

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

HOBBS OCD

FEB 20 2014

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

RECEIVED

Form C-141  
Revised August 8, 2011

**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 Lockhart A -17 Battery (nearest WBDU # 69)	Facility Type Tank Battery
Surface Owner Chevron	Mineral Owner
API No. 30-025-38204	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	17	21S	37E	2630'	FSL	120'	FEL	Lea

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

**NATURE OF RELEASE**

Type of Release oil and produced water	Volume of Release 20 oil and 480 produced water	Volume Recovered 450 total fluid
Source of Release water transfer line	Date and Hour of Occurrence 2/8/14	Date and Hour of Discovery 2-8-14 at 10:30 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Gcoffrey Leking	
By Whom? Bruce Baker	Date and Hour 2/10/14 at 9:00 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.\*

DTW = 70'

Describe Cause of Problem and Remedial Action Taken.\*

The water transfer line froze and ruptured in two separate areas of the line. One area was inside the lined facility containment and the second outside the containment wall. A vacuum truck was dispatched to pick-up standing fluid. The line was repaired.

Describe Area Affected and Cleanup Action Taken.\*

The release affected two areas one inside the lined contained facility and the second area was in pasture (4,932 square feet). The standing fluid was picked up and the area was mapped and will be delineated and a corrective action plan will be submitted to NMOCD.

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>Gcoffrey Leking</i> Approved by Environmental Specialist <b>Environmental Specialist</b>	
Printed Name: Bruce Baker	Approval Date: 2/20/14	Expiration Date: 4/21/14
Title: Environmental Technician	Conditions of Approval: <i>SUGMA FUNK</i> <i>en m v by 4/20/14</i>	
E-mail Address: larry.baker@apachecorp.com	Attached <input type="checkbox"/>	
Date: 2/20/14 Phone: (432) 631-6982	RP-06-14-3098	

\* Attach Additional Sheets If Necessary



EXPLORING WHAT'S POSSIBLE

HOBBS OCD

APR 03 2014

RECEIVED

# APACHE CORPORATION

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

## Lockhart A-17

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# Corrective Action Plan

*approved*  
*Stephany Sekim*  
Environmental Specialist  
NMOCB-DIST 1  
4/03/14

API 30-025-38204

Release Date: February 8<sup>th</sup>, 2014

Unit Letter I, Section 17, Township 21S, Range 37E

## Rice Environmental Consulting & Safety

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P.O. Box 2948, Hobbs, NM 88241

Phone 575.393.2967

**March 28<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: Corrective Action Plan  
Apache Corporation – Lockhart A-17  
UL/I sec. 17 T21S R37E  
API No. 30-025-38204**

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 2.5 miles northwest of Eunice, New Mexico at UL/I sec. 17 T21S R37E. NM OSE and USGS records indicate that groundwater will likely be encountered at a depth of approximately 76 +/- feet.

On February 8<sup>th</sup>, 2014, Apache discovered a release of oil and produced water from a water transfer line. The transfer line froze and ruptured in two separate places. One area was inside the bermed, lined facility containment and the other occurred outside the containment wall. A total of 20 barrels of oil and 480 barrels of produced water were released over 10,603 square feet of facility and pasture land. A vacuum truck was called to the site and recovered a total of 450 barrels of fluid. NMOCD was notified of the release on February 10<sup>th</sup>, 2014 and an initial C-141 was sent to NMOCD for their approval (Appendix A).

RECS personnel were on site beginning on February 10<sup>th</sup>, 2014 to assess the release. Four points within the pasture area were sampled at the surface and with depth (Figure 1). The samples were field tested for chlorides and organic vapors, and representative samples were taken to a commercial laboratory for analysis (Appendix B). Vertical 1 was installed to a depth of 18 ft bgs. Laboratory chloride readings returned results of 816 mg/kg at 4 ft bgs and 352 mg/kg at 17 ft and 18 ft bgs. Vertical 2 was installed to a depth of 12 ft bgs. Laboratory chloride readings returned results of 2,120 mg/kg at 5 ft bgs, 224 mg/kg at 11 ft bgs and 128 mg/kg at 12 ft bgs. Vertical 3 was installed to a depth of 14 ft bgs. Laboratory chloride readings returned results of 1,730 mg/kg at 3 ft bgs, 160 mg/kg at 13 ft bgs and 208 mg/kg at 14 ft bgs. Vertical 4 was installed to a depth of 16 ft bgs. Laboratory chloride readings returned results of 1,040 mg/kg at 2 ft bgs, 176 mg/kg at 15

ft bgs and 48 mg/kg at 16 ft bgs. Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) readings returned results of non-detect in all verticals.

