

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

APR 03 2014

Form C-141  
Revised August 8, 2011

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

RECEIVED

## Release Notification and Corrective Action

## OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Apache Corporation	Contact Bruce Baker
Address 8 Ellison Lane, Eunice, NM 88231	Telephone No. 432-631-6982
Facility Name CK State Battery	Facility Type Battery
Surface Owner State	Mineral Owner
API No. 30-025-06672	

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	19	21S	37E	300'	FSL	2209'	FWL	Lea

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

## NATURE OF RELEASE

Type of Release Oil and Produced Water	Volume of Release 15 Barrels	Volume Recovered 10 Barrels
Source of Release Heater-Treater	Date and Hour of Occurrence 10/19/13	Date and Hour of Discovery 10/19/13 at 2:45 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

DTW = 108'

Describe Cause of Problem and Remedial Action Taken.\* ☐ The gasket on the Heater-Treater corroded releasing 15 barrels of oil and produced water. The Heater-Treater was isolated and a vacuum truck was dispatched to pick up standing fluid. The gasket was replaced.

Describe Area Affected and Cleanup Action Taken.\* ☐ The release affected 4,813 square feet of bermed facility, lease pad and road. RECS personnel were on site beginning on October 21<sup>st</sup>, 2013 to assess the site. Three points within the release area were sampled at the surface and with depth. Representative samples were taken to a commercial laboratory for analysis. At Point 1, the laboratory chloride levels dropped from 1,040 mg/kg at the surface to 352 mg/kg at 1.5 feet bgs. At Point 2, the laboratory chloride levels dropped from 4,640 mg/kg at the surface to 1,260 mg/kg at 6 inches bgs. At Point 3, the laboratory chloride levels dropped from 512 mg/kg at the surface to 192 mg/kg at 1.5 ft bgs and 176 mg/kg at 2 ft bgs. Gasoline Range Organics (GRO) dropped at all sampling points to non-detect at the base of each augur point. Diesel Range Organics (DRO) dropped at all sampling points from readings above regulatory standards at the surface to below regulatory standards at the base of each augur point. RECS met with NMOCD - District I on December 6<sup>th</sup>, 2013 to determine a path forward for the site. Based on the laboratory analysis, NMOCD requested that the area around Point 2 be scraped down 6 inches and the area around Point 3 needed to be excavated until clean. At Point 1, the area needed to be excavated by hand to a depth of 1 - 1.5 ft bgs and to leave the remainder of the contamination until site abandonment. On January 31<sup>st</sup>, 2014, scraping activities began at the site. As requested by NMOCD, Point 1 was hand excavated to a depth of 1 ft bgs. A sample from the bottom of the scrape was taken to a commercial laboratory for analysis and returned a chloride value of 608 mg/kg, a GRO value of non-detect and a DRO value of 2,800 mg/kg. The area around Point 2 was scraped down 6 inches bgs. The area around Point 3 was also scraped down 6 inches bgs. A sample from the bottom of the scrape was taken to a commercial laboratory for analysis and returned a chloride value of 48 mg/kg and GRO and DRO value of non-detect. A total of 60 yards of contaminated soil was taken to a NMOCD approved facility for disposal. A total of 24 yards of caliche was imported to the site to serve a backfill. A sample of the imported caliche was taken to a commercial laboratory for analysis and returned a chloride value of 48 mg/kg. The site was backfilled and new berms were installed around the heater-treater.

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>Bruce Baker</i>	OIL CONSERVATION DIVISION <i>[Signature]</i>	
Printed Name: Bruce Baker	Approved by Environmental Specialist <i>[Signature]</i>	
Title: Environmental Technician	Approval Date: 4/03/14	Expiration Date: -
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval: -	Attached <input type="checkbox"/>
Date: 3-14-14 Phone: 432-631-6982	IRP-12-13-2998	

\* Attach Additional Sheets If Necessary

NSAD 1416835750



EXPLORING WHAT'S POSSIBLE

HOBBS OCD

APR 03 2014

RECEIVED

## APACHE CORPORATION

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

*approved*  
*Jeffrey Sekins*  
Environmental Specialist  
NMOC - DIST 1  
4103114

CK State Battery  
(1RP-12-13-2998)

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## Termination Request

API 30-025-06672

Release Date: October 19<sup>th</sup>, 2013

Unit Letter N, Section 19, Township 21S, Range 37E

## Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241

Phone 575.393.2967

**March 14<sup>th</sup>, 2014**

### **Geoffrey Leking**

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, Environmental Bureau – District 1

1625 N. French Dr.

Hobbs, NM 88240-9273

### **RE: Termination Request**

**Apache Corporation – CK State Battery (IRP-12-13-2998)**

**UL/N sec. 19 T21S R37E**

**API No. 30-025-06672**

Mr. Leking:

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

### **Background and Previous Work**

The site is located approximately 2.7 miles northwest of Eunice, New Mexico at UL/N sec. 19 T21S R37E. NM OSE and USGS records indicate that groundwater will likely be encountered at a depth of approximately 99 +/- feet.

On October 19<sup>th</sup>, 2013, Apache discovered a release of oil and produced water coming from a corroded gasket on a heater-treater. The heater-treater released a total of 15 barrels of oil and produced water over 4,813 square feet of bermed facility, lease pad and road. A vacuum truck was called to the site and recovered 10 barrels of fluid. An initial C-141 was submitted to NMOCD and approved on November 15<sup>th</sup>, 2013 (Appendix A).

RECS personnel were on site beginning on October 21<sup>st</sup>, 2013 to assess the site. Three points within the release area were sampled at the surface and with depth (Figure 1). Representative samples were taken to a commercial laboratory for analysis (Appendix B). At Point 1, the laboratory chloride levels dropped from 1,040 mg/kg at the surface to 352 mg/kg at 1.5 feet bgs. At Point 2, the laboratory chloride levels dropped from 4,640 mg/kg at the surface to 1,260 mg/kg at 6 inches bgs. At Point 3, the laboratory chloride levels dropped from 512 mg/kg at the surface to 192 mg/kg at 1.5 ft bgs and 176 mg/kg at 2 ft bgs. Gasoline Range Organics (GRO) dropped at all sampling points to non-detect at the base of each augur point. Diesel Range Organics (DRO) dropped at all sampling points from readings above regulatory standards at the surface to below regulatory standards at the base of each augur point.

RECS met with NMOCD – District 1 on December 6<sup>th</sup>, 2013 to determine a path forward for the site. Based on the laboratory analysis, NMOCD requested that the area around Point 2 be scraped down 6 inches and the area around Point 3 needed to be excavated

until clean. At Point 1, the area needed to be excavated by hand to a depth of 1 – 1.5 ft bgs and to leave the remainder of the contamination until site abandonment.

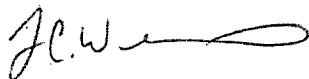
On January 31<sup>st</sup>, 2014, scraping activities began at the site. As requested by NMOCD, Point 1 was hand excavated to a depth of 1 ft bgs (Figure 2). A sample from the bottom of the scrape was taken to a commercial laboratory for analysis and returned a chloride value of 608 mg/kg, a GRO value of non-detect and a DRO value of 2,800 mg/kg (Appendix C). The area around Point 2 was scraped down 6 inches bgs. The area around Point 3 was also scraped down 6 inches bgs. A sample from the bottom of the scrape was taken to a commercial laboratory for analysis and returned a chloride value of 48 mg/kg and GRO and DRO value of non-detect. A total of 36 yards of contaminated soil was taken to a NMOCD approved facility for disposal. A total of 36 yards of caliche was imported to the site to serve a backfill. A sample of the imported caliche was taken to a commercial laboratory for analysis and returned a chloride value of 48 mg/kg. The site was backfilled and new berms were installed around the heater-treater.

Photo documentation of all activities can be found in Appendix D.

