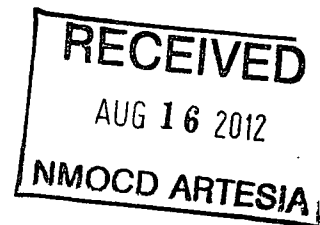




EXPLORING WHAT'S POSSIBLE



# 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

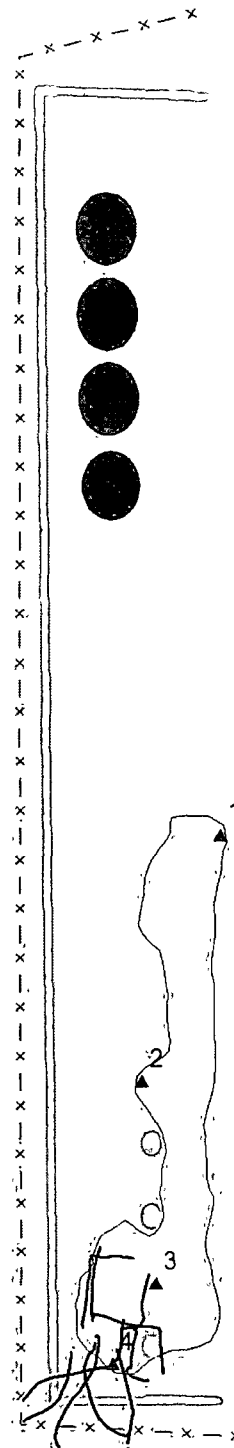
# Site Plat

## 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

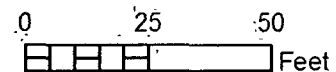
- ▲ SAMPLE POINT
- BERM
- x - x - FENCE
- LINE
- POLY LINE
- STAIN
- TANK
- TREATER



APACHE  
LOCO FEDERAL #1  
CENTRAL BATTERY AD

UL/B SECTION 21

Figure 1











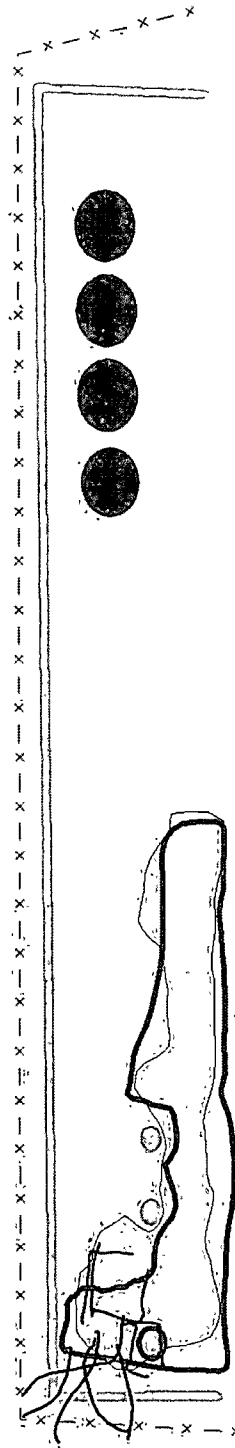
# Site Plat

## FINAL EXCAVATION LAB DATA

Sample Description	CI-	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'

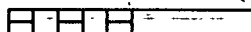


**APACHE  
LOCO FEDERAL #1  
CENTRAL BATTERY AD**

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

**Figure 2**



0 25 50  
 Feet

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: 	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:	
Date: 12/07/11 Phone: 575-390-4186	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary