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

### **Corrective Action Plan**

Based on the laboratory analysis of the site, the pasture area will be excavated to a depth of 4 ft bgs. All excavated soils will be evaluated to use as backfill and any soils that do not meet requirements will be disposed of at a NMOCD approved facility. The remaining excavated soils will be blended on site with clean, imported soil. A sample of the blended backfill will be taken and field tested to verify that chloride levels are at or below 500 mg/kg and organic vapors are below 100 ppm. Wall samples will be taken to a commercial laboratory to determine that the remaining constituents are below regulatory standards. At the base of the 4 ft excavation, a 20-mil reinforced poly liner will be installed and properly seated (Figure 2). The site will be backfilled with the blended soil to surface level and contoured to the surrounding location.

Since the release in the facility occurred over a lined containment, the contaminated gravel overlaying the liner will be removed and taken to a NMOCD approved facility for disposal. Clean gravel will be imported to the site to replace the contaminated caliche.

Once these corrective actions have been completed, a report will be submitted requesting 'remediation termination' and site closure.

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 – Site Location Map
- Figure 2 – Proposed Corrective Actions
- Appendix A – Initial C-141
- Appendix B – Initial Sampling Labs
- Appendix C – Photo Documentation



# APACHE LOCKHART A-17

Legals: UL/1 sec. 17  
T-21-S-R-37-E  
LEA COUNTY, NM

GPS date: 2/27/14 AG  
Drawing date: 3/5/14  
Drafted by: L. Weinheimer

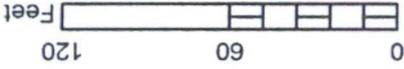
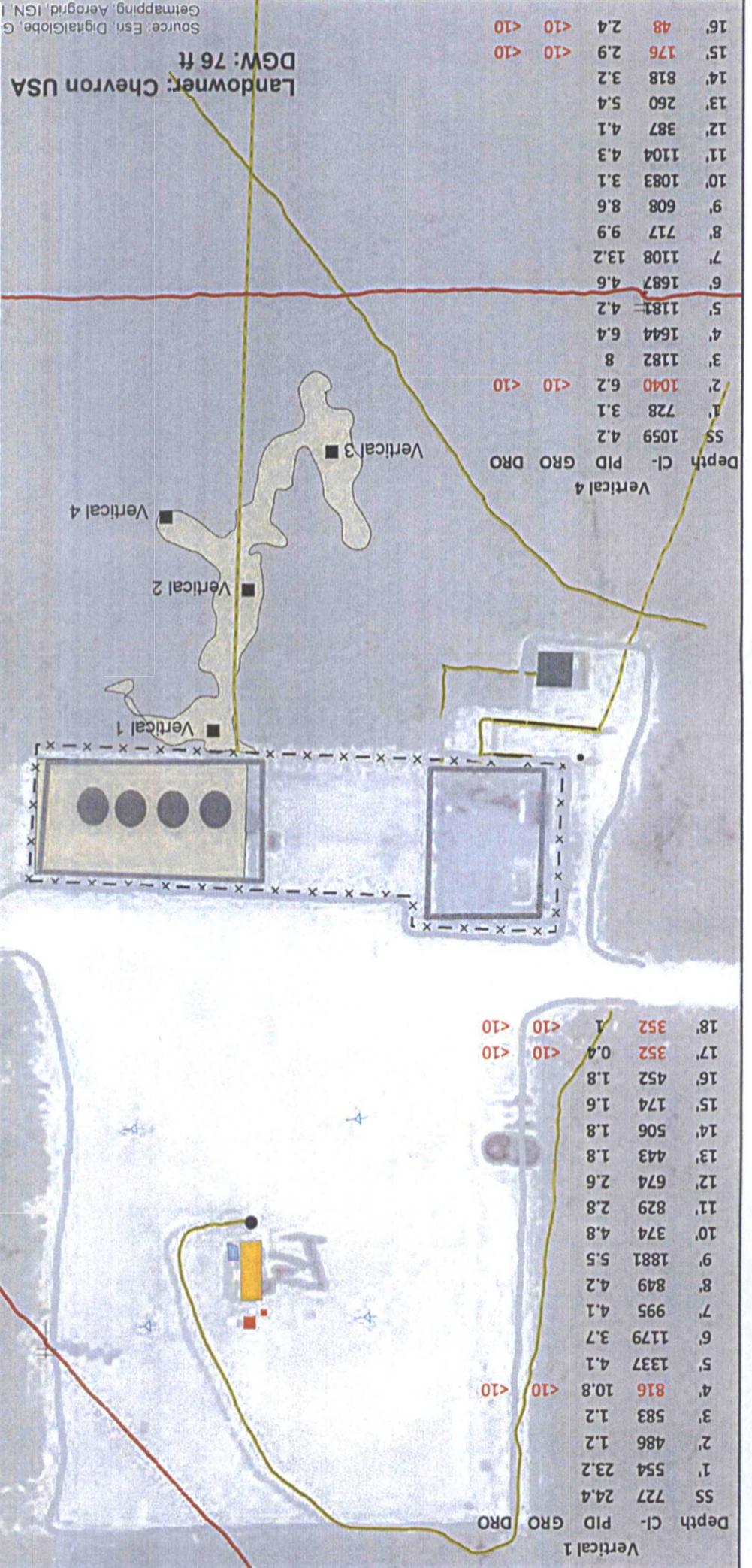