Given that the contaminated soil was removed from the site as requested by NMOCD and replaced with clean, imported soil, Apache respectfully seeks 'remediation termination' and site closure. A final C-141 can be found in Appendix E.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,



Lara Weinheimer  
Project Scientist  
RECS  
(575) 441-0431

Attachments:

- Figure 1 – Initial Sampling Data
- Figure 2 – Excavation Data
- Appendix A – Initial C-141
- Appendix B – Initial Sampling Lab
- Appendix C – Excavation Sampling Labs
- Appendix D – Photo Documentation
- Appendix E – Final C-141

# Figures

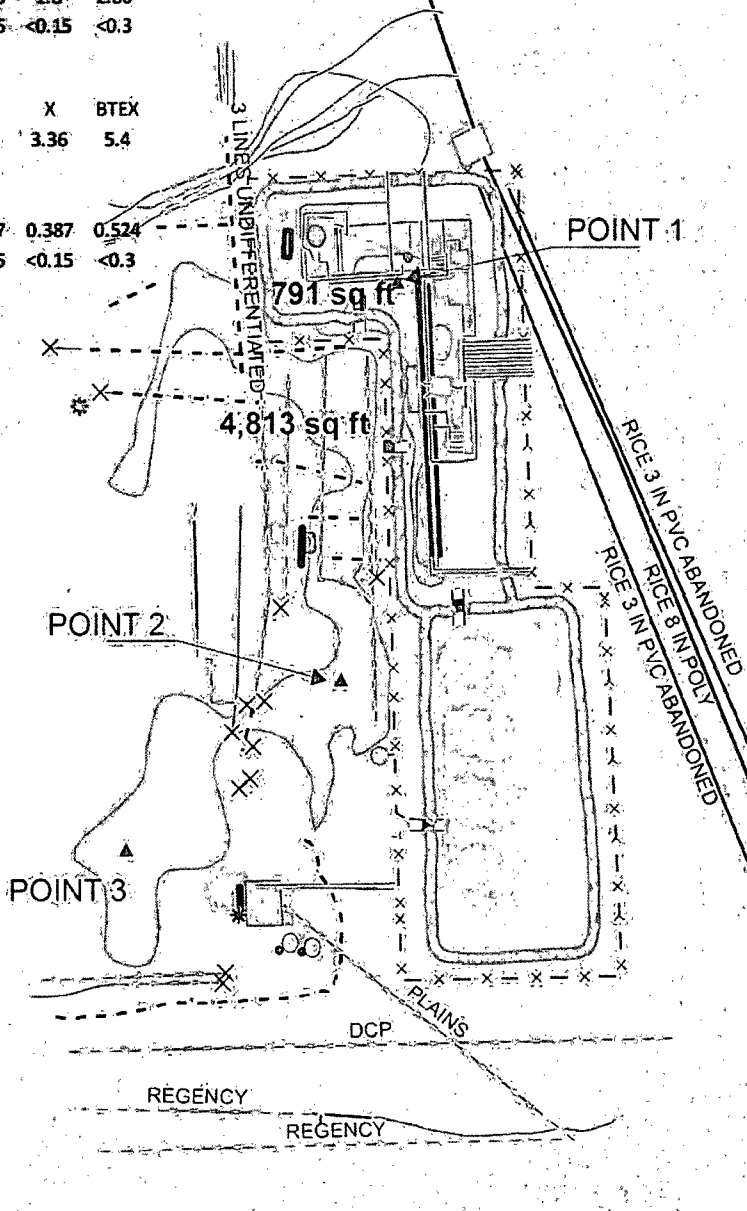
**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948, Hobbs, NM 88241  
Phone 575.393.2967

# Initial Sampling Data

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
Point 1									
Surface	1040	122.2	90.1	5420	<0.05	<0.05	0.142	0.535	0.677
6"	1878	11.6							
1'	437	4.1							
1.5'	352	4.2	<50	210	<0.05	<0.05	<0.05	<0.15	<0.3

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
Point 2									
Surface	4640	290	147	2900	<0.05	0.212	0.855	1.8	2.86
6"	1260	53.8	<10	37.6	<0.05	<0.05	<0.05	<0.15	<0.3

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
Point 3									
Surface	512	259	522	12000	<0.05	0.442	1.61	3.36	5.4
6"	297	456							
1'	267	83.7							
1.5'	192	246	<100	665	<0.05	<0.05	0.137	0.387	0.524
2'	176	55	<10	15.1	<0.05	<0.05	<0.05	<0.15	<0.3



## Legend

- \* ALARM POST
- CHEMICAL PUMP
- CONTAINMENT
- ⚡ ELECTRICAL OUTLET
- ⚙️ LIGHT POLE
- POST @ 4 FT
- ⊗ VALVE
- ▲ SAMPLE POINT
- ✕ Point\_ge
- ▭ BERM
- BURIED PIPELINE
- ▭ CROSSOVER
- ELECTRICAL PANEL
- - - LINEFINDER HIT
- PRODUCTION HEADER
- RISER
- SURFACE ELECTRIC
- SURFACE PIPELINE
- RICE ACTIVE LINE
- RICE ABANDONED LINE
- ▭ CHEMICAL TANK
- ▭ FIBERGLASS BARREL
- ▭ FWKO
- ▭ PIPE RACK
- ▭ PUMP ROOF
- ▭ SEPARATOR
- ▭ STAIRS PLATFORM
- ▭ TREATER
- ▭ VALVE BOX
- ▭ RICE JUNCTION BOX
- ▭ STAIN
- ✕ BATTERY

