EXPLORING WHAT'S POSSIBLE

APACHE CORPORATION

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

E Woods Battery

Termination Request

API No. 30-025-39687

Release Date: March 3rd, 2014

Unit Letter G, Section 22, Township 22S, Range 37E

RECS RICE ENVIRONMENTAL CONSULTING & SAFETY

PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

January 9th, 2015

Dr. Tomáš Oberding, PhD
Environmental Specialist – New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
1625 N. French Dr.
Hobbs, NM 88240

RE: **Termination Request**
Apache Corporation – E Woods Battery
UL/G sec. 22 T22S R37E
API No. 30-025-39687

Dr. Oberding:

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 4 miles south of Eunice, New Mexico. The initial C-141 states that the release is situated in UL/G; however, GPS mapping shows the site is situated in UL/F and UL/G sec. 22 T22S R37E. USGS records show that groundwater is estimated to be at 72 +/- ft.

On March 3rd, 2014, the gasket on the fire tube failed, releasing 18 barrels of oil over 5,925 square feet of lease road and asphaltene within the facility. The wells were shut in, the gasket was replaced, and a vacuum truck was called in to remove the standing fluid. A total of 15 barrels of fluid were recovered. An initial C-141 informing NMOCD of the release was submitted March 12th, 2014 (Appendix A).

RECS personnel were on site beginning on March 3rd, 2014, to assess the release. The release in the road was scraped down 6 inches and the excavated soil was taken to a NMOCD approved facility for disposal. A three point bottom composite sample of the scrape was taken and field tested for chlorides and organic vapors (Figure 1). The sample was sent to a commercial laboratory for analysis (Appendix B). The laboratory chloride reading returned a value of 128 mg/kg. The Gasoline Range Organics (GRO) reading returned a value of 19.2 mg/kg, and the Diesel Range Organics (DRO) reading returned a value of 615 mg/kg. To determine the depth of contamination at the battery, a vertical was installed to a depth of 7 ft bgs. As the vertical was installed, soil samples were taken every 6 inches to 1 ft and field tested for chlorides and organic vapors. Representative samples from the vertical were taken to a commercial laboratory for analysis. Laboratory analysis confirmed low chloride levels beginning at 1 ft bgs, GRO levels of non-detect throughout, and DRO levels that were elevated until 5 ft bgs.

The road scrape was backfilled with clean, imported caliche. The remainder of the release, located near the battery, was not addressed. The asphaltene will provide an infiltration barrier for the release. In addition, any work conducted in this area will pose a safety hazard to personnel and equipment because it encloses multiple production components. Therefore, the release area inside the facility and on the battery pad will be addressed during site abandonment.

Photo documentation of the field activities can be found in Appendix C.

Given that Apache has remediated the road per NMOCD standards, Apache respectfully requests 'remediation termination' and site closure. A final C-141 can be found in Appendix D.

