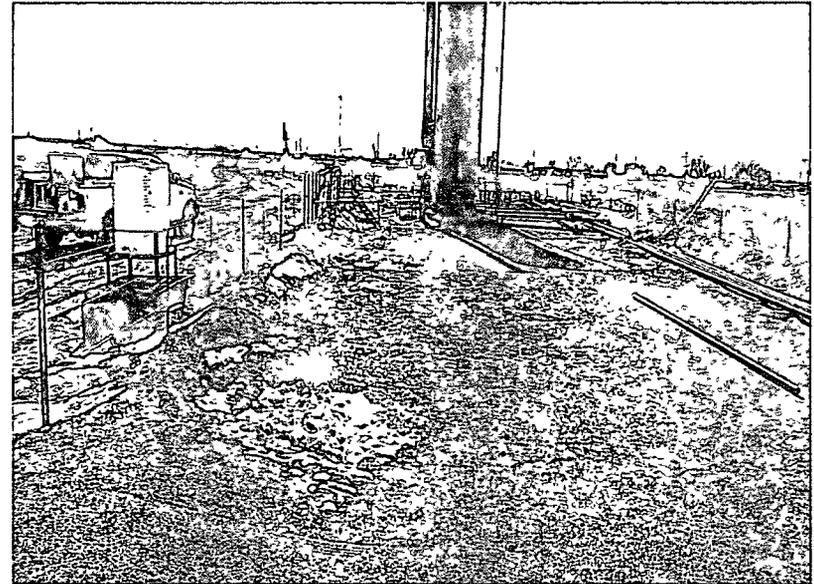
# Loco Federal #1 Central Battery

Unit Letter B, Section 21, T17S R30E



Initial release, facing north

12/7/2011



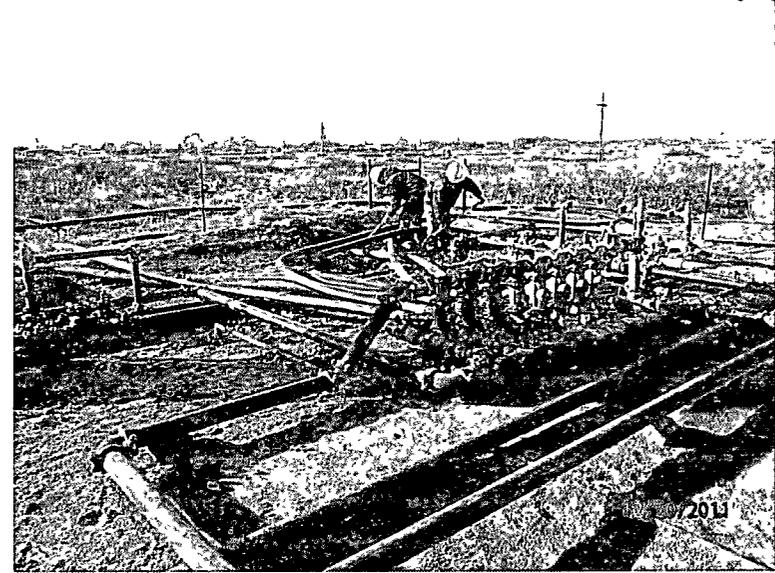
Initial release, facing south

12/7/2011



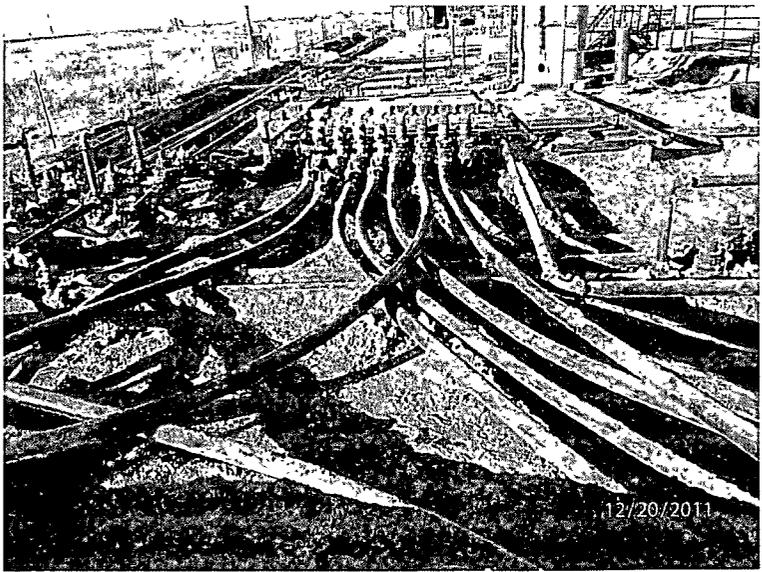
Scraping leak, facing north

12/19/2011



Excavating by hand, facing southwest

12/20/2011



Final excavation, facing north

12/20/2011



Final excavation, facing north

12/20/2011



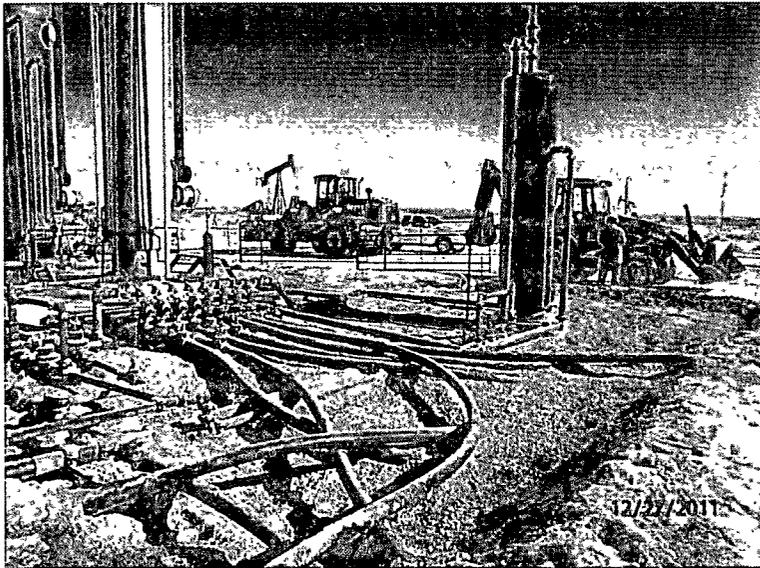
Final excavation, facing north

12/20/2011



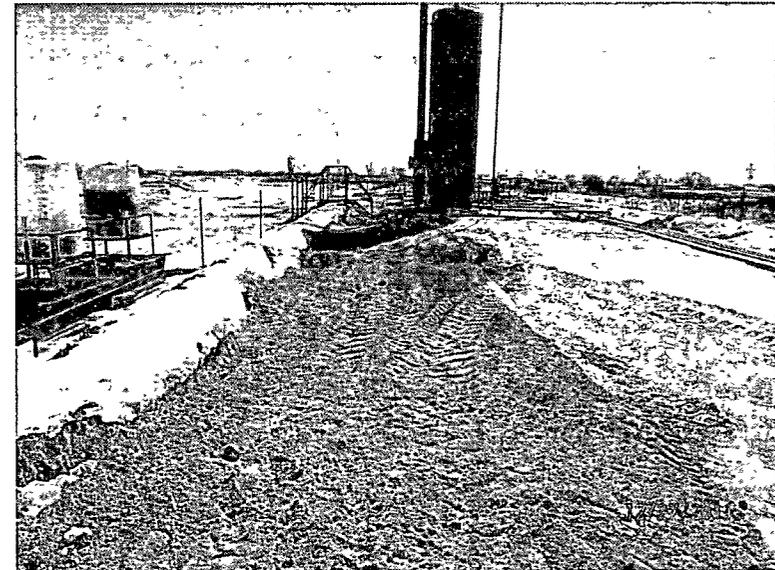
Exporting soil, facing west

12/21/2011



Excavation backfilled, facing east

12/27/2011



Excavation backfilled, facing south

12/27/2011

# 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:	12/08/2011	Sampling Date:	12/07/2011
Reported:	12/13/2011	Sampling Type:	Soil
Project Name:	LOCO FEDERAL #1 CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 1 SURFACE (H102638-01)**

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	12/09/2011	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	
<b>GRO C6-C10</b>	<b>8820</b>	100	12/09/2011	ND	200	100	200	7.29		
<b>DRO &gt;C10-C28</b>	<b>14600</b>	100	12/09/2011	ND	206	103	200	3.59		