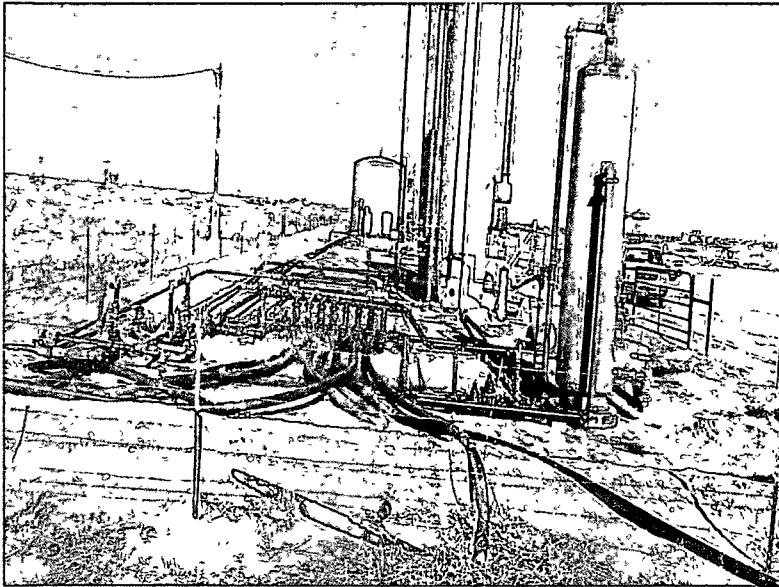
# Appendix B

## Site Photographs

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

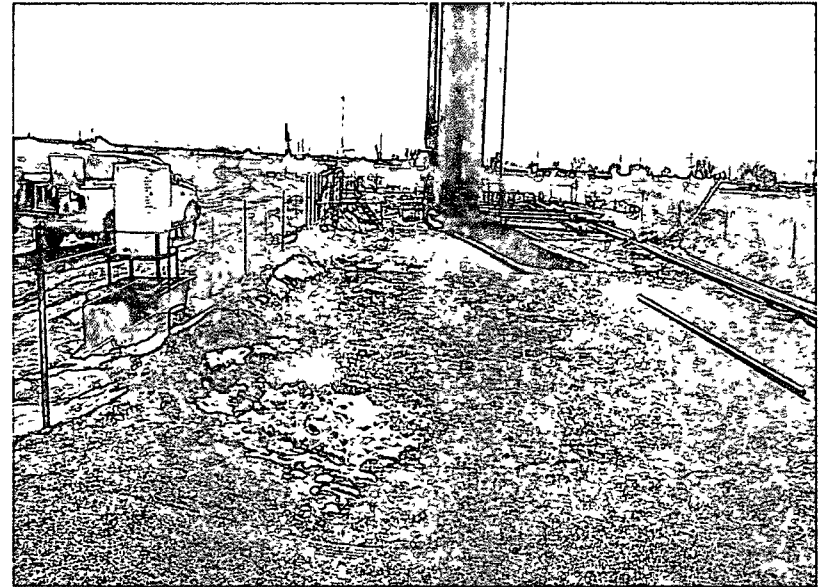
# Loco Federal #1 Central Battery

Unit Letter B, Section 21, T17S R30E



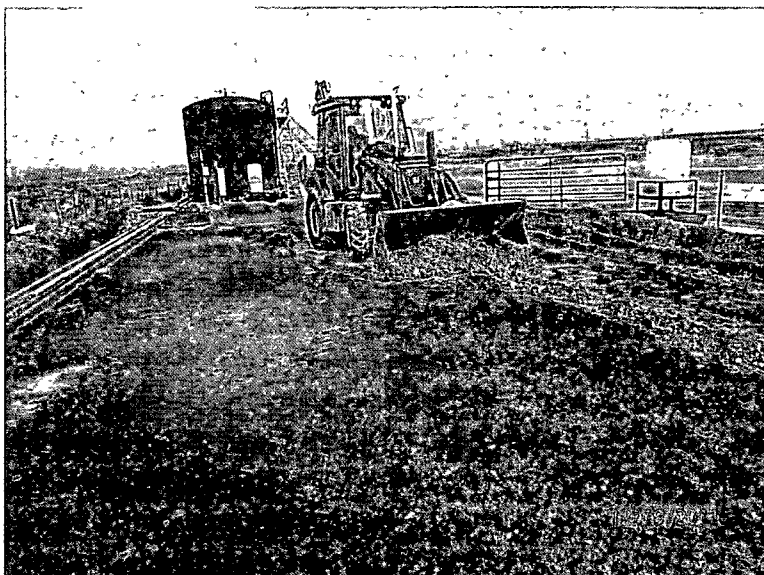
Initial release, facing north

12/7/2011



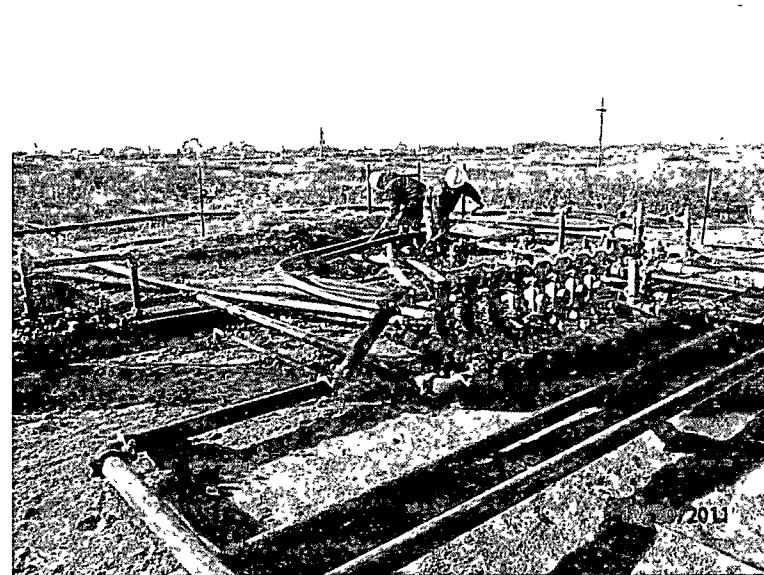
Initial release, facing south

12/7/2011



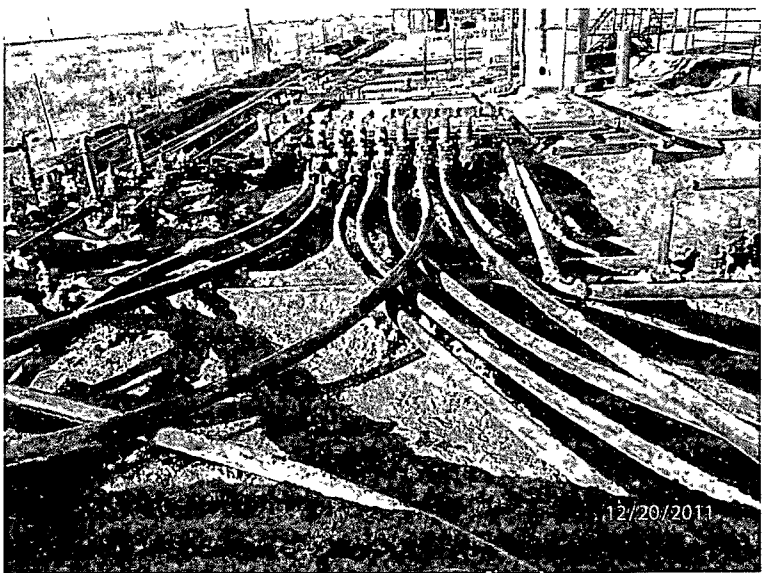
Scraping leak, facing north

12/19/2011



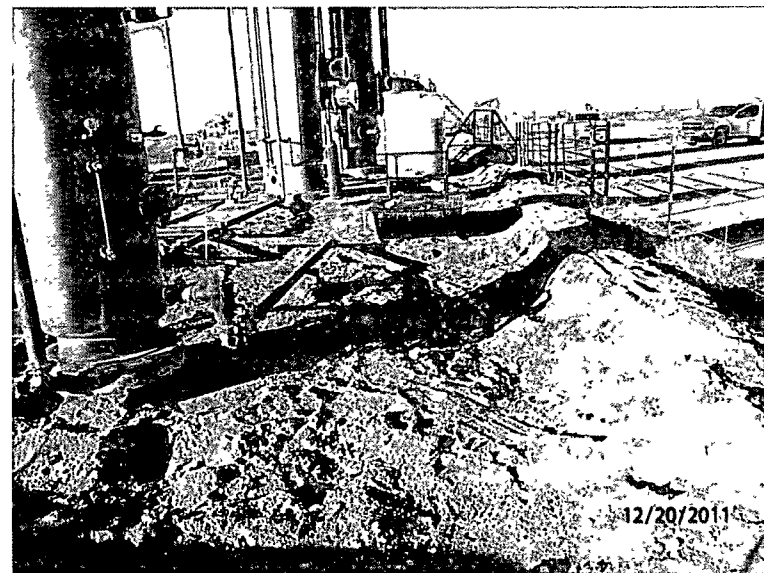
Excavating by hand, facing southwest