DGW: 99 ft

Landowner: State

Leased to Bruton Cattle Co. Ltd. Partnership



## APACHE CK STATE BATTERY

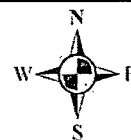
IRP-12-13-2998

UL N SECTION 19

T-21-S R-37-E

LEA COUNTY, NM

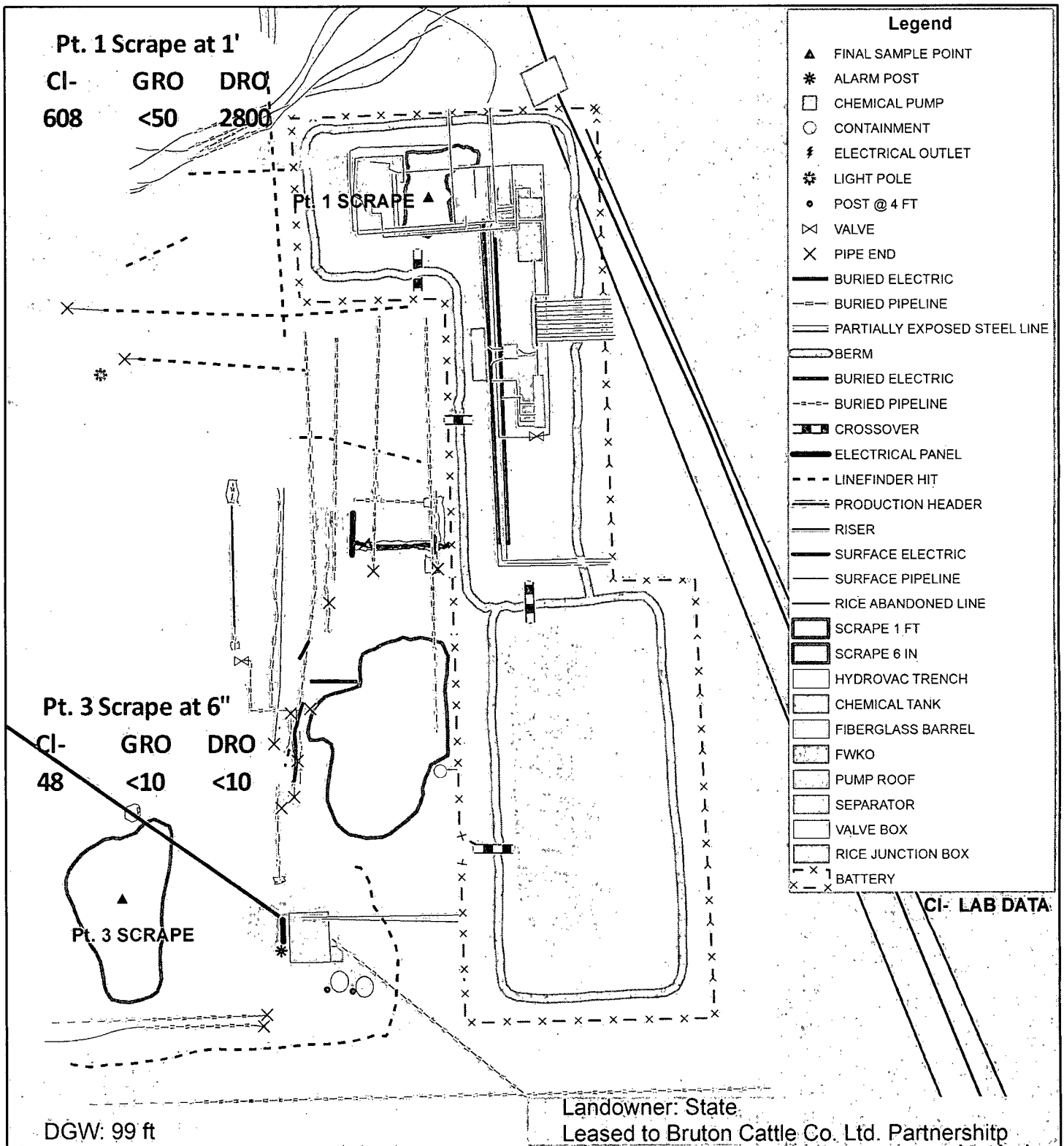
## Figure 1



0 40 80  
Feet

GPS date: 10/25/13 TG  
Drawing date: 10/25/13  
Drafted by: T. Grieco

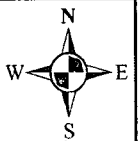
# Excavation Data



## APACHE CK STATE BATTERY (1RP-12-13-2998)

UL N SECTION 19  
T-21-S R-37-E  
LEA COUNTY, NM

### Figure 2



0 25 50  
Feet

GPS date: 1/31/14 AG  
Drawing date: 2/3/14  
Drafted by: L. Weinheimer

# Appendix A

Initial C-141

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
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District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

HOBBS OCD

NOV 15 2013

RECEIVED

Form C-141  
Revised August 8, 2011

Submit a 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 Bruce Baker	
Address 8 Ellison Lane Eunice, NM 88231	Telephone No. 432-631-6982	
Facility Name CK State Battery	Facility Type Battery	
Surface Owner State	Mineral Owner	API No. 30-025-06672

LOCATION OF RELEASE

Unit Letter N	Section 19	Township 21S	Range 37E	Feet from the 300'	North/South Line FSL	Feet from the 2209'	East/West Line FWL	County Lca
------------------	---------------	-----------------	--------------	-----------------------	-------------------------	------------------------	-----------------------	---------------

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

NATURE OF RELEASE

Type of Release Oil and Produced Water	Volume of Release 15 Barrels	Volume Recovered 10 Barrels
Source of Release Heater Treater	Date and Hour of Occurrence 10/19/13	Date and Hour of Discovery 10/19/13 at 2:45 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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 gasket on the Heater Treater corroded releasing 15 barrels of oil and produced water. The Heater Treater was isolated and a vacuum truck was dispatched to pick up standing fluid. The gasket was replaced.

Describe Area Affected and Cleanup Action Taken.\*

The release affected 4,813 square feet inside the bermed facility and lease pad and road. The area was mapped and surface and hand auger samples were collected.

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>Bruce Baker</i>		OIL CONSERVATION DIVISION	
Printed Name: Bruce Baker		Approved by Environmental Specialist <i>[Signature]</i> Environmental Specialist	
Title: Environmental Technician		Approval Date: 11/15/13	Expiration Date: 01/15/13
E-mail Address: larry.baker@apachecorp.com		Conditions of Approval: SUBMIT FINAL C-141 BY 01/15/13	Attached <input type="checkbox"/> IRP-12-13-2998
Date: 11/15/13	Phone: 432-631-6982		

# Appendix B

## Initial Sampling Lab

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

November 19, 2013

BRUCE BAKER

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: CK STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/13/13 11:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 11/13/2013  
 Reported: 11/19/2013  
 Project Name: CK STATE BATTERY  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/01/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: PT. 1 SURFACE (H302766-01)**

BTEX 8021B		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/14/2013	ND	1.75	87.5	2.00	13.2	
Toluene*	<0.050	0.050	11/14/2013	ND	1.75	87.4	2.00	13.0	
Ethylbenzene*	<b>0.142</b>	0.050	11/14/2013	ND	1.74	87.1	2.00	13.2	
Total Xylenes*	<b>0.535</b>	0.150	11/14/2013	ND	5.12	85.3	6.00	12.7	
Total BTEX	<b>0.677</b>	0.300	11/14/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 153 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>1040</b>	16.0	11/15/2013	ND	416	104	400	3.92	

TPH 8015M		mg/kg	Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<b>90.1</b>	50.0	11/13/2013	ND	217	108	200	4.00	
DRO >C10-C28	<b>5420</b>	50.0	11/13/2013	ND	215	107	200	6.89	

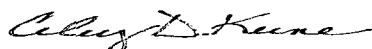
Surrogate: 1-Chlorooctane 113 % 65.2-140

Surrogate: 1-Chlorooctadecane 191 % 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  
 BRUCE BAKER  
 P. O. BOX 1849  
 EUNICE NM, 88231  
 Fax To: 394-2425

 Received: 11/13/2013  
 Reported: 11/19/2013  
 Project Name: CK STATE BATTERY  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/01/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: PT. 1 @ 1.5' (H302766-02)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/14/2013	ND	1.75	87.5	2.00	13.2	
Toluene*	<0.050	0.050	11/14/2013	ND	1.75	87.4	2.00	13.0	
Ethylbenzene*	<0.050	0.050	11/14/2013	ND	1.74	87.1	2.00	13.2	
Total Xylenes*	<0.150	0.150	11/14/2013	ND	5.12	85.3	6.00	12.7	
Total BTEX	<0.300	0.300	11/14/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 106 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	11/15/2013	ND	416	104	400	3.92	

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	11/13/2013	ND	217	108	200	4.00	
DRO >C10-C28	210	50.0	11/13/2013	ND	215	107	200	6.89	

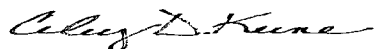
Surrogate: 1-Chlorooctane 91.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 127 % 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  
 BRUCE BAKER  
 P. O. BOX 1849  
 EUNICE NM, 88231  
 Fax To: 394-2425

 Received: 11/13/2013  
 Reported: 11/19/2013  
 Project Name: CK STATE BATTERY  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/01/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: PT. 2 SURFACE (H302766-03)**

BTEX 8021B		mg/kg	Analyzed By: MS				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/14/2013	ND	1.75	87.5	2.00	13.2	
Toluene*	0.212	0.050	11/14/2013	ND	1.75	87.4	2.00	13.0	
Ethylbenzene*	0.855	0.050	11/14/2013	ND	1.74	87.1	2.00	13.2	
Total Xylenes*	1.80	0.150	11/14/2013	ND	5.12	85.3	6.00	12.7	
Total BTEX	2.86	0.300	11/14/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 147 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	11/15/2013	ND	416	104	400	3.92	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	147	50.0	11/13/2013	ND	217	108	200	4.00	
DRO >C10-C28	2900	50.0	11/13/2013	ND	215	107	200	6.89	