Figure 1

Source: Esri, DigitalGlobe, GeoEye, IGN, AerGRID, GeoEye, Inc.

Landowner: Chevron USA  
DGW: 76 ft

- Legend**
- STAIN (10,603 sq ft; 4,988 sq ft in pasture)
  - STORAGE TANK
  - PUMPJACK
  - CHEMICAL TANK
  - SURFACE PIPELINE
  - RISER
  - PAD/ROAD EDGE
  - OVERHEAD ELECTRIC LINE
  - FENCE
  - BURIED PIPELINE
  - BERM
  - WELLHEAD
  - VERTICAL PIPE
  - VERTICAL
  - ELECTRIC BOX
  - ELECTRIC POLE
  - DEADMAN
  - CONTROL BOX



**CI- FIELD DATA**  
**CI- LAB DATA**

Vertical 2	Depth	CI- PID	GRO	DRO
SS	422	10.8		
1'	299	9.1		
2'	300	9.2		
3'	427	13.1		
4'	590	8.4		
5'	2120	34.7	<10	<10
6'	1039	16.6		
7'	779	9.1		
8'	489	4.1		
9'	358	6.1		
10'	579	5.4		
11'	224	2.2	<10	<10
12'	128	2.2	<10	<10
Vertical 3	CI- PID	GRO	DRO	
SS	1251	4.9		
1'	803	6.1		
2'	1243	4.1		
3'	1730	2.5	<10	<10
4'	1290	2.7		
5'	1143	3.4		
6'	950	10.6		
7'	1023	11.3		
8'	572	3.3		
9'	348	4.5		
11'	212	2.2		
12'	536	2.5		
13'	160	2	<10	<10
14'	208	2.4	<10	<10

Vertical 1	Depth	CI- PID	GRO	DRO
SS	727	24.4		
1'	554	23.2		
2'	486	1.2		
3'	583	1.2		
4'	816	10.8	<10	<10
5'	1337	4.1		
6'	1179	3.7		
7'	995	4.1		
8'	849	4.2		
9'	1881	5.5		
10'	374	4.8		
11'	829	2.8		
12'	674	2.6		
13'	443	1.8		
14'	506	1.8		
15'	174	1.6		
16'	452	1.8		
17'	352	0.4	<10	<10
18'	352	1	<10	<10

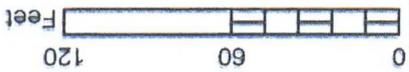
Vertical 4	Depth	CI- PID	GRO	DRO
SS	1059	4.2		
1'	728	3.1		
2'	1040	6.2	<10	<10
3'	1182	8		
4'	1644	6.4		
5'	1181	4.2		
6'	1687	4.6		
7'	1108	13.2		
8'	717	9.9		
9'	608	8.6		
10'	1083	3.1		
11'	1104	4.3		
12'	387	4.1		
13'	260	5.4		
14'	818	3.2		
15'	176	2.9	<10	<10
16'	48	2.4	<10	<10