12/20/2011



Final excavation, facing north

12/20/2011



Final excavation, facing north

12/20/2011



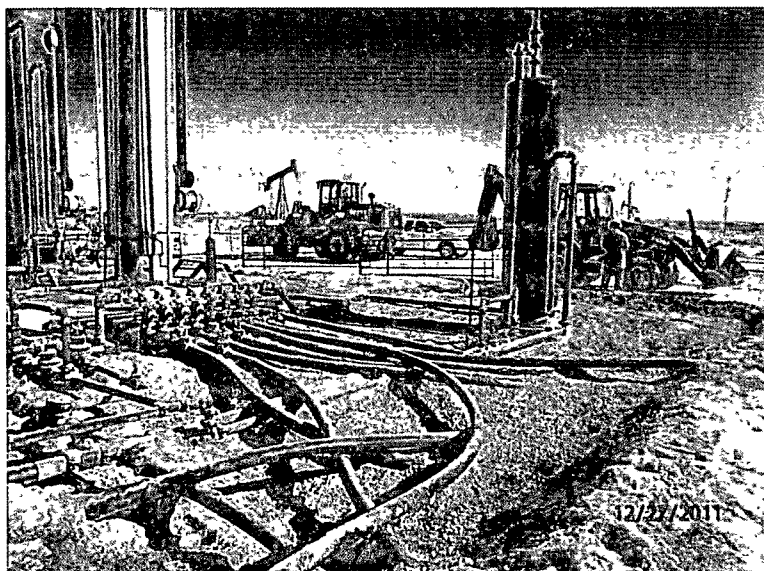
Final excavation, facing north

12/20/2011



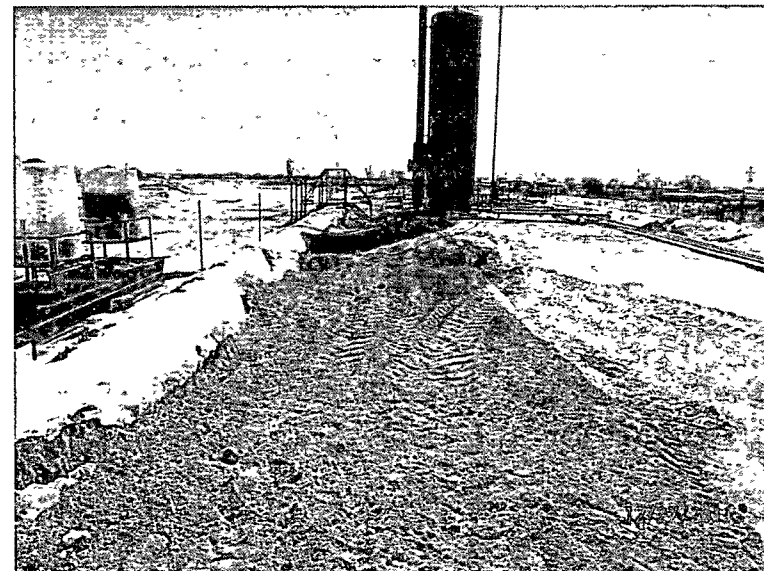
Exporting soil, facing west

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, 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>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, 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>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	

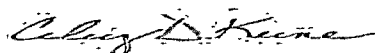
Surrogate 1-Chlorooctane 87.5 % 55.5-154

Surrogate 1-Chlorooctadecane 98.2 % 57.6-158

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. 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						
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	

Surrogate 1-Chlorooctane 257 % 55 5-154

Surrogate 1-Chlorooctadecane 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						
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	

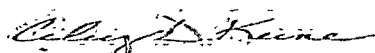
Surrogate 1-Chlorooctane 88.1 % 55 5-154