Surrogate 1-Chlorooctane	129 %	55 5-154
Surrogate 1-Chlorooctadecane	67.5 %	57 6-158

**Sample ID: PT. 1 @ 6" (H102638-02)**

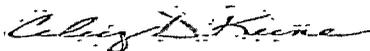
Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>48.0</b>	16.0	12/09/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>21.4</b>	10.0	12/09/2011	ND	200	100	200	7.29		
<b>DRO &gt;C10-C28</b>	<b>93.5</b>	10.0	12/09/2011	ND	206	103	200	3.59		

Surrogate 1-Chlorooctane	87.5 %	55 5-154
Surrogate 1-Chlorooctadecane	98.2 %	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:	12/08/2011	Sampling Date:	12/07/2011
Reported:	12/13/2011	Sampling Type:	Soil
Project Name:	LOCO FEDERAL #1 CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 2 SURFACE (H102638-03)**

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>432</b>	16.0	12/09/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg	Analyzed By: MS							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>13500</b>	100	12/09/2011	ND	200	100	200	7.29		
<b>DRO &gt;C10-C28</b>	<b>15100</b>	100	12/09/2011	ND	206	103	200	3.59		

<i>Surrogate 1-Chlorooctane</i>	257 %	55 5-154
<i>Surrogate 1-Chlorooctadecane</i>	193 %	57 6-158

**Sample ID: PT. 2 @6" (H102638-04)**

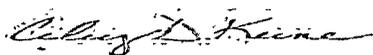
Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>336</b>	16.0	12/09/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg	Analyzed By: MS							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>81.3</b>	10.0	12/09/2011	ND	200	100	200	7.29		
<b>DRO &gt;C10-C28</b>	<b>262</b>	10.0	12/09/2011	ND	206	103	200	3.59		

<i>Surrogate 1-Chlorooctane</i>	88.1 %	55 5-154
<i>Surrogate 1-Chlorooctadecane</i>	99.7 %	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:	12/08/2011	Sampling Date:	12/07/2011
Reported:	12/13/2011	Sampling Type:	Soil
Project Name:	LOCO FEDERAL #1 CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 3 SURFACE (H102638-05)**

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>4960</b>	16.0	12/09/2011	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	
<b>GRO C6-C10</b>	<b>10900</b>	100	12/09/2011	ND	200	100	200	7.29		
<b>DRO &gt;C10-C28</b>	<b>14200</b>	100	12/09/2011	ND	206	103	200	3.59		

Surrogate 1-Chlorooctane 125 % 55.5-154  
 Surrogate 1-Chlorooctadecane 65.9 % 57.6-158

**Sample ID: PT. 3 @6" (H102638-06)**

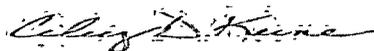
Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>928</b>	16.0	12/09/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>23.3</b>	10.0	12/09/2011	ND	200	100	200	7.29		
<b>DRO &gt;C10-C28</b>	<b>124</b>	10.0	12/09/2011	ND	206	103	200	3.59		

Surrogate 1-Chlorooctane 82.1 % 55.5-154  
 Surrogate 1-Chlorooctadecane 94.3 % 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:	12/08/2011	Sampling Date:	12/07/2011
Reported:	12/13/2011	Sampling Type:	Soil
Project Name:	LOCO FEDERAL #1 CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 4 SURFACE (H102638-07)**

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>6960</b>	16.0	12/09/2011	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	
<b>GRO C6-C10</b>	<b>8500</b>	100	12/10/2011	ND	200	100	200	7.29		
<b>DRO &gt;C10-C28</b>	<b>10500</b>	100	12/10/2011	ND	206	103	200	3.59		

Surrogate 1-Chlorooctane	102 %	55 5-154
Surrogate 1-Chlorooctadecane	71.5 %	57 6-158

**Sample ID: PT. 4 @ 6" (H102638-08)**

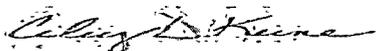
Chloride, SM4500Cl-B	mg/kg	Analyzed By: AP								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>640</b>	16.0	12/09/2011	ND	432	108	400	3.77		
TPH 8015M	mg/kg	Analyzed By: MS								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>23.8</b>	10.0	12/12/2011	ND	194	96.9	200	4.73		
<b>DRO &gt;C10-C28</b>	<b>74.3</b>	10.0	12/12/2011	ND	189	94.5	200	0.994		