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

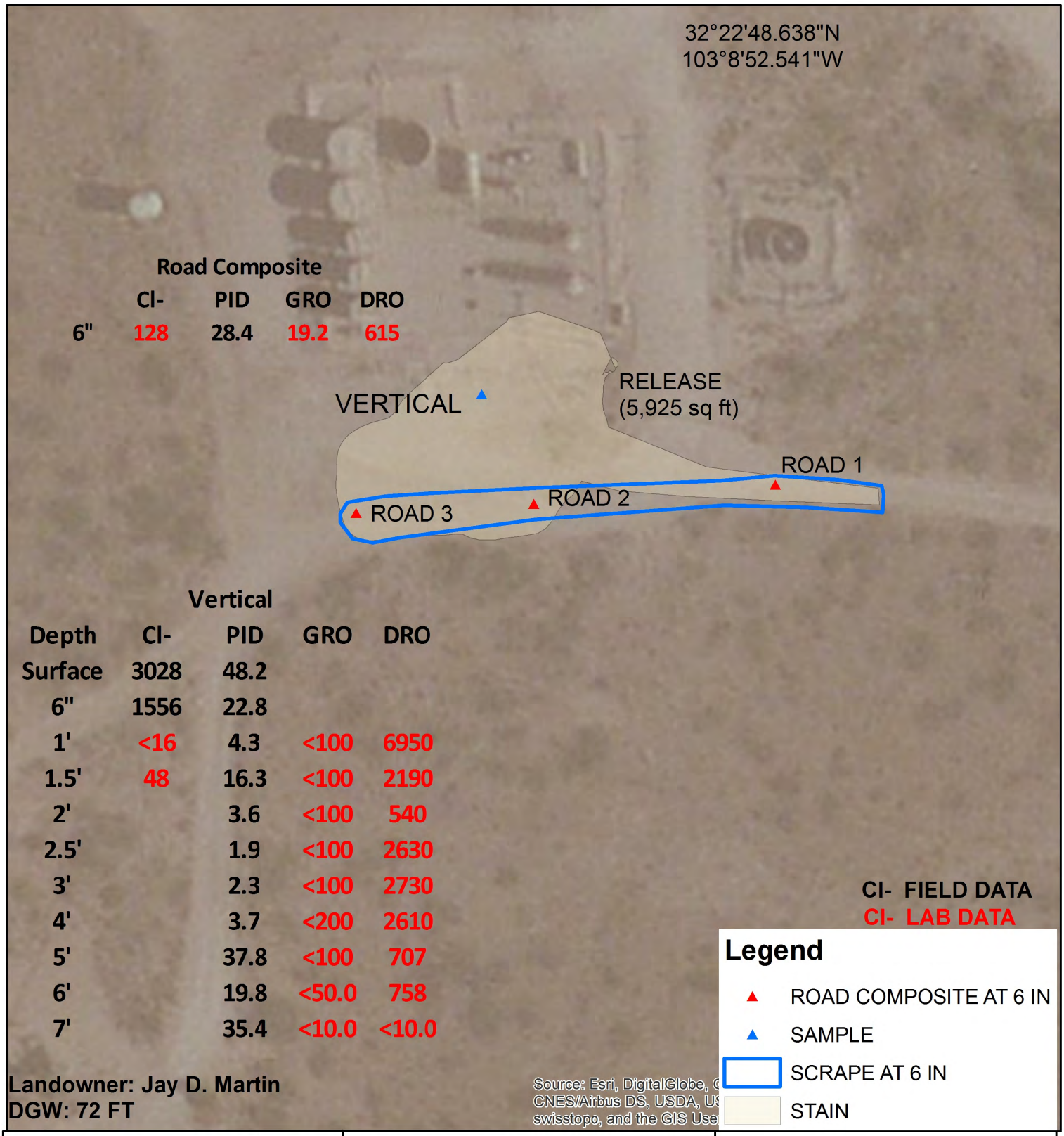
Attachments:

- Figure 1−Excavation
- Appendix A – Initial C-141
- Appendix B – Laboratory Analyses
- Appendix C – Photo Documentation
- Appendix D – Final C-141

Figures

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

Excavation Data



Road Composite

	Cl-	PID	GRO	DRO
6"	128	28.4	19.2	615

Vertical

Depth	Cl-	PID	GRO	DRO
Surface	3028	48.2		
6"	1556	22.8		
1'	<16	4.3	<100	6950
1.5'	48	16.3	<100	2190
2'		3.6	<100	540
2.5'		1.9	<100	2630
3'		2.3	<100	2730
4'		3.7	<200	2610
5'		37.8	<100	707
6'		19.8	<50.0	758
7'		35.4	<10.0	<10.0

Cl- FIELD DATA
Cl- LAB DATA

Legend

- ROAD COMPOSITE AT 6 IN
- SAMPLE
- SCRAPE AT 6 IN
- STAIN

Landowner: Jay D. Martin
DGW: 72 FT

RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY

APACHE E WOODS BATTERY

Legals: UL/F&G sec. 22
T-22-S R-37-E
LEA COUNTY, NM

Figure 1

N
W E
S

0 50 100
Feet

Drawing date: 5/21/14
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
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 Larry Baker
Address 8 Ellison Lane Eunice, NM	Telephone No. 432-631-6982
Facility Name E Woods Battery	Facility Type Battery