Surrogate 1-Chlorooctadecane 99.7 % 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. 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	
Chloride	4960	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	
GRO C6-C10	10900	100	12/09/2011	ND	200	100	200	7.29		
DRO >C10-C28	14200	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
Chloride	928	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
GRO C6-C10	23.3	10.0	12/09/2011	ND	200	100	200	7.29	
DRO >C10-C28	124	10.0	12/09/2011	ND	206	103	200	3.59	

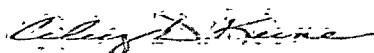
Surrogate 1-Chlorooctane 82.1 % 55.5-154

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
Chloride	6960	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
GRO C6-C10	8500	100	12/10/2011	ND	200	100	200	7.29	
DRO >C10-C28	10500	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
Chloride	640	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
GRO C6-C10	23.8	10.0	12/12/2011	ND	194	96.9	200	4.73	
DRO >C10-C28	74.3	10.0	12/12/2011	ND	189	94.5	200	0.994	

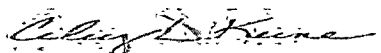
Surrogate 1-Chlorooctane 103 % 55.5-154

Surrogate 1-Chlorooctadecane 110 % 57.6-158

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(505) 393-2326 FAX (505) 393-2476

Company Name: Apache Corp		BILL TO		ANALYSIS REQUEST																				
Project Manager: Natalie Glawinkel		P.O.#:																						
Address:		Company:																						
City:		Alt:																						
State: NM Zip:		Address:																						
Phone #:		City:																						
Fax #:		State: Zip:																						
Project #:		Project Owner:																						
Project Name: LCCA Federal #1 Central Battery		Phone #:																						
Project Location: LCCA #1115		Fax #:																						
Sampler Name: Roberto Garcia																								
FOR LAB USE ONLY																								
Lab I.D.	Sample I.D.	(C) RAB OR (C) COMP.	# CONTAINERS	MATRIX					PRESERV	SAMPLING														
				GROUNDWATER*	WASTEWATER	SOIL	SLUDGE	OTHER	ACID/BASE	ICE/COOL	DATE	TIME												
H102638																								
1	01-1 surface	G	✓			✓			✓		12-7-11	11:05	✓	✓										
2	01-1 @ 6"	G	✓			✓			✓		12-7-11	11:05	✓	✓										
3	01-2 surface	G	✓			✓			✓		12-7-11	11:10	✓	✓										
4	01-2 @ 6"	G	✓			✓			✓		12-7-11	11:15	✓	✓										
5	01-3 surface	G	✓			✓			✓		12-7-11	11:20	✓	✓										
6	01-3 @ 6"	G	✓			✓			✓		12-7-11	11:25	✓	✓										
7	01-4 surface	G	✓			✓			✓		12-7-11	11:30	✓	✓										
8	01-4 @ 6"	G	✓			✓			✓		12-7-11	11:35	✓	✓										

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Relinquished By: Roberto Garcia	Date: 12-7-11 11:48	Received By: Joe Menon	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler: UPS - Bus - Other			REMARKS: Please email: Bbaker@rice-ecs.com, zcondra@rice-ecs.com, Lweinheimer@rice-ecs.com, Hbaker@rice-sust.com, N.Gladden@Apache.com	
Sample Condition: Cool - Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			CHECKED BY: [Signature]	

\* 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:	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		
<hr/>										
Surrogate 1-Chlorooctane	90.2 %	55.5-154								
Surrogate 1-Chlorooctadecane	101 %	57.6-158								

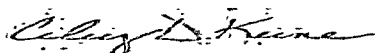
**Sample ID: E WALL S END (H102756-02)**

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		
<hr/>										
Surrogate 1-Chlorooctane	68.3 %	55.5-154								
Surrogate 1-Chlorooctadecane	97.8 %	57.6-158								

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	12/21/2011	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			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	90.6 %	55.5-154							
Surrogate 1-Chlorooctadecane	98.7 %	57.6-158							

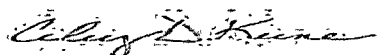
**Sample ID: S WALL CENTER (H102756-04)**

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			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	98.4 %	55.5-154							
Surrogate 1-Chlorooctadecane	114 %	57.6-158							