Surrogate 1-Chlorooctane	103 %	55 5-154
Surrogate 1-Chlorooctadecane	110 %	57 6-158

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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



**Analytical Results For:**

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

Received:	12/21/2011	Sampling Date:	12/20/2011
Reported:	12/22/2011	Sampling Type:	Soil
Project Name:	LOCO FEDERAL #1 CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: E WALL N END (H102756-01)**

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>16.0</b>	16.0	12/22/2011	ND	448	112	400	3.51		
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	228	114	200	3.85		
DRO >C10-C28	<10.0	10.0	12/21/2011	ND	234	117	200	4.15		

Surrogate 1-Chlorooctane	90.2 %	55.5-154
Surrogate 1-Chlorooctadecane	101 %	57.6-158

**Sample ID: E WALL S END (H102756-02)**

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>368</b>	16.0	12/22/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<50.0	50.0	12/22/2011	ND	228	114	200	3.85		
<b>DRO &gt;C10-C28</b>	<b>758</b>	50.0	12/22/2011	ND	234	117	200	4.15		

Surrogate 1-Chlorooctane	68.3 %	55.5-154
Surrogate 1-Chlorooctadecane	97.8 %	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:	12/21/2011	Sampling Date:	12/20/2011
Reported:	12/22/2011	Sampling Type:	Soil
Project Name:	LOCO FEDERAL #1 CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: N WALL CENTER (H102756-03)**

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>16.0</b>	16.0	12/22/2011	ND	448	112	400	3.51	
TPH 8015M									
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	228	114	200	3.85	
DRO >C10-C28	<10.0	10.0	12/21/2011	ND	234	117	200	4.15	
<i>Surrogate 1-Chlorooctane</i>	90.6 %	55.5-154							
<i>Surrogate 1-Chlorooctadecane</i>	98.7 %	57.6-158							

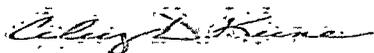
**Sample ID: S WALL CENTER (H102756-04)**

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>16.0</b>	16.0	12/22/2011	ND	448	112	400	3.51	
TPH 8015M									
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	228	114	200	3.85	
DRO >C10-C28	<10.0	10.0	12/21/2011	ND	234	117	200	4.15	
<i>Surrogate 1-Chlorooctane</i>	98.4 %	55.5-154							
<i>Surrogate 1-Chlorooctadecane</i>	114 %	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:	12/21/2011	Sampling Date:	12/20/2011
Reported:	12/22/2011	Sampling Type:	Soil
Project Name:	LOCO FEDERAL #1 CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: W WALL S END (H102756-05)**

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	12/22/2011	ND	448	112	400	3.51		
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	228	114	200	3.85		
DRO >C10-C28	<10.0	10.0	12/21/2011	ND	234	117	200	4.15		

<i>Surrogate 1-Chlorooctane</i>	83.5 %	55.5-154
<i>Surrogate 1-Chlorooctadecane</i>	87.4 %	57.6-158

**Sample ID: W WALL N END (H102756-06)**

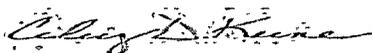
Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>192</b>	16.0	12/22/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/22/2011	ND	228	114	200	3.85		
DRO >C10-C28	<10.0	10.0	12/22/2011	ND	234	117	200	4.15		

<i>Surrogate 1-Chlorooctane</i>	103 %	55.5-154
<i>Surrogate 1-Chlorooctadecane</i>	113 %	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:	12/21/2011	Sampling Date:	12/20/2011
Reported:	12/22/2011	Sampling Type:	Soil
Project Name:	LOCO FEDERAL #1 CENTRAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 5 PT BTTM COMP @ 1' (H102756-07)**

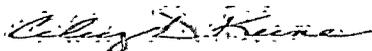
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>64.0</b>	16.0	12/22/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/22/2011	ND	228	114	200	3.85		
<b>DRO &gt;C10-C28</b>	<b>17.1</b>	10.0	12/22/2011	ND	234	117	200	4.15		