**APACHE  
LOCKHART A-17**

Legals: UL/1 sec. 17  
T-21-S-R-37-E  
LEA COUNTY, NM

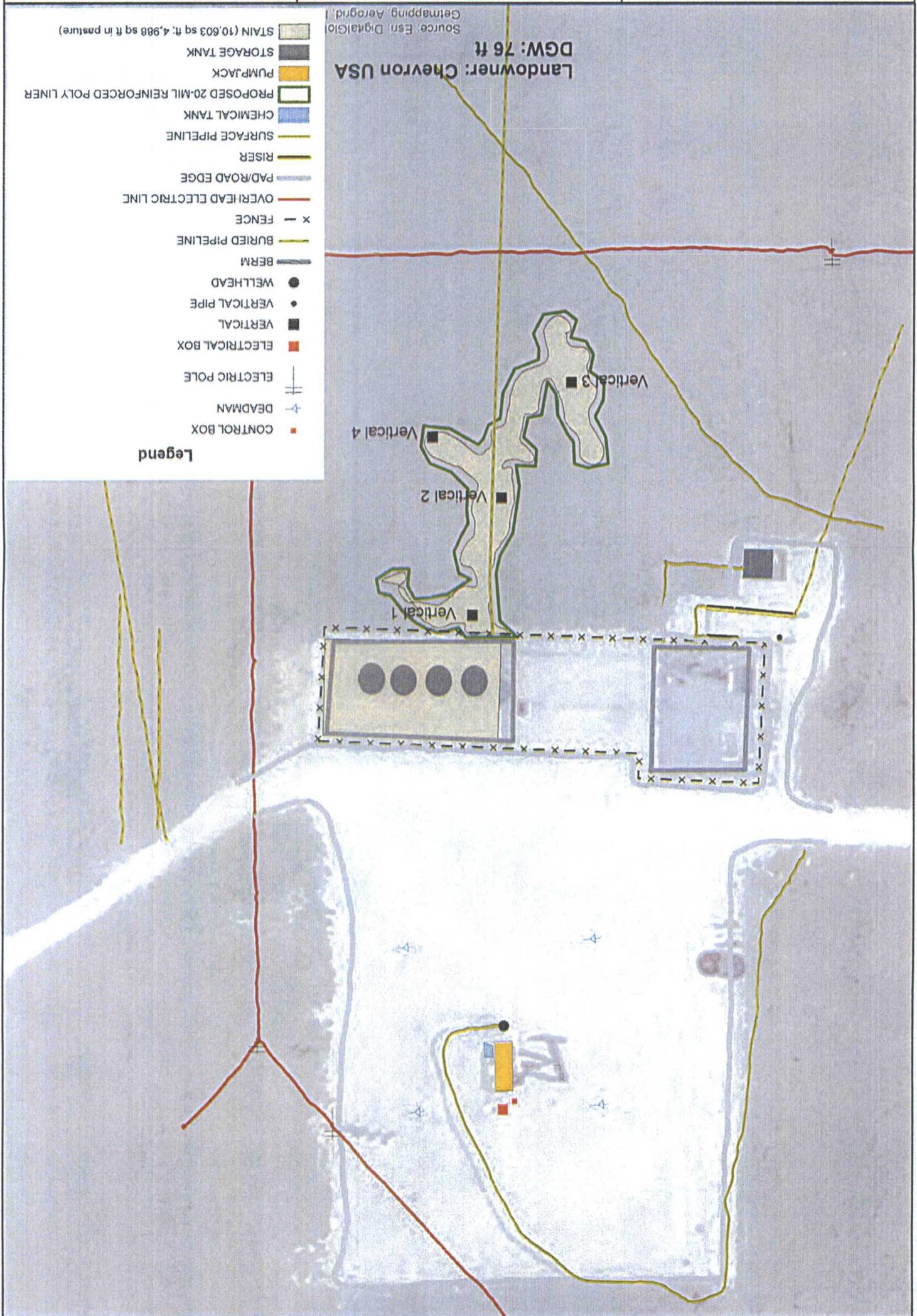
GPS date: 2/27/14 AG  
Drawing date: 3/5/14  
Drafted by: L. Weinheimer



**Figure 2**

Landowner: Chevron USA  
DGW: 76 ft  
Source: Esri, DigitalGlobe  
Getmapping, AeroGRID