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	12/21/2011	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		
<hr/>										
Surrogate 1-Chlorooctane	83.5 %	55.5-154								
Surrogate 1-Chlorooctadecane	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		
<hr/>										
Surrogate 1-Chlorooctane	103 %	55.5-154								
Surrogate 1-Chlorooctadecane	113 %	57.6-158								

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Celest D. Keene, Lab Director/Quality Manager

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

Received:	12/21/2011	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		

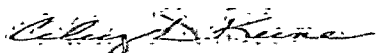
**Sample ID: 5 PT BTM COMP @ 1' (H102756-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	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	17.1	10.0	12/22/2011	ND	234	117	200	4.15		
Surrogate 1-Chlorooctane	101 %	55 5-154								
Surrogate 1-Chlorooctadecane	113 %	57 6-158								

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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

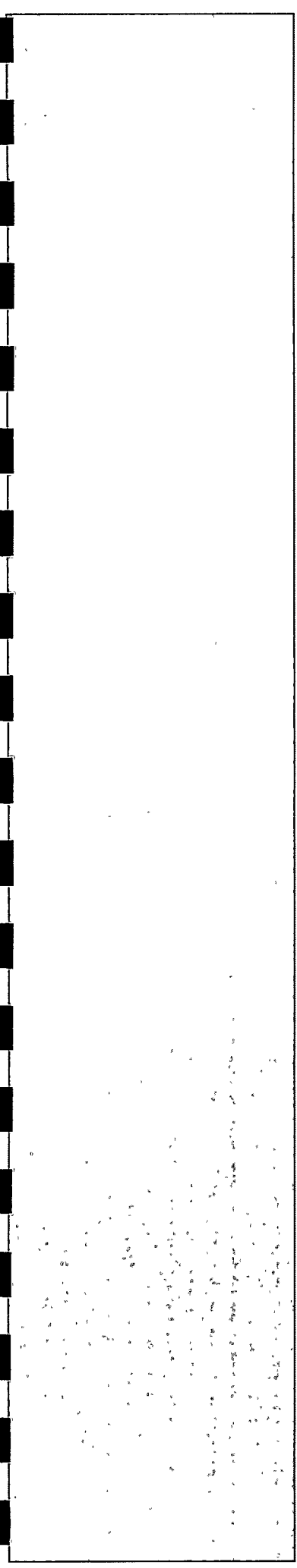
Company Name: Apache				BILL TO: ANALYSIS REQUEST			
Project Manager: Natalie Gladden				P.O. #:			
Address:				Company:			
City: State: NM Zip:				Attn:			
Phone #: Fax #:				Address:			
Project #: Project Owner:				City:			
Project Name: 1900 Federal Hwy Bellamy				State: Zip:			
Project Location:				Phone #:			
Sampler Name: J. J. Harris				Fax #:			

Lab I.D.	Sample I.D.	G/RAB 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							TIME
11027516	1. 1900 FHW N. 2ND	6	1									12-26-11	9:00							
	2. 1900 FHW S. 1ST	6	1									12-26-11	9:05							
	3. 1900 FHW CRK	6	1									12-26-11	9:10							
	4. 1900 FHW CRK	6	1									12-26-11	9:15							
	5. 1900 FHW S. 2ND	6	1									12-26-11	9:20							
	6. 1900 FHW N. 2ND	6	1									12-26-11	9:25							
	7. 1900 FHW CRK	6	1									12-26-11	9:30							

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Relinquished By: [Signature]	Date: 12/21/11	Received By: [Signature]	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Time: 1:30			Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By: [Signature]	Date: 12/21/11	Received By: [Signature]	REMARKS:	
Time: 6:05			email results: Natalie.Gladden@usa.apachecorp.com; Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com	
Delivered By: (Circle One)	Sample Condition:	CHECKED BY:		
Sampler: UPS Bus Other	Cool / Intact	(Initials)		
	<input type="checkbox"/> Yes <input type="checkbox"/> No			

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

A vertical dashed line runs down the left side of the page, consisting of a series of black rectangular segments separated by white space.