<i>Surrogate 1-Chlorooctane</i>	<i>101 %</i>	<i>55 5-154</i>
<i>Surrogate 1-Chlorooctadecane</i>	<i>113 %</i>	<i>57 6-158</i>

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Celey 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		BILL TO: ANALYSIS REQUEST	
Project Manager: Natalie Gladden		P.O. #:	
Address:		Company:	
City:	State: NM Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name: <i>Apco Federal Hill Bellway</i>		State: Zip:	
Project Location:		Phone #:	
Sampler Name: <i>J. J. Harris</i>		Fax #:	

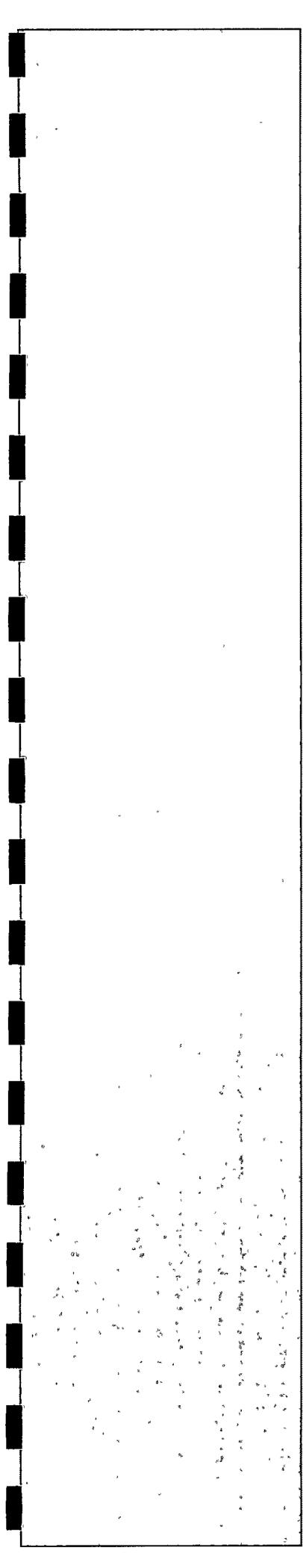
Lab I.D.	Sample I.D.	G/RAS OR (C)OMP	# CONTAINERS	MATRIX					PRESERV			SAMPLING		Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE						
<i>H1027516</i>																			
<i>1</i>	<i>25 West N. 2nd</i>	<i>5</i>	<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>12-20-11</i>	<i>9:00</i>	<input checked="" type="checkbox"/>				
<i>2</i>	<i>25 West S. 1st</i>	<i>6</i>	<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>12-20-11</i>	<i>12:05</i>	<input checked="" type="checkbox"/>				
<i>3</i>	<i>11 West Center</i>	<i>6</i>	<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>12-20-11</i>	<i>9:10</i>	<input checked="" type="checkbox"/>				
<i>4</i>	<i>5 West Center</i>	<i>6</i>	<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>12-20-11</i>	<i>9:15</i>	<input checked="" type="checkbox"/>				
<i>5</i>	<i>16 West S. 2nd</i>	<i>6</i>	<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>12-20-11</i>	<i>9:20</i>	<input checked="" type="checkbox"/>				
<i>6</i>	<i>16 West N. 2nd</i>	<i>6</i>	<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>12-20-11</i>	<i>9:25</i>	<input checked="" type="checkbox"/>				
<i>7</i>	<i>SPT BH 17 (Complex)</i>	<i>6</i>	<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>12-20-11</i>	<i>9:36</i>	<input checked="" type="checkbox"/>				

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Relinquished By: <i>[Signature]</i>	Date: <i>12/21/11</i>	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Time: <i>7:30</i>			Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By: <i>[Signature]</i>	Date: <i>12/21/11</i>	Received By: <i>[Signature]</i>	REMARKS:	
Time: <i>6:05</i>			email results: Natalie.Gladden@usa.apachecorp.com; Zcorder@rice-ecs.com; Bbaker@rice-ecs.com; hcondor@rice-ecs.com; Lweinheimer@rice-ecs.com	
Delivered By: (Circle One) Sampler: <input checked="" type="checkbox"/> UPS <input type="checkbox"/> Bus <input type="checkbox"/> Other	Sample Condition: Cool <input checked="" type="checkbox"/> Intact	Checked By: (Initials) <i>[Initials]</i>		
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