Surrogate: 1-Chlorooctane 77.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 133 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 11/13/2013  
 Reported: 11/19/2013  
 Project Name: CK STATE BATTERY  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/01/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: PT. 2 @ 6" (H302766-04)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/14/2013	ND	1.75	87.5	2.00	13.2	
Toluene*	<0.050	0.050	11/14/2013	ND	1.75	87.4	2.00	13.0	
Ethylbenzene*	<0.050	0.050	11/14/2013	ND	1.74	87.1	2.00	13.2	
Total Xylenes*	<0.150	0.150	11/14/2013	ND	5.12	85.3	6.00	12.7	
Total BTEX	<0.300	0.300	11/14/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 108 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1260	16.0	11/15/2013	ND	416	104	400	3.92	

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	11/13/2013	ND	217	108	200	4.00	
DRO >C10-C28	37.6	10.0	11/13/2013	ND	215	107	200	6.89	

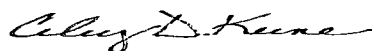
Surrogate: 1-Chlorooctane 106 % 65.2-140

Surrogate: 1-Chlorooctadecane 120 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 11/13/2013  
 Reported: 11/19/2013  
 Project Name: CK STATE BATTERY  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/01/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: PT. 3 SURFACE (H302766-05)**

BTEX 8021B		mg/kg	Analyzed By: MS				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/14/2013	ND	1.75	87.5	2.00	13.2	
Toluene*	0.442	0.050	11/14/2013	ND	1.75	87.4	2.00	13.0	
Ethylbenzene*	1.61	0.050	11/14/2013	ND	1.74	87.1	2.00	13.2	
Total Xylenes*	3.36	0.150	11/14/2013	ND	5.12	85.3	6.00	12.7	
Total BTEX	5.40	0.300	11/14/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 163 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	11/15/2013	ND	416	104	400	3.92	

TPH 8015M		mg/kg	Analyzed By: MS				S-06		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	522	50.0	11/13/2013	ND	217	108	200	4.00	
DRO >C10-C28	12000	50.0	11/13/2013	ND	215	107	200	6.89	


Surrogate: 1-Chlorooctane 185 % 65.2-140

Surrogate: 1-Chlorooctadecane 294 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 11/13/2013  
 Reported: 11/19/2013  
 Project Name: CK STATE BATTERY  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/01/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: PT. 3 @ 1.5' (H302766-06)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/15/2013	ND	1.75	87.5	2.00	13.2	
Toluene*	<0.050	0.050	11/15/2013	ND	1.75	87.4	2.00	13.0	
Ethylbenzene*	<b>0.137</b>	0.050	11/15/2013	ND	1.74	87.1	2.00	13.2	
Total Xylenes*	<b>0.387</b>	0.150	11/15/2013	ND	5.12	85.3	6.00	12.7	
Total BTEX	<b>0.524</b>	0.300	11/15/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 132 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>192</b>	16.0	11/15/2013	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	11/14/2013	ND	182	91.1	200	5.05	
DRO >C10-C28	<b>665</b>	100	11/14/2013	ND	182	90.8	200	6.00	

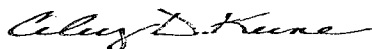
Surrogate: 1-Chlorooctane 96.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 231 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 11/13/2013  
 Reported: 11/19/2013  
 Project Name: CK STATE BATTERY  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/01/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: PT. 3 @ 2' (H302766-07)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/14/2013	ND	1.75	87.5	2.00	13.2	
Toluene*	<0.050	0.050	11/14/2013	ND	1.75	87.4	2.00	13.0	
Ethylbenzene*	<0.050	0.050	11/14/2013	ND	1.74	87.1	2.00	13.2	
Total Xylenes*	<0.150	0.150	11/14/2013	ND	5.12	85.3	6.00	12.7	
Total BTEX	<0.300	0.300	11/14/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 107 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/15/2013	ND	416	104	400	3.92	

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	11/14/2013	ND	182	91.1	200	5.05	
DRO >C10-C28	15.1	10.0	11/14/2013	ND	182	90.8	200	6.00	

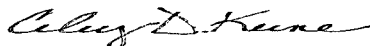
Surrogate: 1-Chlorooctane 107 % 65.2-140

Surrogate: 1-Chlorooctadecane 129 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

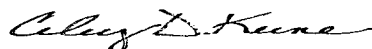
- S-06      The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- S-04      The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND        Analyte NOT DETECTED at or above the reporting limit
- RPD      Relative Percent Difference
- \*\*        Samples not received at proper temperature of 6°C or below.
- \*\*\*      Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\*=Accredited Analyte

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Celest D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 10 of 10

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

# 54

# Appendix C

## Excavation Sampling Labs

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

February 10, 2014

BRUCE BAKER

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: APACHE C. K. STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/05/14 11:07.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 02/05/2014  
Reported: 02/10/2014  
Project Name: APACHE C. K. STATE BATTERY  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 02/04/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: PT. 1 @ 1' (H400362-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	02/10/2014	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: ms						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<50.0	50.0	02/07/2014	ND	194	96.8	200	5.70		
DRO >C10-C28	2800	50.0	02/07/2014	ND	187	93.5	200	10.0		
Surrogate: 1-Chlorooctane										
	109 %	65.2-140								
Surrogate: 1-Chlorooctadecane										
	157 %	63.6-154								

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

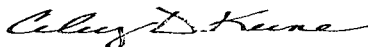
S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager



# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Apache</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																			
Project Manager: <u>Bruce Baker</u>				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div> </div>																			
Address: <u>Larry Baker @ Apachecorp.com</u>				Company:																							
City: Hobbs		State: NM		Zip: 88240		Attn:																					
Phone #:		Fax #:		Address:		City:																					
Project #:		Project Owner:		State:		Zip:																					
Project Name:				Phone #:																							
Project Location: <u>Apache CK State Battery</u>				Fax #:																							
Sampler Name: <u>Kyle Humphrey</u>																											
FOR LAB USE ONLY																											
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP		# CONTAINERS		MATRIX		PRESERV.		SAMPLING															
								GROUNDWATER																			
								WASTEWATER																			
								SOIL																			
								OIL																			
								SLUDGE																			
								OTHER:																			
								ACID/BASE:																			
								ICE / COOL																			
								OTHER:																			
												DATE		TIME													
<u>H400362</u>		<u>1 P+1 @ 1'</u>		<u>6</u>		<u>1</u>		<u>✓</u>		<u>✓</u>		<u>2-4-14</u>		<u>9:45</u>													

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Relinquished By: <u>Kyle Humphrey</u>		Date: <u>2-5-14</u>		Received By: <u>Jodi Benson</u>		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Phone #:	
		Time: <u>11:07</u>				Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS:  email results Knorman@rice-ecs.com KJones@riceswd.com; jkamplain@rice-ecs.com hconder@rice-ecs.com; Lweinheimer@rice-ecs.com Khumphrey@rice-ecs.com sedwards@rice-ecs.com, lflores@rice-ecs.com			
		Time:							
Delivered By: (Circle One)									
Sampler - UPS - Bus - Other:				Sample Condition		CHECKED BY: <u>[Signature]</u>			
				Cool Intact					
				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
				<input type="checkbox"/> No <input type="checkbox"/> No					

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

#54

February 10, 2014

BRUCE BAKER

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: APACHE C. K. STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/05/14 11:07.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

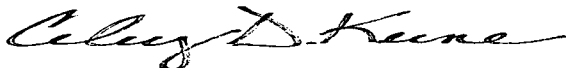
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 02/05/2014  
Reported: 02/10/2014  
Project Name: APACHE C. K. STATE BATTERY  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 02/04/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