- Legend**
- CONTROL BOX
  - DEADMAN
  - ELECTRIC POLE
  - ELECTRICAL BOX
  - VERTICAL
  - VERTICAL PIPE
  - WELLHEAD
  - BERM
  - BURIED PIPELINE
  - FENCE
  - OVERHEAD ELECTRIC LINC
  - PAD/ROAD EDGE
  - RISER
  - SURFACE PIPELINE
  - CHEMICAL TANK
  - PROPOSED 20-MIL REINFORCED POLY LINER
  - PUMP/JACK
  - STORAGE TANK
  - STAIN (10,603 sq ft; 4,988 sq ft in pasture)



**Proposed Corrective Actions**

March 03, 2014

BRUCE BAKER

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: LOCKHART A-17

Enclosed are the results of analyses for samples received by the laboratory on 02/25/14 16:15.

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: 02/25/2014  
 Reported: 03/03/2014  
 Project Name: LOCKHART A-17  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 02/25/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: VERT 2 @ 5 FT (H400572-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>2120</b>	16.0	02/28/2014	ND	416	104	400	7.41		
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	03/01/2014	ND	217	108	200	3.10		
DRO >C10-C28	<10.0	10.0	03/01/2014	ND	212	106	200	0.309		
<i>Surrogate: 1-Chlorooctane</i>		90.8 %	65.2-140							
<i>Surrogate: 1-Chlorooctadecane</i>		93.0 %	63.6-154							

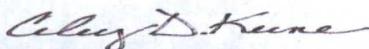
**Sample ID: VERT 2 @ 11 FT (H400572-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>224</b>	16.0	02/28/2014	ND	416	104	400	7.41		
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	03/01/2014	ND	217	108	200	3.10		
DRO >C10-C28	<10.0	10.0	03/01/2014	ND	212	106	200	0.309		
<i>Surrogate: 1-Chlorooctane</i>		82.5 %	65.2-140							
<i>Surrogate: 1-Chlorooctadecane</i>		89.6 %	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: 02/25/2014  
 Reported: 03/03/2014  
 Project Name: LOCKHART A-17  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 02/25/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: VERT 2 @ 12 FT (H400572-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>128</b>	16.0	02/28/2014	ND	416	104	400	7.41		
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	03/01/2014	ND	217	108	200	3.10		
DRO >C10-C28	<10.0	10.0	03/01/2014	ND	212	106	200	0.309		

Surrogate: 1-Chlorooctane 77.5 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 82.7 % 63.6-154

**Sample ID: VERT 3 @ 3 FT (H400572-04)**

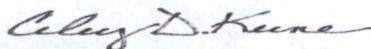
Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1730</b>	16.0	02/28/2014	ND	416	104	400	7.41		
TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	03/01/2014	ND	217	108	200	3.10		
DRO >C10-C28	<10.0	10.0	03/01/2014	ND	212	106	200	0.309		

Surrogate: 1-Chlorooctane 75.6 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 81.9 % 63.6-154

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\*=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: 02/25/2014  
 Reported: 03/03/2014  
 Project Name: LOCKHART A-17  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 02/25/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: VERT 3 @ 13 FT (H400572-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>160</b>	16.0	02/28/2014	ND	416	104	400	7.41		
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	03/01/2014	ND	217	108	200	3.10		
DRO >C10-C28	<10.0	10.0	03/01/2014	ND	212	106	200	0.309		
<i>Surrogate: 1-Chlorooctane</i>	88.2 %	65.2-140								
<i>Surrogate: 1-Chlorooctadecane</i>	91.1 %	63.6-154								

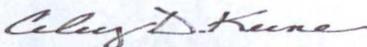
**Sample ID: VERT 3 @ 14 FT (H400572-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>208</b>	16.0	02/28/2014	ND	416	104	400	7.41		
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	03/01/2014	ND	217	108	200	3.10		
DRO >C10-C28	<10.0	10.0	03/01/2014	ND	212	106	200	0.309		
<i>Surrogate: 1-Chlorooctane</i>	87.5 %	65.2-140								
<i>Surrogate: 1-Chlorooctadecane</i>	97.1 %	63.6-154								

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

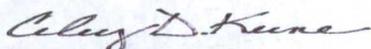
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**CARDINAL LABORATORIES**

