



EXPLORING WHAT'S POSSIBLE

APACHE CORPORATION

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

EL Federal #8
(2RP-2278)

Termination Request

API No. 30-015-30262

Release Date: April 8th, 2014

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

October 7th, 2014

Mike Bratcher

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

**RE: Termination Request
Apache EL Federal #8 (2RP-2278)
UL/P sec. 21 T17S R30E
API No. 30-015-30262**

Mr. Bratcher:

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 0.6 miles southeast of Loco Hills, New Mexico at UL/P sec. 21 T17S R30E. Soil bore installations conducted by RECS near the release site indicate that there is no groundwater located beneath the site (Figure 1).

On April 8th, 2014, Apache discovered a release of produced water from a rupture in a flow line located 400 feet north of the well head. A total of 25 barrels of produced water was released over 3,799 square feet of pasture land. None of this fluid was recovered. The well was shut in, and the line was repaired. NMOCD and BLM were notified of the release on April 9th, 2014, and an initial C-141 was submitted to both agencies on April 21st, 2014. NMOCD approved the initial C-141 on May 1st, 2014 (Appendix A).

RECS personnel were on site beginning on April 9th, 2014. The release was mapped and photographed (Figure 2). An initial surface sample from the release was taken and field tested for chlorides and organic vapors. Based on the elevated field chloride reading of 3,238 mg/kg, a vertical was installed at the site to determine the depth of contamination. Vertical 1 was installed to a depth of 15 ft bgs, and the 11 ft bgs, 14 ft bgs and 15 ft bgs samples were taken to a commercial laboratory for analysis. The 11 ft bgs sample returned a laboratory chloride reading of 5,680 mg/kg. The chloride values decreased to 336 mg/kg at 14 ft bgs and 352 mg/kg at 15 ft bgs. Gasoline Range Organics (GRO) readings, Diesel Range Organic (DRO) readings and BTEX readings for all samples returned values of non-detect (Appendix B).

Based on the laboratory analysis, the area around Vertical 1 was excavated to 4 ft bgs (Figure 3). Once the excavation was completed, final wall and bottom grab samples were taken and field

tested for chlorides and hydrocarbons. The wall samples were taken to a commercial laboratory for analysis and returned chloride values ranging from 96 mg/kg to 1,040 mg/kg. GRO, DRO and BTEX results returned values of non-detect. The bottom samples returned field chloride readings above 1,000 mg/kg in Bottom 1 and Bottom 2. The remainder of the bottom samples returned field chloride readings below 1,000 mg/kg. The bottom samples were not taken to a commercial laboratory for analysis. Two surface samples in the overspray were also taken and field tested for chlorides and organic vapors. Both samples were then taken to a commercial laboratory for analysis. Both samples returned chloride, GRO, DRO and BTEX values at or near non-detectable levels.

On July 29th, 2014, a Path Forward was submitted to NMOCD and BLM. The Path Forward stated that since the field data from the bottom of the excavation showed elevated chloride readings, a 20-mil reinforced poly liner would be installed and properly seated into the base of the excavation. Clean soil would be imported to the site, and the excavation would be backfilled. The site would be contoured to the surrounding location, and the disturbed area would be seeded with a blend of native vegetation. NMOCD and BLM approved the Path Forward on July 31st, 2014.

A 20-mil reinforced poly liner was installed and properly seated into the base of the excavation. All excavated soil was taken to a NMOCD approved facility for disposal. Clean top soil was imported to the site to use as backfill. The excavation was backfilled to ground surface and contoured to the surrounding location. On September 15th, 2014, the disturbed area was seeded with LPC mix, and the seed was raked into the soil.

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

Given that Apache completed the work as approved in the Path Forward, Apache respectfully requests 'remediation termination' and site closure. A final C-141 for the site 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,

A handwritten signature in cursive script, appearing to read 'Lara Weinheimer'.