Surface Owner Jay D Martin	Mineral Owner	API No. 30-025-39687

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	22	22S	37E	1399'	FNL	1432'	FEL	Lea

Latitude_____ Longitude_____

NATURE OF RELEASE

Type of Release Oil	Volume of Release 18 Barrels of oil	Volume Recovered 15 Barrels of oil
Source of Release Heater Treater	Date and Hour of Occurrence 3/3/14	Date and Hour of Discovery 3/3/14
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? Larry Baker	Date and Hour 3/4/14	
Was a Watercourse Reached? ☐ Yes ☒ 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 fire tube failed resulting in the release of oil. The wells were shut in and the gasket was replaced.

Describe Area Affected and Cleanup Action Taken.*
All the standing fluid was contained to the facility, pad, and lease road. An overspray area of oil affected the pasture southwest of the facility. A vacuum truck was dispatched to pick up standing fluid.

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: Larry Baker	OIL CONSERVATION DIVISION	
Printed Name: Larry Baker	Approved by Environmental Specialist:	
Title: Environmental Technician	Approval Date:	Expiration Date:
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval:	Attached ☐
Date: 3-12-14 Phone: 432-631-6982		

* Attach Additional Sheets If Necessary

Appendix B
Laboratory Analyses

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

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 14, 2014

BRUCE BAKER

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: E. WOOD BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 05/09/14 9:20.

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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	05/09/2014	Sampling Date:	05/08/2014
Reported:	05/14/2014	Sampling Type:	Soil
Project Name:	E. WOOD BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERT. 5 @ 1' (H401406-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/13/2014	ND	400	100	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	<100	100	05/13/2014	ND	189	94.6	200	3.60	
DRO >C10-C28	**6950**	100	05/13/2014	ND	205	103	200	3.63	

Surrogate: 1-Chlorooctane	*119 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*446 %*	*63.6-154*

Sample ID: VERT. 5 @ 1.5' (H401406-02)

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	05/13/2014	ND	400	100	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	<100	100	05/13/2014	ND	189	94.6	200	3.60	
DRO >C10-C28	**2190**	100	05/13/2014	ND	205	103	200	3.63	

Surrogate: 1-Chlorooctane	*107 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*256 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	05/09/2014	Sampling Date:	05/08/2014
Reported:	05/14/2014	Sampling Type:	Soil
Project Name:	E. WOOD BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: ROAD COMP (H401406-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	05/13/2014	ND	400	100	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	**19.2**	10.0	05/13/2014	ND	189	94.6	200	3.60	
DRO >C10-C28	**615**	10.0	05/13/2014	ND	205	103	200	3.63	

Surrogate: 1-Chlorooctane	*124 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*141 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	BILL TO
Project Manager: Bruce Baker	P.O. #:
Address:	Company:
City: Hobbs State: NM Zip: 88240	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: E Wood Battery	Phone #:
Sampler Name:	Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
H401406																				
1	Vert 5 @ 1 Ft	G	1			✓					✓		5-8-14	2:00	✓	✓				
2	Vert 5 @ 1.5 Ft	G	1			✓					✓		5-8-14	2:05	✓	✓				
3	Road comp.	C	1			✓					✓		5-8-14	4:30	✓	✓				

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 5/9/14	Received By: Jodi Henson	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 9:20		Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Bruce Baker
	Time:		email: hconder@riceswd.com; lflores@rice-ecs.com; lweinheimer@rice-ecs.com; knorman@rice-ecs.com; jkamplain@rice-ecs.com; sedwards@rice-ecs.com; cursanic@rice-ecs.com
Delivered By: (Circle One)	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	Environmental Tech: @rice-ecs.com
Sampler - UPS - Bus - Other:			

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

#54

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 21, 2014

BRUCE BAKER

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: E. WOOD BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 05/20/14 10:00.