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

*#26*



# Appendix D

## Groundwater Documentation

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

Apache  
Company

Loco Federal #1 Central Battery  
site name

B  
Unit Letter

21  
Section

T17S  
Township

R30E  
Range

Groundwater Depth: No groundwater ft

Compiled by: Lara Weinheimer

Date: 12/14/2011

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

○ = Wells of unknown use (USGS)

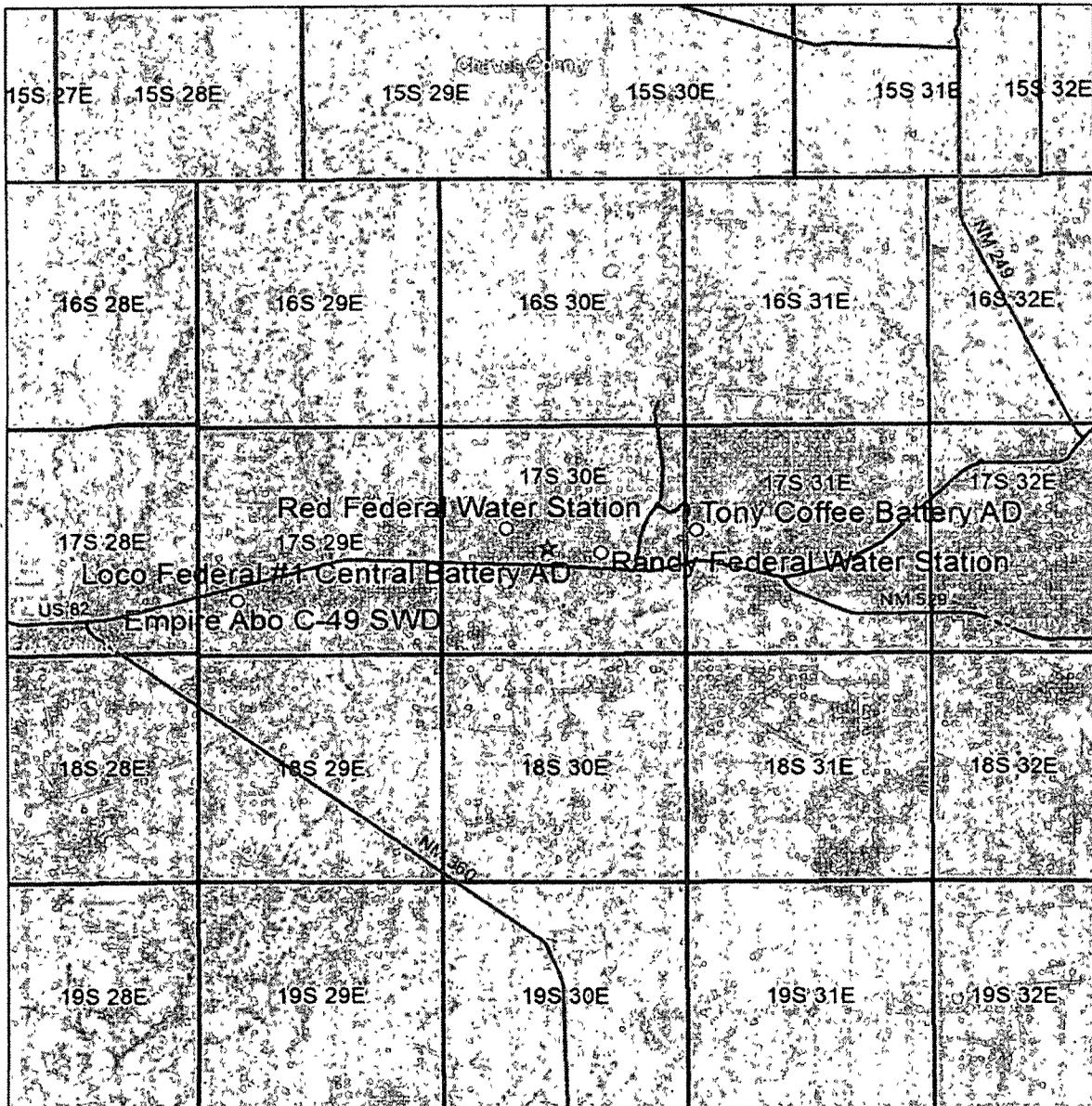
○ = Non-production wells  
(commercial, sanitation, domestic, stock)

○ = section (1 sq. mile)



☆ = Subject Site

### Sites with No Groundwater





---

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

---

No records found.