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

Figure 1 – Depth to Groundwater

Figure 2 – Initial Sampling Data

Figure 3 – Excavation Data

Appendix A – Initial C-141

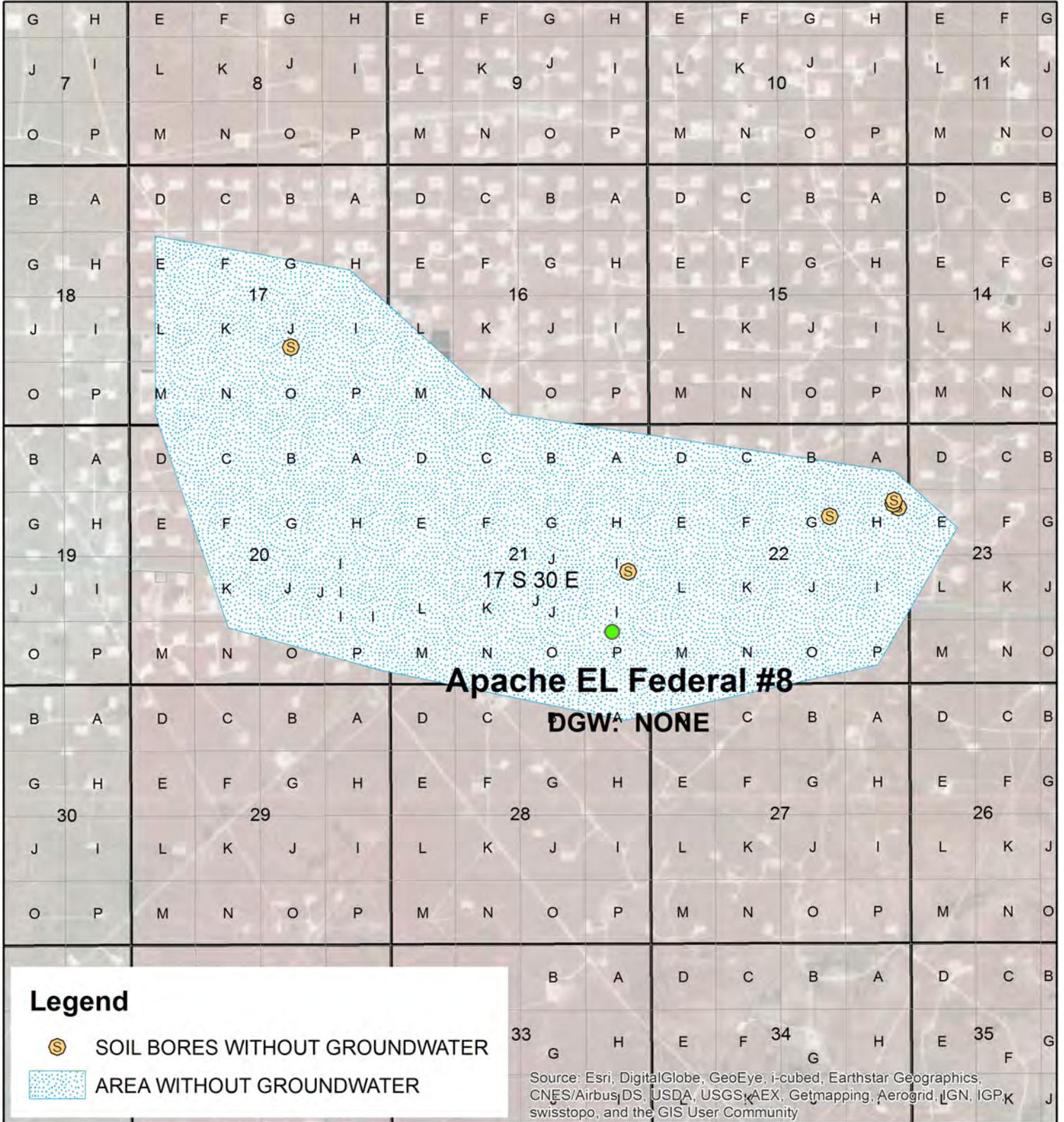
Appendix B – Laboratory Analyses

Appendix C – Photo Documentation

Appendix D – Final C-141

Figures

Depth to Groundwater



**APACHE EL
FEDERAL #8**

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

Figure 1

0 0.3 0.6
Miles

Drawing date: 4/23/14
Drafted by: L. Weinheimer

Initial Sampling Data

VERTICAL 1

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
SS	2923	45.2							
1'	200	60.4							
2'	576	28.7							
3'	1302	14.1							
4'	5139	36.3							
5'	5244	4.8							
6'	5155	3							
7'	3228	7.3							
8'	5237	1.2							
9'	715	2.4							
10'	603	2.1							
11'	5680	3.4	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
12'	1336	1.2							
13'	794	10.3							
14'	336	4.2	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
15'	352	1.9	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3