# 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

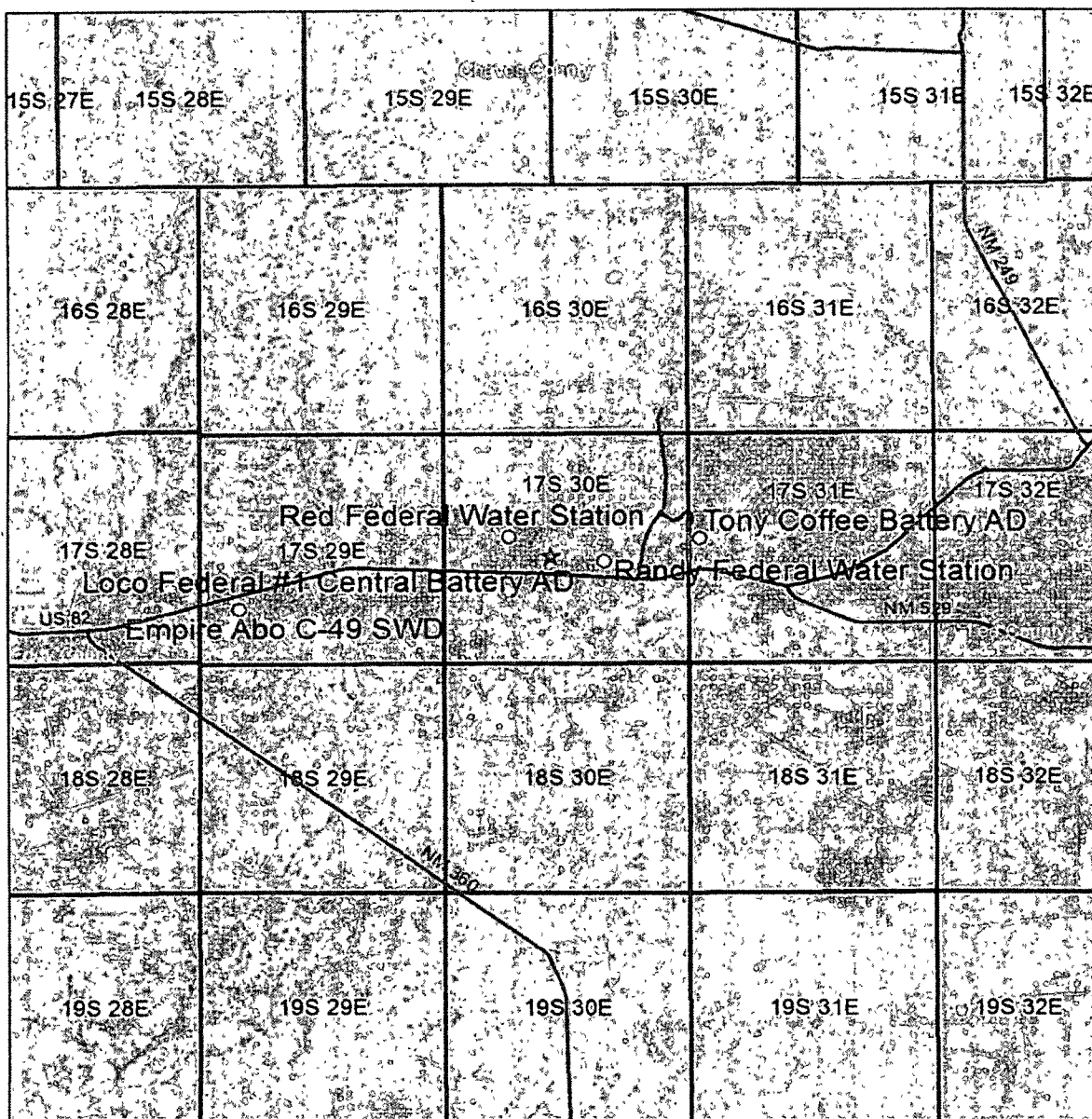
Groundwater Depth: No groundwater ft

Compiled by: Lara Weinheimer

Date: 12/14/2011

Comments:

### Sites with No Groundwater





---

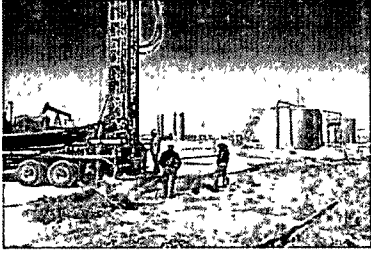

*New Mexico Office of the State Engineer*  
**Water Column/Average Depth to Water**

---

No records found.