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

Company Name: <b>Apache</b>		P.O. #:		ANALYSIS REQUEST		
Project Manager: <b>Raice Baker</b>		Company:		Chlorides		
Address: <b>Larry Baker @ apachecorp.com</b>		Attn:		TPH 8015 M		
City: <b>Hobbs</b>		Address:		BTEX		
State: <b>NM</b> Zip: <b>88240</b>		City:		Texas TPH		
Phone #: _____		State:		Complete Cations/Anions		
Fax #: _____		Phone #:		TDS		
Project #: _____		Project Owner:				
Project Name: <b>Hookport A-17</b>		City:				
Project Location:		State:				
Sampler Name: <b>Amber Groves</b>		Phone #:				
FOR LAB USE ONLY		Fax #:				
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	DATE	TIME
H400572	1 Vert 2 @ 5ft	01	1	GROUNDWATER	2-25-14	12:00
	2 Vert 2 @ 11ft	01	1	WASTEWATER	2-25-14	12:20
	3 Vert 2 @ 12ft	01	1	SLUDGE	2-25-14	12:25
	4 Vert 3 @ 3ft	01	1	OTHER:	2-25-14	2:15
	5 Vert 3 @ 13ft	01	1	ACID/BASE:	2-25-14	3:00
	6 Vert 3 @ 14ft	01	1	ICE / COOL:	2-25-14	3:10
				OTHER:		

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Relinquished By: <b>Amber Groves</b>	Date: <b>2-25-14</b>	Received By: <b>Joeli Jensen</b>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Time: <b>4:15</b>	Received By:	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Time:		Time:	REMARKS:	
Time:		Time:	email results	
Delivered By: (Circle One)	Sample Condition	Checked By:	Knorman@rice-ecs.com	
Sampler - UPS - Bus - Other:	Cool / Intact	Initials:	Kjones@riceswd.com; jkamlain@rice-ecs.com	
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		hconder@rice-ecs.com; Lweinheimer@rice-ecs.com;	
			sedwards@rice-ecs.com; lflores@rice-ecs.com; agroves@rice-ecs.com	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476  
**#54**



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

March 04, 2014

BRUCE BAKER

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: LOCKHART A-17

Enclosed are the results of analyses for samples received by the laboratory on 02/27/14 16:40.

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,

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: 02/27/2014  
 Reported: 03/04/2014  
 Project Name: LOCKHART A-17  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 02/25/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: VERT 1 @ 4 FT (H400603-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>816</b>	16.0	03/04/2014	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	03/03/2014	ND	206	103	200	7.94		
DRO >C10-C28	<10.0	10.0	03/03/2014	ND	197	98.7	200	8.31		

Surrogate: 1-Chlorooctane 100 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 105 % 63.6-154

**Sample ID: VERT 1 @ 17 FT (H400603-02)**

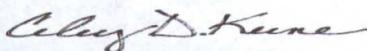
Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>352</b>	16.0	03/04/2014	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	03/04/2014	ND	216	108	200	2.10		
DRO >C10-C28	<10.0	10.0	03/04/2014	ND	202	101	200	1.52		

Surrogate: 1-Chlorooctane 99.2 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 104 % 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: 02/27/2014  
 Reported: 03/04/2014  
 Project Name: LOCKHART A-17  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 02/27/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: VERT 1 @ 18 FT (H400603-03)**

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	03/04/2014	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	03/04/2014	ND	216	108	200	2.10		
DRO >C10-C28	<10.0	10.0	03/04/2014	ND	202	101	200	1.52		
Surrogate: 1-Chlorooctane	99.2 %	65.2-140								
Surrogate: 1-Chlorooctadecane	101 %	63.6-154								

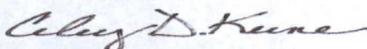
**Sample ID: VERT 4 @ 2 FT (H400603-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1040	16.0	03/04/2014	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	03/04/2014	ND	216	108	200	2.10		
DRO >C10-C28	<10.0	10.0	03/04/2014	ND	202	101	200	1.52		
Surrogate: 1-Chlorooctane	96.8 %	65.2-140								
Surrogate: 1-Chlorooctadecane	103 %	63.6-154								

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\* = 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: 02/27/2014  
 Reported: 03/04/2014  
 Project Name: LOCKHART A-17  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 02/27/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: VERT 4 @ 15 FT (H400603-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>176</b>	16.0	03/04/2014	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	03/04/2014	ND	216	108	200	2.10		
DRO >C10-C28	<10.0	10.0	03/04/2014	ND	202	101	200	1.52		
<i>Surrogate: 1-Chlorooctane</i>	99.2 %	65.2-140								
<i>Surrogate: 1-Chlorooctadecane</i>	102 %	63.6-154								