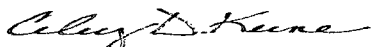
**Sample ID: PT. 3 - 6" SCRAPE (H400363-01)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/10/2014	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/07/2014	ND	194	96.8	200	5.70	
DRO >C10-C28	<10.0	10.0	02/07/2014	ND	187	93.5	200	10.0	
Surrogate: 1-Chlorooctane	99.1 %	65.2-140							
Surrogate: 1-Chlorooctadecane	102 %	63.6-154							

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

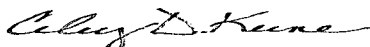
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

[illegible]

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Relinquished By: <i>Kate Henson</i>	Date: <i>2-5-14</i> Time: <i>11:07</i>	Received By: <i>Jodi Henson</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #: Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #: REMARKS:
Relinquished By:	Date: Time:	Received By:	email results Knorman@rice-ecs.com Kjones@riceswd.com; jkamplain@rice-ecs.com hconder@rice-ecs.com; Lweinheimer@rice-ecs.com Khumphrey@rice-ecs.com sedwards@rice-ecs.com, lflores@rice-ecs.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <i>[Signature]</i>

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

#54

February 12, 2014

BRUCE BAKER

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: CK STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/06/14 15:47.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

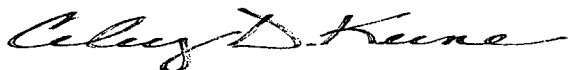
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 02/06/2014  
Reported: 02/12/2014  
Project Name: CK STATE BATTERY  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 02/05/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Amanda Ponce

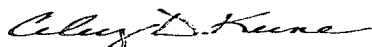
**Sample ID: IMPORTED CALICHE (H400382-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/11/2014	ND	400	100	400	3.92	

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Celest D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

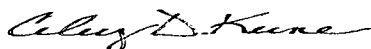
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

Company Name: <u>Apache</u>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																													
Project Manager: <u>Bruce Baker</u>		P.O. #:		Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS																								
Address: <u>Larry.Baker@ApacheCorp.com</u>		Company:																															
City: Hobbs State: NM Zip: 88240		Attn:																															
Phone #: Fax #:		Address:																															
Project #: Project Owner:		City:																															
Project Name: <u>Apache CK State Battery</u>		State: Zip:																															
Project Location: <u>T-21-S R-37-E</u>		Phone #:																															
Sampler Name: Kyle Humphrey		Fax #:																															
FOR LAB USE ONLY	Lab I.D. <u>H40082</u>	Sample I.D. <u>Imported Caliche</u>	GRAB OR (COMP.)	MATRIX				PRESERV.		SAMPLING																							
			CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE/COOL	OTHER:	DATE	TIME																			
						<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<u>2-5-14</u>	<u>9:45</u>	<input checked="" type="checkbox"/>																		

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Relinquished By: <u>Kyle Humphrey</u>	Date: <u>2-6-14</u> Time: <u>3:47</u>	Received By: <u>[Signature]</u>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <u>3.C H54</u>			REMARKS: email results Knorman@rice-ecs.com Kjones@riceswd.com; jkamplain@rice-ecs.com hcoonder@rice-ecs.com; Lweinheimer@rice-ecs.com Khumphrey@rice-ecs.com sedwards@rice-ecs.com, flores@rice-ecs.com	
Sample Condition Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			CHECKED BY: <u>[Signature]</u> (Initials)	

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

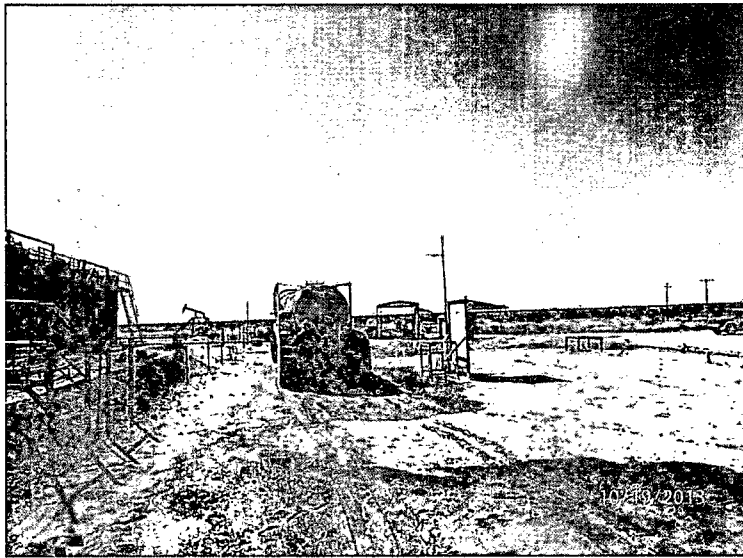
# Appendix D

## Photo Documentation

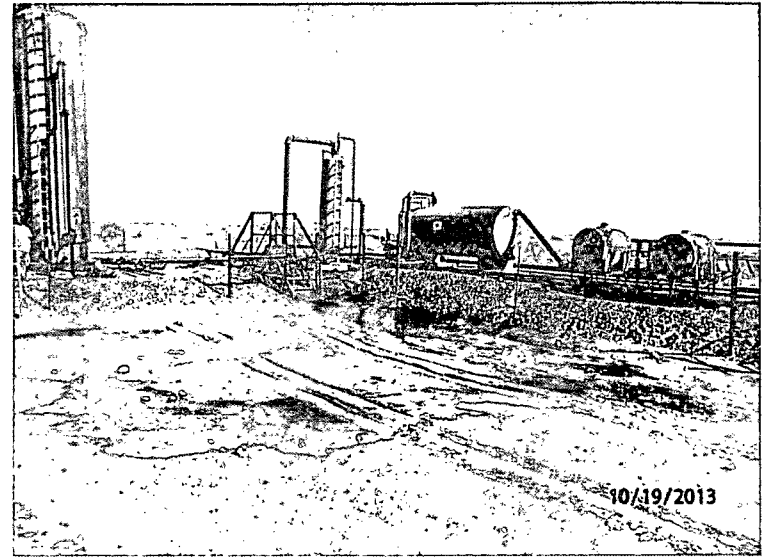
**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

# Apache CK State Battery

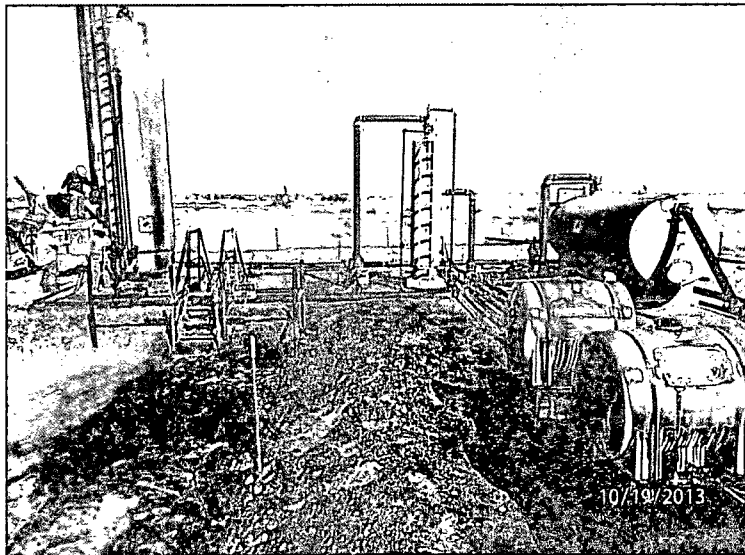
Unit Letter N, Section 19, T21S, R37E



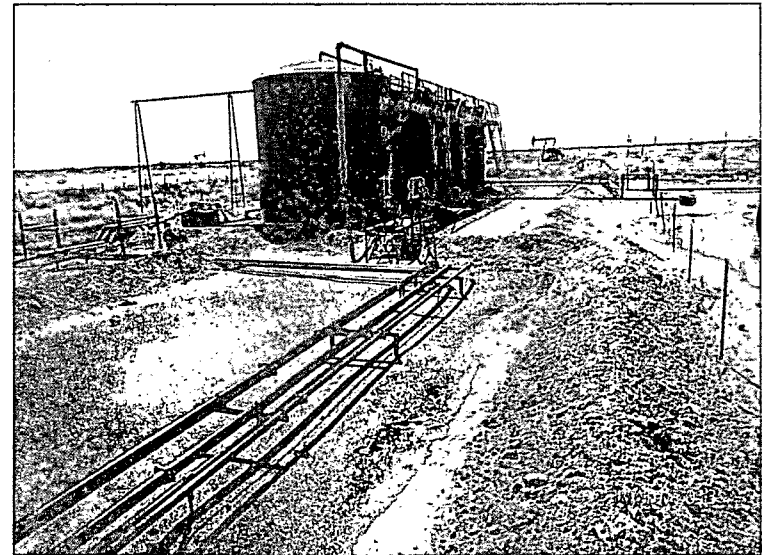
Initial release area, facing south 10/19/13