Point 1

	CI-	PID
SS	3238	6.7

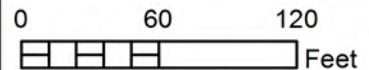
Legend

- ▲ VERTICAL
- ▲ SAMPLE POINT
- WELLHEAD
- PAD/ROAD EDGE
- SURFACE PIPELINE
- STAIN (3,799 SQ FT)

Landowner: BLM
DGW: NONE

Source: Esri, DigitalGlobe, GeoEye, i
CNES/Airbus DS, USDA, USGS, AEX
swisstopo, and the GIS User Commu

Figure 2



GPS date: 4/9/14 AG
Drawing date: 4/11/14
Drafted by: T. Grieco



APACHE EL FEDERAL #8

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

Excavation Data

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
NORTH WALL	112	2.5	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
EAST WALL	512	1.2	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
SOUTH WALL	1040	3.5	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
WEST WALL	96	4.4	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

Point 2

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
SS	144	3.8	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

Point 3

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
SS	<16	1.6	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3



CI- FIELD DATA

CI- LAB DATA

Legend

▲ SAMPLE POINT

▭ LINED EXCAVATION @ 4 FT

■ STAIN (3,799 SQ FT)

Landowner: BLM
DGW: NONE

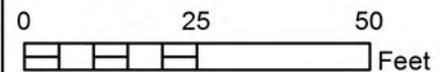
Source: Esri, Digit
CNES/Airbus DS,
swisstopo, and the



APACHE EL FEDERAL #8

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

Figure 3



GPS date: 7/21/14 KH
Drawing date: 7/29/14
Drafted by: L. Weinheimer

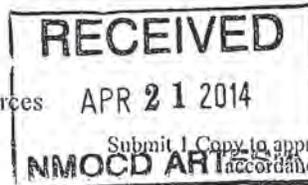
Appendix A

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

nHMP1412149243

OPERATOR Initial Report Final Report

Name of Company Apache Corporation	<i>873</i>	Contact Bruce Baker
Address 8 Ellison Lane Eunice, NM 88231		Telephone No. (432) 631-6982
Facility Name EL Federal # 8		Facility Type Injection Well

Surface Owner Federal	Mineral Owner	API No. 30-015-30262
-----------------------	---------------	----------------------

LOCATION OF RELEASE

Unit Letter P	Section 21	Township 17S	Range 30E	Feet from the 380'	North/South Line FSL	Feet from the 990'	East/West Line FEL	County Eddy
------------------	---------------	-----------------	--------------	-----------------------	-------------------------	-----------------------	-----------------------	----------------

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 25 Barrels of water	Volume Recovered 0
Source of Release Flow-line	Date and Hour of Occurrence 4-8-14 at 12:00 pm	Date and Hour of Discovery 4-8-14 at 12:00 pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher (NMOCD) and Jim Amos (BLM)	
By Whom? Bruce Baker	Date and Hour 4-9-14 at 8:25 a.m.	
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.* Rupture in flow line 400 feet north of well. The well was shut in and the line was repaired.		
Describe Area Affected and Cleanup Action Taken.* The release affected 3,799 square feet of pasture. The release has been mapped and surface sample 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>	
Title: Environmental Technician	Approval Date: <i>5/1/14</i>	Expiration Date: <i>NA</i>
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 4/21/14 Phone: 432-631-6982	Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION PROPOSAL NO LATER THAN:	

* Attach Additional Sheets If Necessary

PROPOSAL NO LATER THAN:

6/1/14

2RP-2278

Appendix B

Laboratory Analyses

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



July 09, 2014

BRUCE BAKER
APACHE - EUNICE
P. O. BOX 1849
EUNICE, NM 88231

RE: E. L. FEDERAL #8

Enclosed are the results of analyses for samples received by the laboratory on 07/02/14 8:20.

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 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,

A handwritten signature in cursive script that reads "Celey D. Keene".