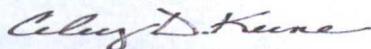
**Sample ID: VERT 4 @ 16 FT (H400603-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>48.0</b>	16.0	03/04/2014	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	03/04/2014	ND	216	108	200	2.10		
DRO >C10-C28	<10.0	10.0	03/04/2014	ND	202	101	200	1.52		
<i>Surrogate: 1-Chlorooctane</i>	94.1 %	65.2-140								
<i>Surrogate: 1-Chlorooctadecane</i>	98.6 %	63.6-154								

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

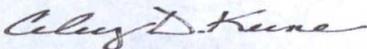
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

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\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**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

Company Name: <u>Apache</u>		P.O. #:		ANALYSIS REQUEST	
Project Manager: <u>Bruce Baker</u>		Company:		Chlorides	
Address:		Attn:		TPH 8015 M	
City: Hobbs		Address:		BTEX	
Phone #:		City:		Texas TPH	
Project #:		State:		Complete Cations/Anions	
Project Name: <u>Lockhart A-17</u>		Phone #:		TDS	
Project Location:		Fax #:			
Sampler Name: Amber Groves					
FOR LAB USE ONLY		PRESERV		DATE	
Lab I.D.		ACID/BASE:		TIME	
14DD1023		OTHER:		8:35	
1 Vort 1 @ 4ft		ICE / COOL		8:45	
2 Vort 1 @ 17ft		OTHER:		8:50	
3 Vort 1 @ 17ft 18ft 18ft		SLUDGE		10:00	
4 Vort 4 @ 2ft		OIL		10:20	
5 Vort 4 @ 15ft		SOIL		10:30	
6 Vort 4 @ 11ft		WASTEWATER			
		GROUNDWATER			
		# CONTAINERS			
		(G) RAB OR (C) OMP			

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Relinquished By: Amber Groves Date: 2-27-14 Received By: Jodi Jenson  
 Time: 4:40 Date: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Time: \_\_\_\_\_

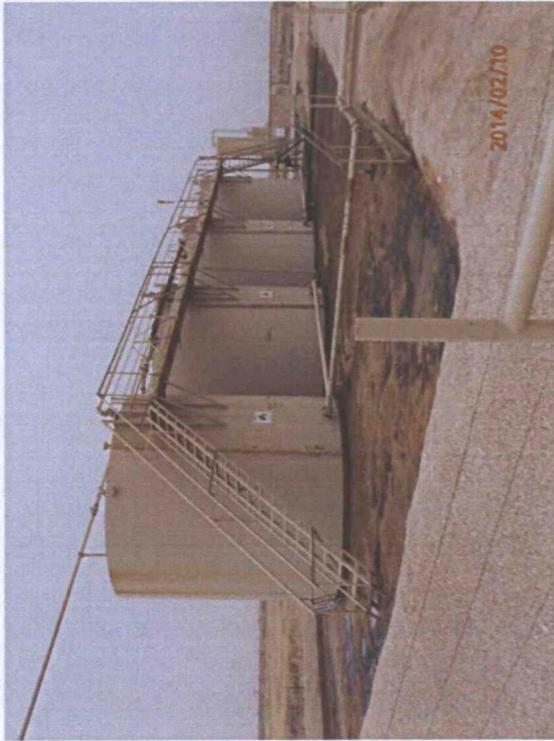
Phone Result:  Yes  No Add'l Phone #:  
 Fax Result:  Yes  No Add'l Fax #:  
 REMARKS:  
 email results  
 Knorman@rice-ecs.com  
 Kjones@riceswd.com; jkamlplain@rice-ecs.com  
 hconder@rice-ecs.com; Lweinheimer@rice-ecs.com;  
 sedwards@rice-ecs.com; lflores@rice-ecs.com; agroves@rice-ecs.com  
REGAN@rice-ecs.com

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other:  
 Sample Condition: Cool  Intact   
 Yes  No   
 Checked By: Jodi Jenson  
 (initials)