Initial release area, facing northeast 10/19/13



Initial release area, facing north 10/19/13



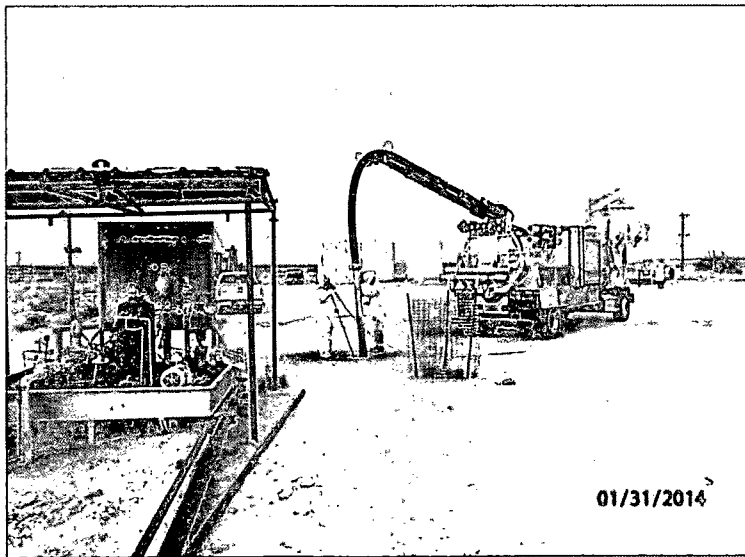
Initial release area, facing southeast 10/19/13.



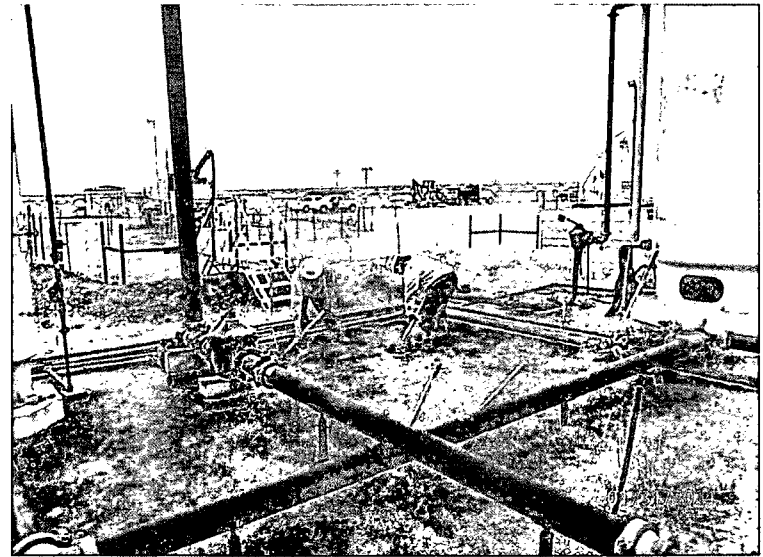
Hand auguring for depth, facing northwest 11/1/13



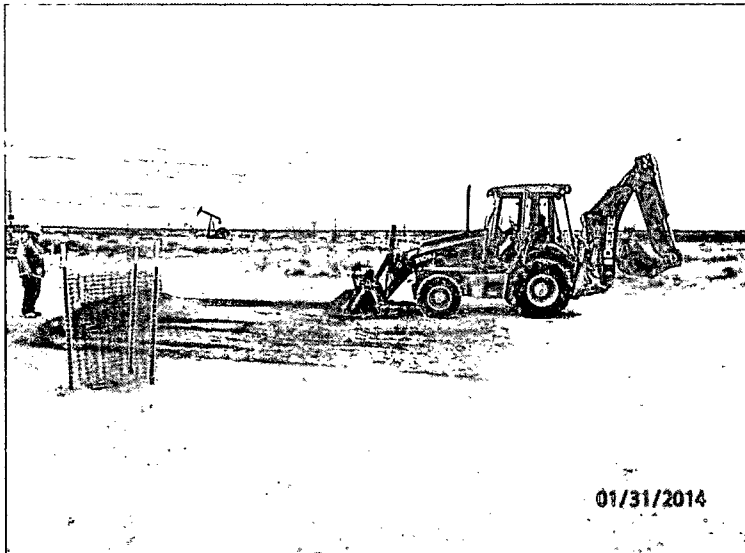
Plugging augur point with bentonite 11/1/13