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:	07/02/2014	Sampling Date:	06/27/2014
Reported:	07/09/2014	Sampling Type:	Soil
Project Name:	E. L. FEDERAL #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERTICAL 1 @ 11' (H402011-01)

BTEX 8260B		mg/kg		Analyzed By: ms/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2014	ND	2.16	108	2.00	1.57	
Toluene*	<0.050	0.050	07/07/2014	ND	1.78	89.0	2.00	2.82	
Ethylbenzene*	<0.050	0.050	07/07/2014	ND	1.69	84.3	2.00	3.97	
Total Xylenes*	<0.150	0.150	07/07/2014	ND	5.25	87.5	6.00	2.78	
Total BTEX	<0.300	0.300	07/07/2014	ND					

Surrogate: Dibromofluoromethane 93.4 % 61.3-142

Surrogate: Toluene-d8 99.7 % 71.3-129

Surrogate: 4-Bromofluorobenzene 96.8 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5680	16.0	07/09/2014	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	07/04/2014	ND	180	90.2	200	1.72	
DRO >C10-C28	<10.0	10.0	07/04/2014	ND	193	96.4	200	0.0794	

Surrogate: 1-Chlorooctane 114 % 65.2-140

Surrogate: 1-Chlorooctadecane 122 % 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:	07/02/2014	Sampling Date:	06/27/2014
Reported:	07/09/2014	Sampling Type:	Soil
Project Name:	E. L. FEDERAL #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERTICAL 1 @ 14' (H402011-02)

BTEX 8260B		mg/kg		Analyzed By: ms/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/07/2014	ND	2.16	108	2.00	1.57		
Toluene*	<0.050	0.050	07/07/2014	ND	1.78	89.0	2.00	2.82		
Ethylbenzene*	<0.050	0.050	07/07/2014	ND	1.69	84.3	2.00	3.97		
Total Xylenes*	<0.150	0.150	07/07/2014	ND	5.25	87.5	6.00	2.78		
Total BTEX	<0.300	0.300	07/07/2014	ND						

Surrogate: Dibromofluoromethane 99.2 % 61.3-142

Surrogate: Toluene-d8 103 % 71.3-129

Surrogate: 4-Bromofluorobenzene 96.0 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	07/09/2014	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	07/04/2014	ND	180	90.2	200	1.72		
DRO >C10-C28	<10.0	10.0	07/04/2014	ND	193	96.4	200	0.0794		

Surrogate: 1-Chlorooctane 117 % 65.2-140

Surrogate: 1-Chlorooctadecane 128 % 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: 07/02/2014
 Reported: 07/09/2014
 Project Name: E. L. FEDERAL #8
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/27/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: VERTICAL 1 @ 15' (H402011-03)

BTEX 8260B		mg/kg		Analyzed By: ms/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2014	ND	2.16	108	2.00	1.57	
Toluene*	<0.050	0.050	07/07/2014	ND	1.78	89.0	2.00	2.82	
Ethylbenzene*	<0.050	0.050	07/07/2014	ND	1.69	84.3	2.00	3.97	
Total Xylenes*	<0.150	0.150	07/07/2014	ND	5.25	87.5	6.00	2.78	
Total BTEX	<0.300	0.300	07/07/2014	ND					

Surrogate: Dibromofluoromethane 93.5 % 61.3-142
 Surrogate: Toluene-d8 105 % 71.3-129
 Surrogate: 4-Bromofluorobenzene 98.4 % 65.7-141

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	07/09/2014	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	07/04/2014	ND	180	90.2	200	1.72	
DRO >C10-C28	<10.0	10.0	07/04/2014	ND	193	96.4	200	0.0794	

Surrogate: 1-Chlorooctane 117 % 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

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



Celey D. Keene, Lab Director/Quality Manager



July 10, 2014

BRUCE BAKER
APACHE - EUNICE
P. O. BOX 1849
EUNICE, NM 88231

RE: E. L. FEDERAL #8

Enclosed are the results of analyses for samples received by the laboratory on 07/03/14 16:45.

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 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,

A handwritten signature in black ink that reads "Celey D. Keene".