PLSS Search:

**Section(s):** 15, 16, 17, 20,    **Township:** 17S    **Range:** 30E  
                  21, 22, 27, 28,  
                  29

---

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.

---



## Rice Environmental Consulting & Safety

---

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

July 7<sup>th</sup>, 2011

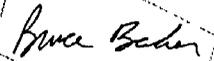
Natalie Gladden  
Apache Corp.  
P.O. Box 1849  
Eunice, New Mexico 88231

**Re: Apache Red Federal Water Station**

Ms. Gladden,

On April 15<sup>th</sup>, 2011 RECS personnel drilled an observational well at the Red Federal Water Station. On April 31<sup>st</sup>, 2011, I supervised RECS personnel checking for water accumulation within the borehole using a Heron depth to water meter. The meter indicated no water had accumulated within the borehole at a total depth of 50 ft.

Sincerely,



Bruce Baker  
Head Foreman  
Rice Environmental Consulting & Safety

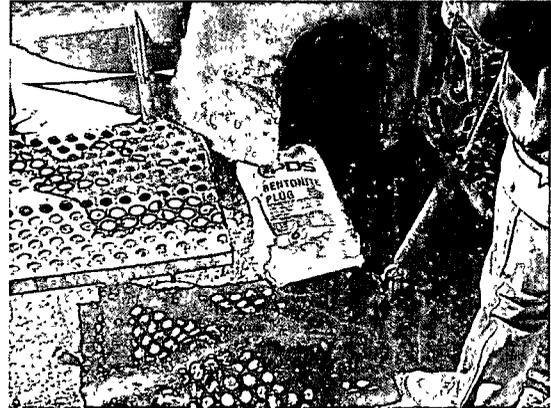


## Monitor Well Plugging Report

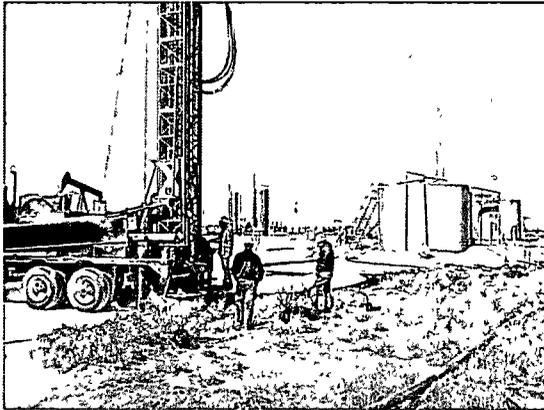
P.O. Box 5630  
Hobbs, NM 88241  
Phone: 575-393-4411

Client	Apache Corp.
Contractor	RECS
Date Completed	5/11/2011
Site	Red Federal Water Station
County	Eddy
Legal Description	UL/J sec. 17 T17S R30E
Well ID	Temp MW-1
Casing Diameter	2"
Well Depth	50'
Casing Material	PVC
Plugging Material	Bentonite

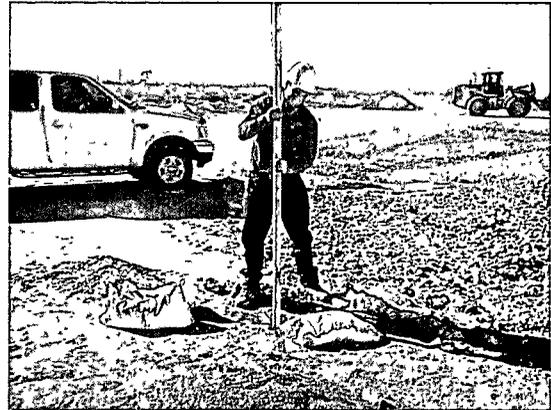
Apache Red Federal Water Station  
UL/J sec. 17 T17S R30E