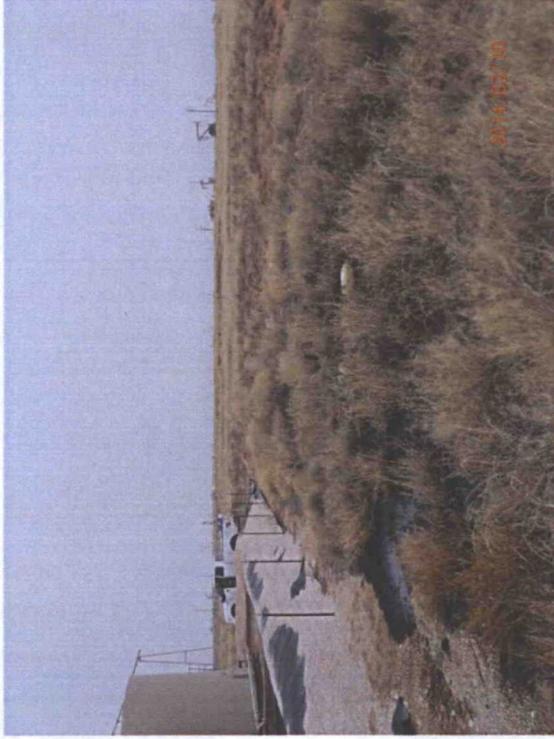
† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476 #54

# Apache Lockhart A-17

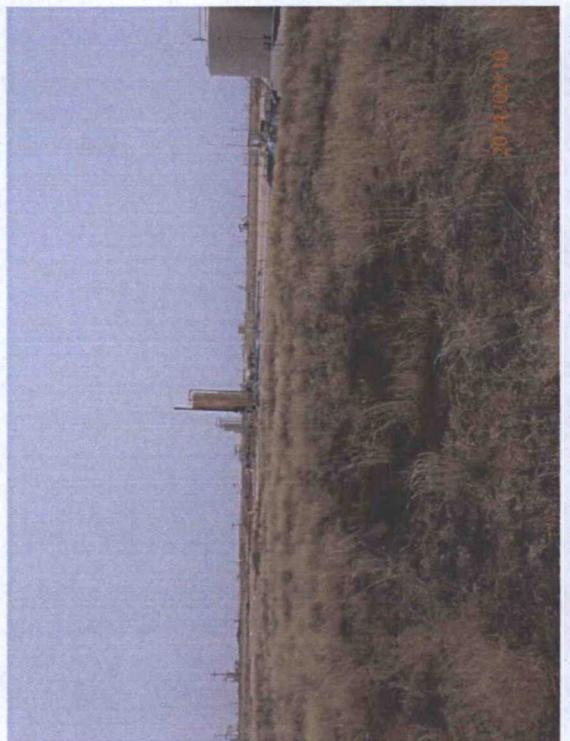
Unit Letter I, Section 17, T21S, R37E



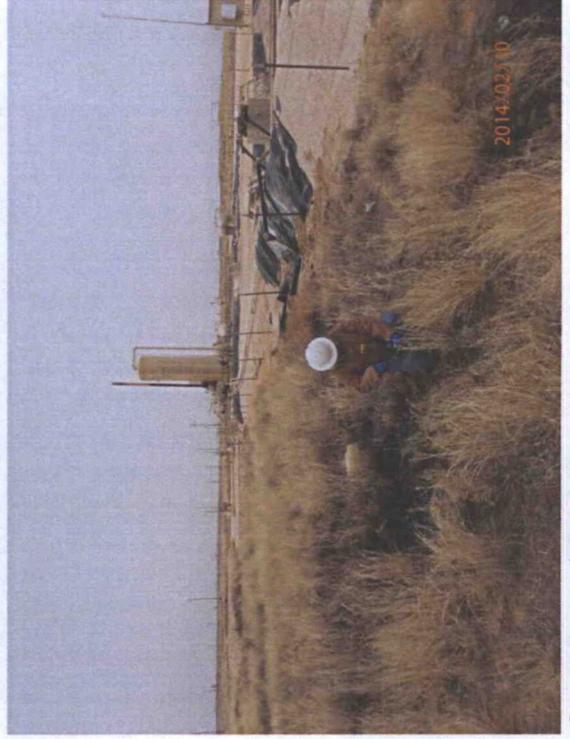
Initial release area, facing southwest 2/10/14



Initial release area, facing east 2/10/14



Initial release photo, facing northwest 2/10/14



Sampling release area, facing west 2/10/14



Installing vertical, facing east

2/25/14



Taking sample of vertical, facing northwest

2/25/14