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:	07/03/2014	Sampling Date:	07/03/2014
Reported:	07/10/2014	Sampling Type:	Soil
Project Name:	E. L. FEDERAL #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: NORTH WALL (H402042-01)

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	07/08/2014	ND	1.85	92.6	2.00	7.12	
Toluene*	<0.050	0.050	07/08/2014	ND	1.94	97.2	2.00	7.57	
Ethylbenzene*	<0.050	0.050	07/08/2014	ND	1.72	86.2	2.00	8.12	
Total Xylenes*	<0.150	0.150	07/08/2014	ND	5.35	89.2	6.00	7.60	
Total BTEX	<0.300	0.300	07/08/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	112	16.0	07/09/2014	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	<10.0	10.0	07/08/2014	ND	190	95.1	200	0.320	
DRO >C10-C28	<10.0	10.0	07/08/2014	ND	199	99.7	200	4.31	

Surrogate: 1-Chlorooctane 114 % 65.2-140
Surrogate: 1-Chlorooctadecane 133 % 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:	07/03/2014	Sampling Date:	07/03/2014
Reported:	07/10/2014	Sampling Type:	Soil
Project Name:	E. L. FEDERAL #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EAST WALL (H402042-02)

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	07/08/2014	ND	1.85	92.6	2.00	7.12		
Toluene*	<0.050	0.050	07/08/2014	ND	1.94	97.2	2.00	7.57		
Ethylbenzene*	<0.050	0.050	07/08/2014	ND	1.72	86.2	2.00	8.12		
Total Xylenes*	<0.150	0.150	07/08/2014	ND	5.35	89.2	6.00	7.60		
Total BTEX	<0.300	0.300	07/08/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	07/09/2014	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	<10.0	10.0	07/08/2014	ND	190	95.1	200	0.320		
DRO >C10-C28	<10.0	10.0	07/08/2014	ND	199	99.7	200	4.31		

Surrogate: 1-Chlorooctane 120 % 65.2-140

Surrogate: 1-Chlorooctadecane 133 % 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:	07/03/2014	Sampling Date:	07/03/2014
Reported:	07/10/2014	Sampling Type:	Soil
Project Name:	E. L. FEDERAL #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOUTH WALL (H402042-03)

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	07/08/2014	ND	1.85	92.6	2.00	7.12	
Toluene*	<0.050	0.050	07/08/2014	ND	1.94	97.2	2.00	7.57	
Ethylbenzene*	<0.050	0.050	07/08/2014	ND	1.72	86.2	2.00	8.12	
Total Xylenes*	<0.150	0.150	07/08/2014	ND	5.35	89.2	6.00	7.60	
Total BTEX	<0.300	0.300	07/08/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 89.4-126

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1040	16.0	07/09/2014	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	<10.0	10.0	07/08/2014	ND	190	95.1	200	0.320	
DRO >C10-C28	<10.0	10.0	07/08/2014	ND	199	99.7	200	4.31	

Surrogate: 1-Chlorooctane 120 % 65.2-140

Surrogate: 1-Chlorooctadecane 135 % 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:	07/03/2014	Sampling Date:	07/03/2014
Reported:	07/10/2014	Sampling Type:	Soil
Project Name:	E. L. FEDERAL #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: WEST WALL (H402042-04)

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	07/08/2014	ND	1.85	92.6	2.00	7.12	
Toluene*	<0.050	0.050	07/08/2014	ND	1.94	97.2	2.00	7.57	
Ethylbenzene*	<0.050	0.050	07/08/2014	ND	1.72	86.2	2.00	8.12	
Total Xylenes*	<0.150	0.150	07/08/2014	ND	5.35	89.2	6.00	7.60	
Total BTEX	<0.300	0.300	07/08/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 89.4-126

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/09/2014	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	<10.0	10.0	07/08/2014	ND	190	95.1	200	0.320	
DRO >C10-C28	<10.0	10.0	07/08/2014	ND	199	99.7	200	4.31	

Surrogate: 1-Chlorooctane 117 % 65.2-140

Surrogate: 1-Chlorooctadecane 132 % 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

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



Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache		BILL TO		ANALYSIS REQUEST																							
Project Manager: Bruce Baker		P.O. #:		Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS																		
Address:		Company:																									
City: Hobbs State: NM Zip: 88240		Attn:																									
Phone #: Fax #:		Address:																									
Project #: Project Owner:		City:																									
Project Name:		State: Zip:																									
Project Location: E.L. Federal #8		Phone #:																									
Sampler Name: Kyle Humphrey		Fax #:																									
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													
H402042																											
1	North well	6	1			✓				✓			7-3-14	2:00	✓	✓	✓										
2	East well	6	1			✓				✓			7-3-14	2:05	✓	✓	✓										
3	South well	6	1			✓				✓			7-3-14	2:10	✓	✓	✓										
4	West well	6	1			✓				✓			7-3-14	2:15	✓	✓	✓										