Line spot using hydrovac, facing west 1/31/14



Hand shoveling release inside battery, facing southwest 1/31/14



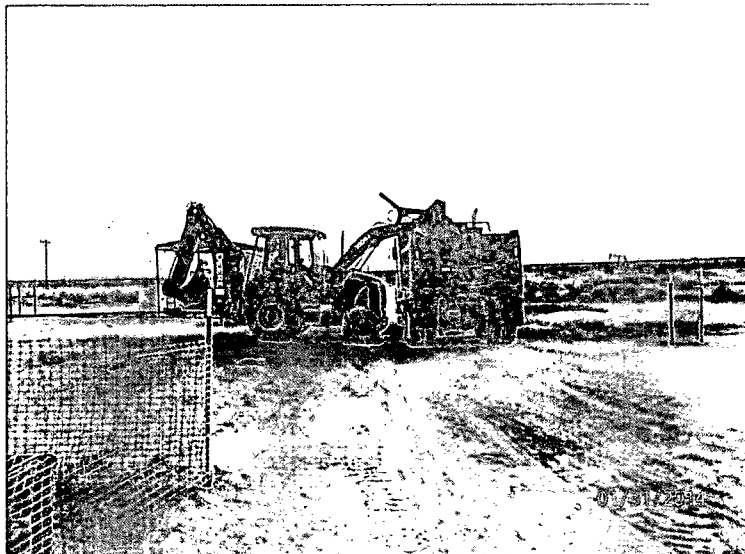
Scraping release, facing south

1/31/14



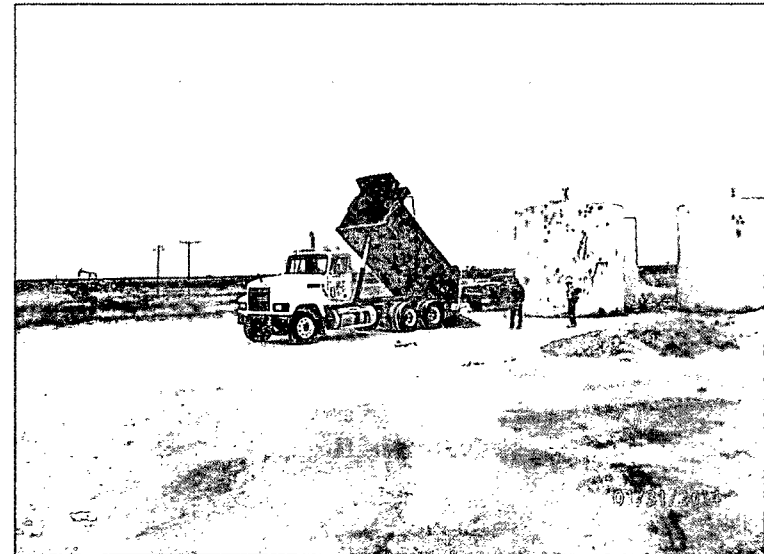
Sampling scrape, facing east

1/31/14



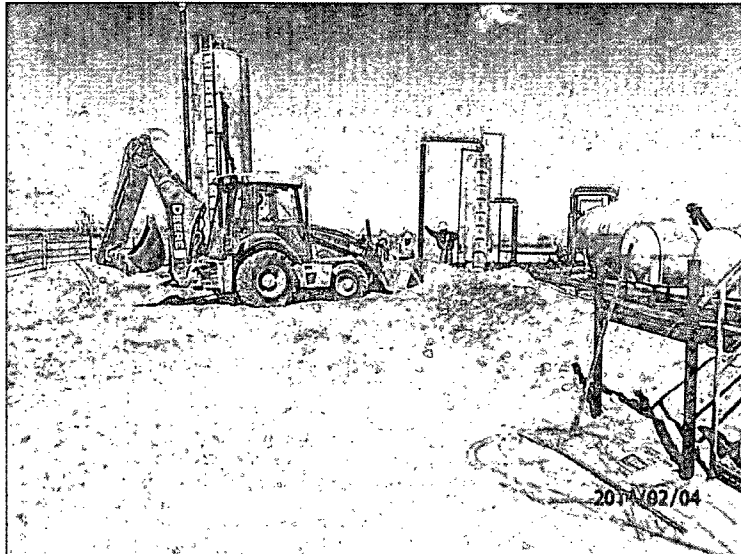
Exporting soil, facing south

1/31/14



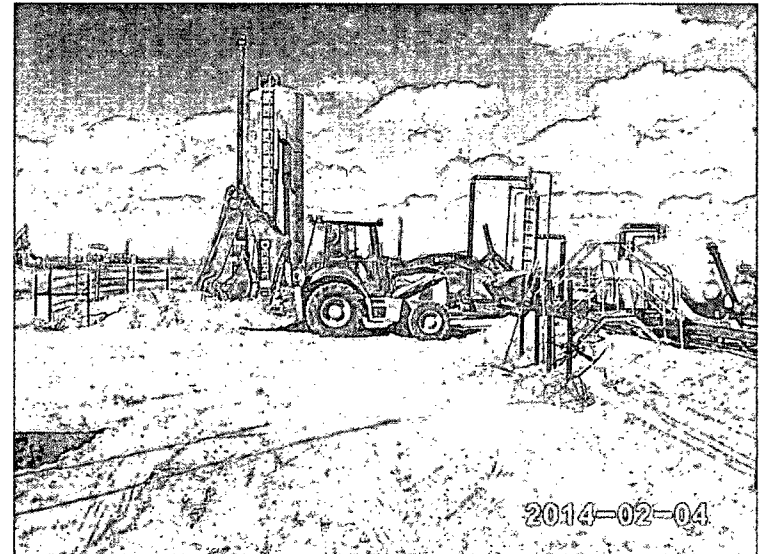
Importing caliche, facing southwest

1/31/14

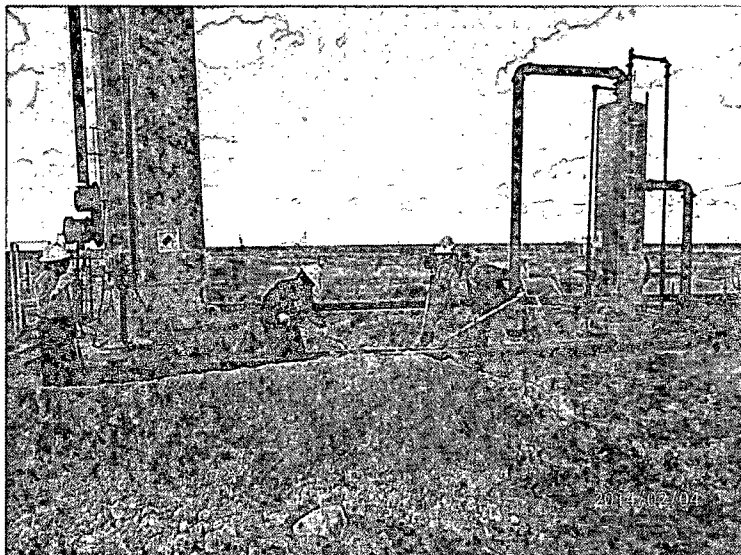


Removing berm, facing north

2/4/14

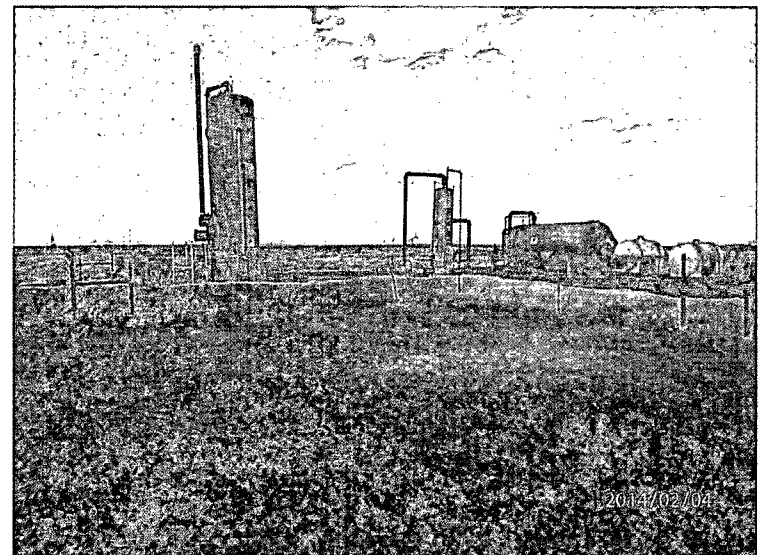


Replacing berm with clean caliche, facing north 2/4/14



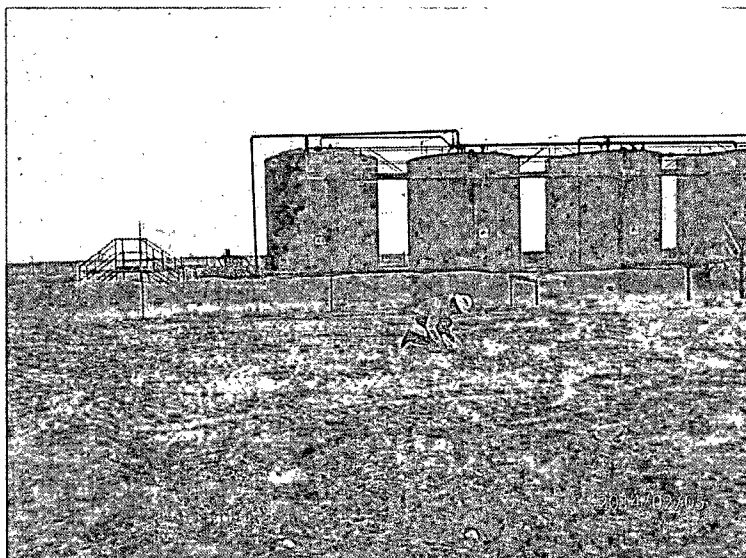
Backfilling battery, facing northeast

2/4/14



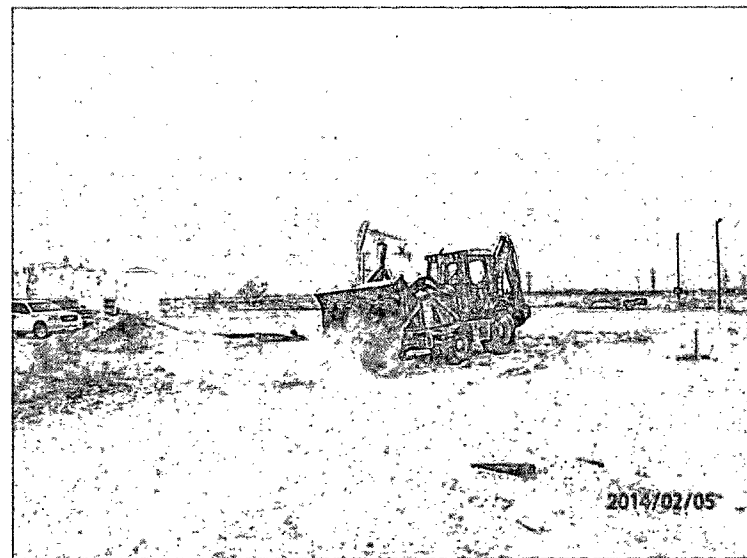
Battery completed, facing northeast

2/4/14



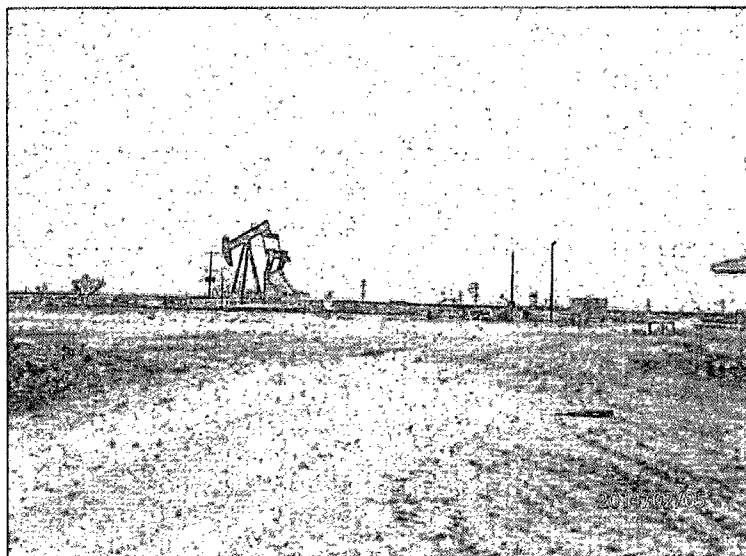
Sampling scrape, facing east

2/5/14



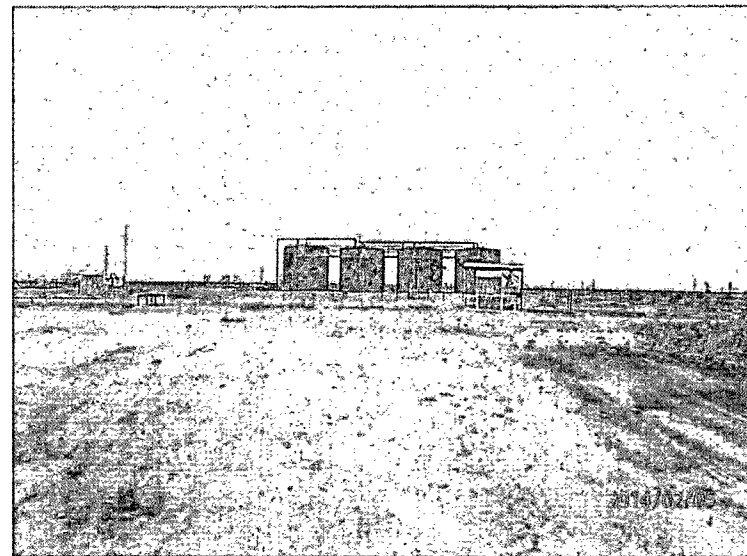
Backfilling lease pad, facing northwest

2/5/14



Site completed, facing northwest

2/5/14



Site completed, facing east

2/5/14

# Appendix E

Final C-141

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

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 Bruce Baker
Address 8 Ellison Lane, Eunice, NM 88231	Telephone No. 432-631-6982
Facility Name CK State Battery	Facility Type Battery

Surface Owner State	Mineral Owner	API No. 30-025-06672
---------------------	---------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	19	21S	37E	300'	FSL	2209'	FWL	Lea

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

NATURE OF RELEASE

Type of Release Oil and Produced Water	Volume of Release 15 Barrels	Volume Recovered 10 Barrels
Source of Release Heater-Treater	Date and Hour of Occurrence 10/19/13	Date and Hour of Discovery 10/19/13 at 2:45 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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 gasket on the Heater-Treater corroded releasing 15 barrels of oil and produced water. The Heater-Treater was isolated and a vacuum truck was dispatched to pick up standing fluid. The gasket was replaced.

Describe Area Affected and Cleanup Action Taken.