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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	05/20/2014	Sampling Date:	05/19/2014
Reported:	05/21/2014	Sampling Type:	Soil
Project Name:	E. WOOD BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERTICAL 5 @ 2' (H401533-01)

TPH 8015M **mg/kg** **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	05/21/2014	ND	232	116	200	0.445	
DRO >C10-C28	**540**	100	05/21/2014	ND	260	130	200	1.06	

Surrogate: 1-Chlorooctane	*97.7 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*143 %*	*63.6-154*

Sample ID: VERTICAL 5 @ 2.5' (H401533-02)

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	05/21/2014	ND	232	116	200	0.445	
DRO >C10-C28	**2630**	100	05/21/2014	ND	260	130	200	1.06	

Surrogate: 1-Chlorooctane	*101 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*208 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	05/20/2014	Sampling Date:	05/19/2014
Reported:	05/21/2014	Sampling Type:	Soil
Project Name:	E. WOOD BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERTICAL 5 @ 3' (H401533-03)

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	05/21/2014	ND	232	116	200	0.445	
DRO >C10-C28	**2730**	100	05/21/2014	ND	260	130	200	1.06	

Surrogate: 1-Chlorooctane	*123 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*266 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Apache	BILL TO	
Project Manager:	Bruce Baker	P.O. #:	
Address:		Company:	
City: Hobbs	State: NM Zip: 88240	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location:	E Wood Battery	Phone #:	
Sampler Name:	Kyle Humphrey	Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
H401533																				
1	vert. 5 @ 2 ft	G	1			✓					✓		5-19-14	3:00		✓				
2	vert. 5 @ 25 ft.	G	1			✓					✓		5-19-14	3:05		✓				
3	vert. 5 @ 3 ft.	G	1			✓					✓		5-19-14	3:10		✓				

RUSH

Relinquished By:	Date: 5/20/14	Received By:	Phone Result: ☐ Yes ☑ No Add'l Phone #:
Kyle Humphrey	Time: 10:00	Jodi Henson	Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		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:	-9.2	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)

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

#54

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 07, 2014

BRUCE BAKER

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: E. WOOD BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 07/01/14 11:25.

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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	07/01/2014	Sampling Date:	06/30/2014
Reported:	07/07/2014	Sampling Type:	Soil
Project Name:	E. WOOD BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Kathy Perez
Project Location:	NOT GIVEN		

Sample ID: POINT 5 @ 4' (H401983-01)

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	<200	200	07/02/2014	ND	178	88.9	200	0.368	
DRO >C10-C28	**2610**	200	07/02/2014	ND	188	93.9	200	1.88	

Surrogate: 1-Chlorooctane	*92.9 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*225 %*	*63.6-154*

Sample ID: POINT 5 @ 5' (H401983-02)

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	07/02/2014	ND	178	88.9	200	0.368	
DRO >C10-C28	**707**	100	07/02/2014	ND	188	93.9	200	1.88	

Surrogate: 1-Chlorooctane	*105 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*188 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	07/01/2014	Sampling Date:	06/30/2014
Reported:	07/07/2014	Sampling Type:	Soil
Project Name:	E. WOOD BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Kathy Perez
Project Location:	NOT GIVEN		

Sample ID: POINT 5 @ 6' (H401983-03)

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	07/02/2014	ND	178	88.9	200	0.368	
DRO >C10-C28	**758**	50.0	07/02/2014	ND	188	93.9	200	1.88	

Surrogate: 1-Chlorooctane	*104 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*150 %*	*63.6-154*

Sample ID: POINT 5 @ 7' (H401983-04)

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	07/02/2014	ND	178	88.9	200	0.368	
DRO >C10-C28	<10.0	10.0	07/02/2014	ND	188	93.9	200	1.88	