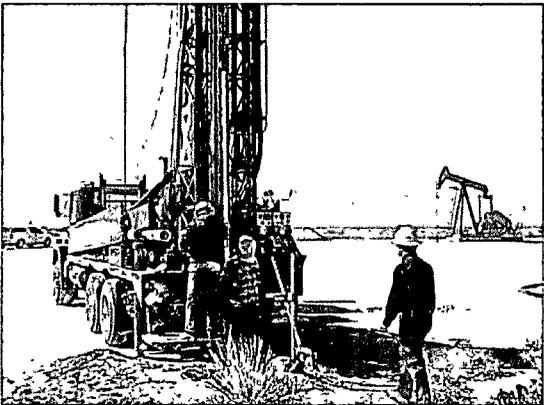
Completed temporary monitor well



Drilling the temporary monitor well



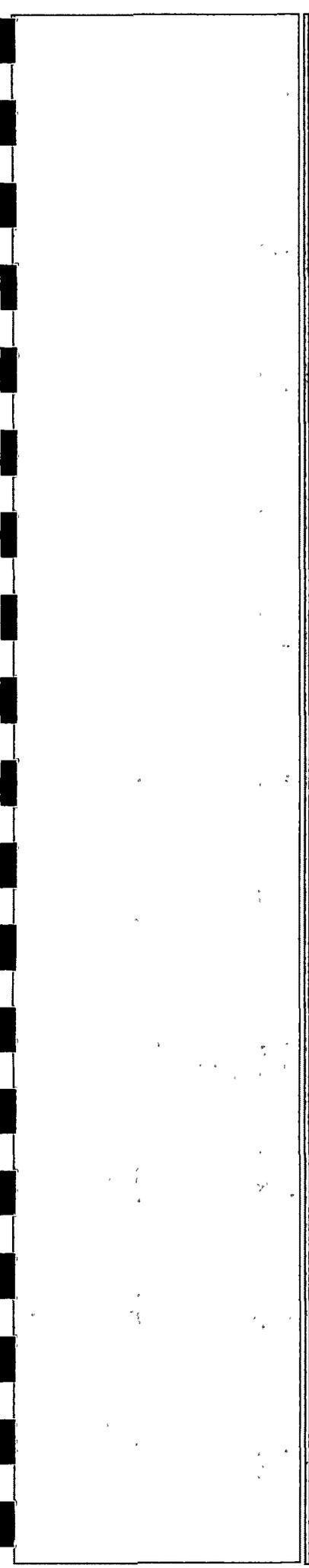
Pulling the casing from well, facing east 5/11/11



Inserting the casing into the well



Plugging the well in total with bentonite, facing east 5/11/11



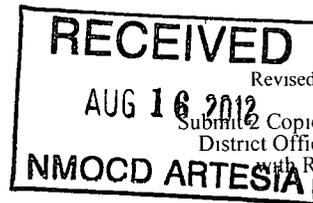
# Appendix E

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



Form C-141  
Revised October 10, 2003

### 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 Loco Federal #1 Central Battery	Facility Type Production Facility
Surface Owner Unknown	Mineral Owner BLM
API No. 30-015-30144	

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	21	17S	30E	990	FNL	2310	FEL	Eddy

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

#### NATURE OF RELEASE

Type of Release Hydrocarbons	Volume of Release 10 bbls	Volume Recovered 9 bbls
Source of Release "T" Connector	Date and Hour of Occurrence 12/6/11	Date and Hour of Discovery 12/6/11
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 12/7/11 11 53 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 *		
Describe Cause of Problem and Remedial Action Taken.* The "T" connector to the header from the circulating pump broke		
Describe Area Affected and Cleanup Action Taken * The leak affected the caliche pad within the facility containment Impacted soils were removed to a NMOCD approved disposal facility Soil samples were collected from the excavations and sent to a commercial laboratory for confirmation of chloride and TPH The excavation was backfilled with clean 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		

#### OIL CONSERVATION DIVISION

Signature:	Approved by District Supervisor	
Printed Name: Natalie Gladden	Approval Date:	Expiration Date
Title EH&S Environmental Tech	Conditions of Approval	
E-mail Address Natalie gladden@apachecorp.com	Attached <input type="checkbox"/>	
Date _____ Phone (575) 390-4186		

\* Attach Additional Sheets If Necessary