\*☐ The release affected 4,813 square feet of bermed facility, lease pad and road. RECS personnel were on site beginning on October 21<sup>st</sup>, 2013 to assess the site. Three points within the release area were sampled at the surface and with depth. Representative samples were taken to a commercial laboratory for analysis. At Point 1, the laboratory chloride levels dropped from 1,040 mg/kg at the surface to 352 mg/kg at 1.5 feet bgs. At Point 2, the laboratory chloride levels dropped from 4,640 mg/kg at the surface to 1,260 mg/kg at 6 inches bgs. At Point 3, the laboratory chloride levels dropped from 512 mg/kg at the surface to 192 mg/kg at 1.5 ft bgs and 176 mg/kg at 2 ft bgs. Gasoline Range Organics (GRO) dropped at all sampling points to non-detect at the base of each augur point. Diesel Range Organics (DRO) dropped at all sampling points from readings above regulatory standards at the surface to below regulatory standards at the base of each augur point. RECS met with NMOCD - District 1 on December 6<sup>th</sup>, 2013 to determine a path forward for the site. Based on the laboratory analysis, NMOCD requested that the area around Point 2 be scraped down 6 inches and the area around Point 3 needed to be excavated until clean. At Point 1, the area needed to be excavated by hand to a depth of 1 - 1.5 ft bgs and to leave the remainder of the contamination until site abandonment. On January 31<sup>st</sup>, 2014, scraping activities began at the site. As requested by NMOCD, Point 1 was hand excavated to a depth of 1 ft bgs. A sample from the bottom of the scrape was taken to a commercial laboratory for analysis and returned a chloride value of 608 mg/kg, a GRO value of non-detect and a DRO value of 2,800 mg/kg. The area around Point 2 was scraped down 6 inches bgs. The area around Point 3 was also scraped down 6 inches bgs. A sample from the bottom of the scrape was taken to a commercial laboratory for analysis and returned a chloride value of 48 mg/kg and GRO and DRO value of non-detect. A total of 60 yards of contaminated soil was taken to a NMOCD approved facility for disposal. A total of 24 yards of caliche was imported to the site to serve a backfill. A sample of the imported caliche was taken to a commercial laboratory for analysis and returned a chloride value of 48 mg/kg. The site was backfilled and new berms were installed around the heater-treater.

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>Bruce Baker</i>	OIL CONSERVATION DIVISION <i>[Signature]</i> Approved by Environmental Specialist <b>Environmental Specialist</b>	
Printed Name: Bruce Baker	Approval Date: 4/03/14	Expiration Date: -
Title: Environmental Technician	Conditions of Approval: -	Attached <input type="checkbox"/>
E-mail Address: larry.baker@apachecorp.com		IRP-12-13-2998
Date: 3-14-14	Phone: 432-631-6982	

\* Attach Additional Sheets If Necessary