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 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 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: 7/3/14	Received By: Jodi Henson	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time: 4:45		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results Larry.Baker@apachecorp.com	
	Time:		Knorman@rice-ecs.com	
Delivered By: (Circle One)			Kjones@riceswd.com; jkamplain@rice-ecs.com hconder@rice-ecs.com;	
Sampler - UPS - Bus - Other:			Lweinheimer@rice-ecs.com	
			Khumphrey@rice-ecs.com	
			sedwards@rice-ecs.com, lflores@rice-ecs.com	
		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	CHECKED BY: [Signature]	

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

#54

July 28, 2014

BRUCE BAKER
APACHE - EUNICE
P. O. BOX 1849
EUNICE, NM 88231

RE: E. L. FEDERAL #8

Enclosed are the results of analyses for samples received by the laboratory on 07/21/14 16:10.

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.

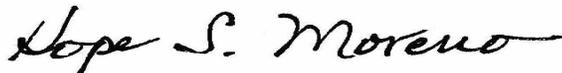
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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,



Hope S. Moreno For 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:	07/21/2014	Sampling Date:	07/21/2014
Reported:	07/28/2014	Sampling Type:	Soil
Project Name:	E. L. FEDERAL #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 2 @ SURFACE (H402212-01)

BTEX 8021B		mg/kg		Analyzed By: CK/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/25/2014	ND	1.87	93.7	2.00	1.24		
Toluene*	<0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	0.842		
Ethylbenzene*	<0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	1.33		
Total Xylenes*	<0.150	0.150	07/25/2014	ND	5.92	98.6	6.00	2.11		
Total BTEX	<0.300	0.300	07/25/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	144	16.0	07/23/2014	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	<10.0	10.0	07/23/2014	ND	192	96.1	200	8.16		
DRO >C10-C28	<10.0	10.0	07/23/2014	ND	208	104	200	6.40		

Surrogate: 1-Chlorooctane 110 % 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.



Hope S. Moreno For 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:	07/21/2014	Sampling Date:	07/21/2014
Reported:	07/28/2014	Sampling Type:	Soil
Project Name:	E. L. FEDERAL #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: PT. 3 @ SURFACE (H402212-02)

BTEX 8021B		mg/kg		Analyzed By: CK/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/25/2014	ND	1.87	93.7	2.00	1.24		
Toluene*	<0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	0.842		
Ethylbenzene*	<0.050	0.050	07/25/2014	ND	1.87	93.5	2.00	1.33		
Total Xylenes*	<0.150	0.150	07/25/2014	ND	5.92	98.6	6.00	2.11		
Total BTEX	<0.300	0.300	07/25/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 89.4-126

Chloride, SM4500CI-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	07/23/2014	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	<10.0	10.0	07/23/2014	ND	192	96.1	200	8.16		
DRO >C10-C28	<10.0	10.0	07/23/2014	ND	208	104	200	6.40		

Surrogate: 1-Chlorooctane 126 % 65.2-140

Surrogate: 1-Chlorooctadecane 138 % 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.



Hope S. Moreno For 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

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.



Hope S. Moreno For Celey D. Keene, Lab Director/Quality Manager



CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache			BILL TO			ANALYSIS REQUEST																			
Project Manager: Glenn Baker			P.O. #:			Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS														
Address:			Company:																						
City: Hobbs State: NM Zip: 88240			Attn:																						
Phone #: Fax #:			Address:																						
Project #: Project Owner:			City:																						
Project Name:			State: Zip:																						
Project Location: E.L. Fed. # 8			Phone #:																						
Sampler Name: Kyle Humphrey			Fax #:																						
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											
H4D2212	1 Pt. 2 @ Surface	6	1			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		7-21-14	9:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
	2 Pt. 3 @ Surface	6	1			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		7-21-14	9:05	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								

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 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 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: 7/21/14	Received By: Jodi Benson	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time: 4:10		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results Larry.Baker@apachecorp.com	
	Time:		Knorman@rice-ecs.com	
Delivered By: (Circle One)		Sample Condition	Kjones@riceswd.com; jkamplain@rice-ecs.com hconder@rice-ecs.com;	
Sampler - UPS - Bus - Other:		Cool Intact	Lweinheimer@rice-ecs.com	
		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes	Khumphrey@rice-ecs.com	
		<input type="checkbox"/> No <input type="checkbox"/> No	sedwards@rice-ecs.com, lflores@rice-ecs.com	