Surrogate: 1-Chlorooctane	*99.0 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*106 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Apache	BILL TO
Project Manager: Bruce Baker	P.O. #:
Address:	Company:
City: Hobbs State: NM Zip: 88240	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: Elwood Battery	Phone #:
Sampler Name: Kyle Humphrey	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
H40983																				
1	Point 5@ 4'	G	1			✓					✓		6-30-14	6:30		✓				
2	Point 5@ 5'	G	1			✓					✓		6-30-14	8:35		✓				
3	Point 5@ 6'	G	1			✓					✓		6-30-14	8:40		✓				
4	Point 5@ 7'	G	1			✓					✓		6-30-14	9:00		✓				

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Kyle Humphrey	Date: 7/1/14 Time: 11:25	Received By: Kathy Perez	
Relinquished By:	Date: Time:	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 4.6°C	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) KJ	

Phone Result: ☐ Yes ☑ No Add'l Phone #:
Fax Result: ☐ Yes ☑ No Add'l Fax #:
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

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

Appendix C
Photo Documentation

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

Apache E Woods Battery

Unit Letter F&G, Section 22, T22S, R37E

Initial release area, facing northeast 3/3/14

Initial release area, facing west 3/3/14

Scraping road, facing southeast 4/30/14

Installing vertical, facing south 6/30/14

Completed site, facing west 11/25/14

Completed site, facing southwest 11/25/14

Appendix D
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 E Woods Battery	Facility Type Oil Well

Surface Owner Jay D Martin	Mineral Owner	API No. 30-025-39687

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	22	22S	37E	1399'	FNL	1432'	FEL	Lea

Latitude_____ Longitude_____

NATURE OF RELEASE

Type of Release Oil	Volume of Release 18 Barrels of oil	Volume Recovered 15 barrels of oil
Source of Release Heater Treater	Date and Hour of Occurrence 3/3/2014	Date and Hour of Discovery 3/3/2014
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? Larry Baker	Date and Hour 3/4/14	
Was a Watercourse Reached? ☐ Yes ☒ 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 fire tube failed resulting in the release of oil. The wells were shut in and the gasket was replaced.

Describe Area Affected and Cleanup Action Taken.* A total of 5,925 square feet of lease road and asphaltene within the facility was affected. The wells were shut in, the gasket was replaced, and a vacuum truck was called in to remove the standing fluid. A total of 15 barrels of fluid were recovered. RECS personnel were on site beginning on March 3rd, 2014, to assess the release. The release in the road was scraped down 6 inches and the excavated soil was taken to a NMOCD approved facility for disposal. A three point bottom composite sample of the scrape was taken and field tested for chlorides and organic vapors. The sample was sent to a commercial laboratory for analysis. The laboratory chloride reading returned a value of 128 mg/kg. The GRO reading returned a value of 19.2 mg/kg, and the DRO reading returned a value of 615 mg/kg. To determine the depth of contamination at the battery, a vertical was installed to a depth of 7 ft bgs. As the vertical was installed, soil samples were taken every 6 inches to 1 ft and field tested for chlorides and organic vapors. Representative samples from the vertical were taken to a commercial laboratory for analysis. Laboratory analysis confirmed low chloride levels beginning at 1 ft bgs, GRO levels of non-detect throughout, and DRO levels that were elevated until 5 ft bgs. The road scrape was backfilled with clean, imported caliche. The remainder of the release, located near the battery, was not addressed. The asphaltene will provide an infiltration barrier for the release. In addition, any work conducted in this area will pose a safety hazard to personnel and equipment because it encloses multiple production components. Therefore, the release area inside the facility and on the battery pad will be addressed during site abandonment.

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: Bruce Baker	OIL CONSERVATION DIVISION	
Printed Name: Bruce Baker	Approved by Environmental Specialist:	
Title: Environmental Tech	Approval Date:	Expiration Date:
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval:	Attached ☐
Date: 1-9-2015 Phone: (432) 631-6982		