PLSS Search:

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

<b>Logger:</b> Jordan Woodfin <b>Driller:</b> Harrison & Cooper, Inc <b>Drilling Method:</b> Air rotary <b>Start Date:</b> 4/15/2011 <b>End Date:</b> 4/15/2011						
<b>Comments:</b> No samples taken from the well. <u>TEMP. MW PLUGGED 5/11/2011</u> DRAFTED BY: L. Weinheimer TD = 50 ft                      GW = none				<b>Company:</b> Apache <b>Project Name:</b> Red Federal Water Station <b>Well ID:</b> Temp MW-1 <b>Project Consultant:</b> RECS <b>Location:</b> UL/J sec 17 T17S R30E <b>Lat:</b> N32°49 932' <b>County</b> Eddy <b>Long:</b> W104°59.569' <b>State</b> NM		
Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
5 ft				NO SAMPLES TAKEN		annular space left open TEMP MW PLUGGED 5/11/2011
10 ft						
15 ft						
20 ft						
25 ft						
30 ft						
35 ft						
40 ft						
45 ft						
50 ft						
				RED BED CLAY		

## 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

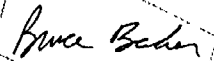
Eunice, New Mexico 88231

**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



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

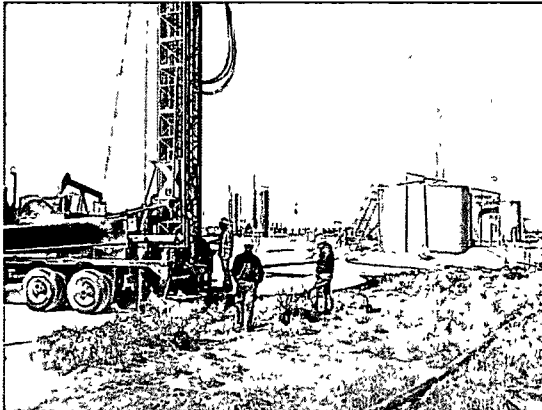
## Monitor Well Plugging Report

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



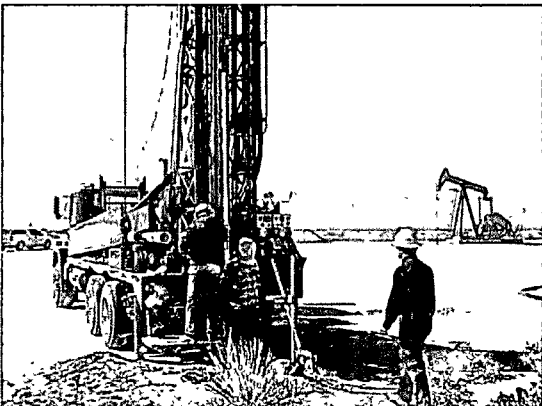
Completed temporary monitor well



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

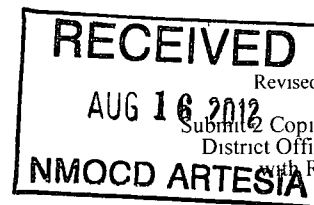
# Appendix E

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

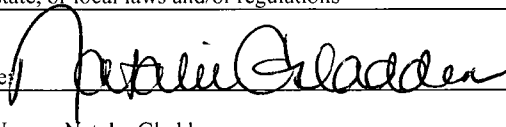
Name of Company	Apache Corp	Contact	Natalie Gladden
Address	P.O. Box 1849, Eunice, NM, 88231	Telephone No.	(575) 390-4186
Facility Name	Loco Federal #1 Central Battery	Facility Type	Production Facility
Surface Owner	Unknown	Mineral Owner	BLM
		API No.	30-015-30144

#### 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.					
Signature: 		OIL CONSERVATION DIVISION			
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		Phone (575) 390-4186			

\* Attach Additional Sheets If Necessary