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

#54

Appendix C

Photo Documentation

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

Apache EL Federal #8

Unit Letter P, Section 21, T17S, R30E



Source of release

4/9/14



Initial release area, facing northeast

4/9/14



Initial release area, facing south

4/9/14



Sampling release area

4/9/14



Installing a vertical, facing northeast 6/27/14



Excavating to 4 ft bgs, facing south 7/2/14



Exporting soil, facing southwest 7/2/14



Excavation to 4 ft bgs completed, facing west 7/23/14



Installing liner, facing north

7/23/14



Liner installation completed, facing west

7/23/14



Backfilling site, facing southwest

7/23/14



Importing soil, facing south

7/23/14



Site backfilled, facing east

9/15/14



Raking site to prepare for seeding, facing south

9/15/14



Seeding site, facing south

9/15/14



Raking seed into soil, facing northwest

9/15/14



Site completed, facing east

9/15/14



Site completed, facing west

9/15/14

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

Form C-141
Revised August 8, 2011

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

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 2350 W Marland Street, Hobbs, NM 88240	Telephone No. (432) 631-6982
Facility Name EL Federal #8	Facility Type Injection Well

Surface Owner Federal	Mineral Owner	API No. 30-015-30262
-----------------------	---------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	21	17S	30E	380'	FSL	990'	FEL	Eddy

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 25 Barrels of water	Volume Recovered 0
Source of Release Flow line	Date and Hour of Occurrence 4-8-14 at 12:00 pm	Date and Hour of Discovery 4-8-14 at 12:00 pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher (NMOCD) and Jim Amos (BLM)	
By Whom? Bruce Baker	Date and Hour 4-9-14 at 8:25 a.m.	
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.* Rupture in flow line 400 feet north of well. The well was shut in and the line was repaired.

Describe Area Affected and Cleanup Action Taken.* The release affected 3,799 square feet of pasture land. RECS personnel were on site beginning on April 9th, 2014. An initial surface sample from the release was taken and field tested for chlorides and organic vapors. Based on the elevated field chloride reading of 3,238 mg/kg, a vertical was installed at the site to determine the depth of contamination. Vertical 1 was installed to a depth of 15 ft bgs, and samples were taken to a commercial laboratory for analysis. The 11 ft bgs sample returned a laboratory chloride reading of 5,680 mg/kg. The chloride values decreased to 336 mg/kg at 14 ft bgs and 352 mg/kg at 15 ft bgs. GRO readings, DRO and BTEX readings for all samples returned values of non-detect. Based on the laboratory analysis, the area around Vertical 1 was excavated to 4 ft bgs. Once the excavation was completed, final wall and bottom grab samples were taken and field tested for chlorides and hydrocarbons. The wall samples were taken to a commercial laboratory for analysis and returned chloride values ranging from 96 mg/kg to 1,040 mg/kg. GRO, DRO and BTEX results returned values of non-detect. The bottom samples returned field chloride readings above 1,000 mg/kg in Bottom 1 and Bottom 2. The remainder of the bottom samples returned field chloride readings below 1,000 mg/kg. The bottom samples were not taken to a commercial laboratory for analysis. Two surface samples in the overspray were also taken and field tested for chlorides and organic vapors. Both samples were then taken to a commercial laboratory for analysis. Both samples returned chloride, GRO, DRO and BTEX values at or near non-detectable levels. On July 29th, 2014, a Path Forward was submitted to NMOCD and BLM. NMOCD and BLM approved the Path Forward on July 31st, 2014. Per the Path Forward, a 20-mil reinforced poly liner was installed and properly seated into the base of the excavation. All excavated soil was taken to a NMOCD approved facility for disposal. Clean top soil was imported to the site to use as backfill. The excavation was backfill to ground surface and contoured to the surrounding location. On September 15th, 2014, the disturbed area was seeded with LPC mix, and the seed was raked into the soil.

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:	
Title: Environmental Technician	Approval Date:	Expiration Date:
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10-7-14	Phone: (432) 631-6982	