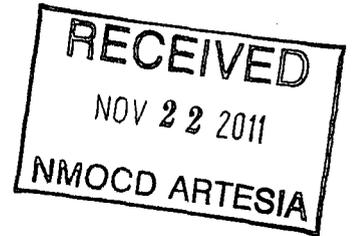




EXPLORING WHAT'S POSSIBLE



# APACHE CORPORATION

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

## Empire Abo Unit M-14

---

### Closure Report

2RP-860

API 30-015-22834

Release Date: April 29, 2011

Unit Letter C, Section 11, Township 18S, Range 27E

# Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241  
Phone 575.393.4411 Fax 575.393.0293

**September 23, 2011**

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

**RE: TERMINATION REQUEST  
Apache – Empire Abo Unit M-14 AD  
UL/C Section 11 T18S R27E**

Mr. Bratcher:

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

## **Background and Initial Response**

The site is an accidental discharge of fluids from a ruptured buried emulsion line and impacted areas located east of Artesia approximately 5 miles southwest of the intersection of US Hwy 82 and NM 360 in unit letter 'C', section 11, and unit letter 'N', section 2, T18S, R27E in Eddy County, New Mexico (Figure 1) including an area of historical impact (BP L-14). Standing fluid was recovered with vacuum trucks, and an initial form C-141 was submitted for the leak event on May 2, 2011 (Appendix A).

## **Primary Leak**

On May 2, 2011, RECS personnel initiated work on the primary leak area in unit letter 'C', section 11, T18S, R27E. The area was measured and surface samples were taken to a commercial laboratory for analysis of chloride, BTEX, and TPH including Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) (Appendix D). Laboratory chloride results ranged from a high of 24,800 ppm (mg/kg) at the sample point labeled 260 ft North/25 ft East (in relation to the discharge point) to a low of 4,040 ppm at the sample point 55 ft North/22 ft East. GRO readings ranged from a high of 5,080 ppm at the sample point labeled 5 ft North to a low of 460 ppm at the sample point labeled 487 ft North Center of Pad. DRO readings ranged from 34,700 ppm at the discharge point to 11,100 ppm at the sample point labeled 260 ft North/25 ft East. Benzene readings were non-detect at all samples points except at the sample point labeled 55 ft North/22 ft East which contained 9.93 ppm, and at the sample point labeled 5 ft North showing 6.09 ppm. Toluene, ethyl-benzene, and total xylenes were present at all sample points.

From May 4, 2011 through May 13, 2011, the primary leak area was scraped. On May 10, 2011, the caliche road scrape and the west, north, and east excavations were completed. On May 11, 2011, the south excavation was completed, and on May 12, 2011, the southeast excavation was completed. Representative samples from each excavation were taken to a commercial laboratory for analysis of chloride, TPH (GRO/DRO), and BTEX (Figure 2 and Appendix D). Chloride ranged from 16 ppm to 656 ppm, GRO was non-detect, DRO was present in 4 samples – 3 of which were less than 35 ppm and 1 sample at 92.4 ppm, and BTEX was non-detect throughout.

### **Historical Impact Area**

Remediation of the historical impact area (BP L-14) in unit letter 'N', section 2, T18S, R27E was included in the primary leak cleanup activities. On May 12, 2011, RECS personnel initiated work on the area of historical impact in connection with the primary leak. Soil samples were collected from the site and field tested for chlorides. Headspace measurements were also taken in the field using a Photo Ionization Detector (PID).

On May 25, 2011, a temporary monitor well was installed 50 ft. in the assumed up gradient direction from the historical impact area (570 ft. northwest of the primary leak area) to determine depth to ground water (Figure 3 and Appendix B). The well was drilled to 100 ft. below ground surface (bgs) and was left open to allow potential groundwater to accumulate. On June 28, 2011, ARC Environmental personnel used a Solinst Water Level Meter to verify any accumulation of groundwater. No water was detected within the borehole at the total depth of 95.32 ft. bgs. On July 7, 2011, RECS personnel plugged the borehole to ground surface with bentonite.

On May 26, 2011, three soil bores (SB) were installed in the historical impact area (Figure 3 and Appendix B). Representative samples from each soil bore were taken to a commercial laboratory for analysis (Appendix E). Laboratory chloride readings ranged from 1,480 ppm (parts per million or mg/kg) at the surface of SB3 to 80 ppm at 10 ft. bgs in SB1. Gasoline Range Organics (GRO) were non-detect in all three soil bores except at the surface of SB3 where GRO was 64.4 ppm. Diesel Range Organics (DRO) ranged from 2,510 ppm at the surface of SB3 to a low of non-detect at both 10 ft. and 40 ft. bgs in SB1, and also at 25 ft. bgs in SB2 and at 10 ft. bgs in SB3.

Based on soil bore data and preliminary observation and sampling, the historical impact area was separated into three sections (Figure 4): the North Excavation, the South Excavation, and the West Excavation. The North Excavation was 22 ft. deep with an area of 6,823 sq ft. The South Excavation was 8 ft. deep with an area of 2,324 sq ft. The West Excavation was 4 ft. deep with an area of 2,679 sq ft.

On June 10 and 11, 2011, final samples were taken from each historical impact excavation and sent to a commercial laboratory for analyses of chloride and TPH (GRO/DRO) (Figure 4 and Appendix E).

A total of 10,152 cubic yards of impacted soil was removed from both the primary leak area and the historical impact area and transported to a NMOCD approved facility for disposal. On June

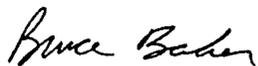
24, 2011, all excavations were backfilled with 9,694 cubic yards of clean imported soil and contoured to the surrounding landscape. See Appendix C for photographs of field activities.

### **Conclusion**

Due to the nonexistence of groundwater at site, chloride in the entire area remaining relatively low and TPH and BTEX remaining well below guidelines, Apache submits the final Form C-141 (Appendix F) and respectfully requests Termination status for this site and the closure of the regulatory file.

Apache Corporation appreciates the opportunity to work with you on this project. Please call Natalie Gladden (575) 390-4186 if you have any questions or comments.

Sincerely,



Bruce Baker  
Head Foreman  
RECS  
(575) 631-5157

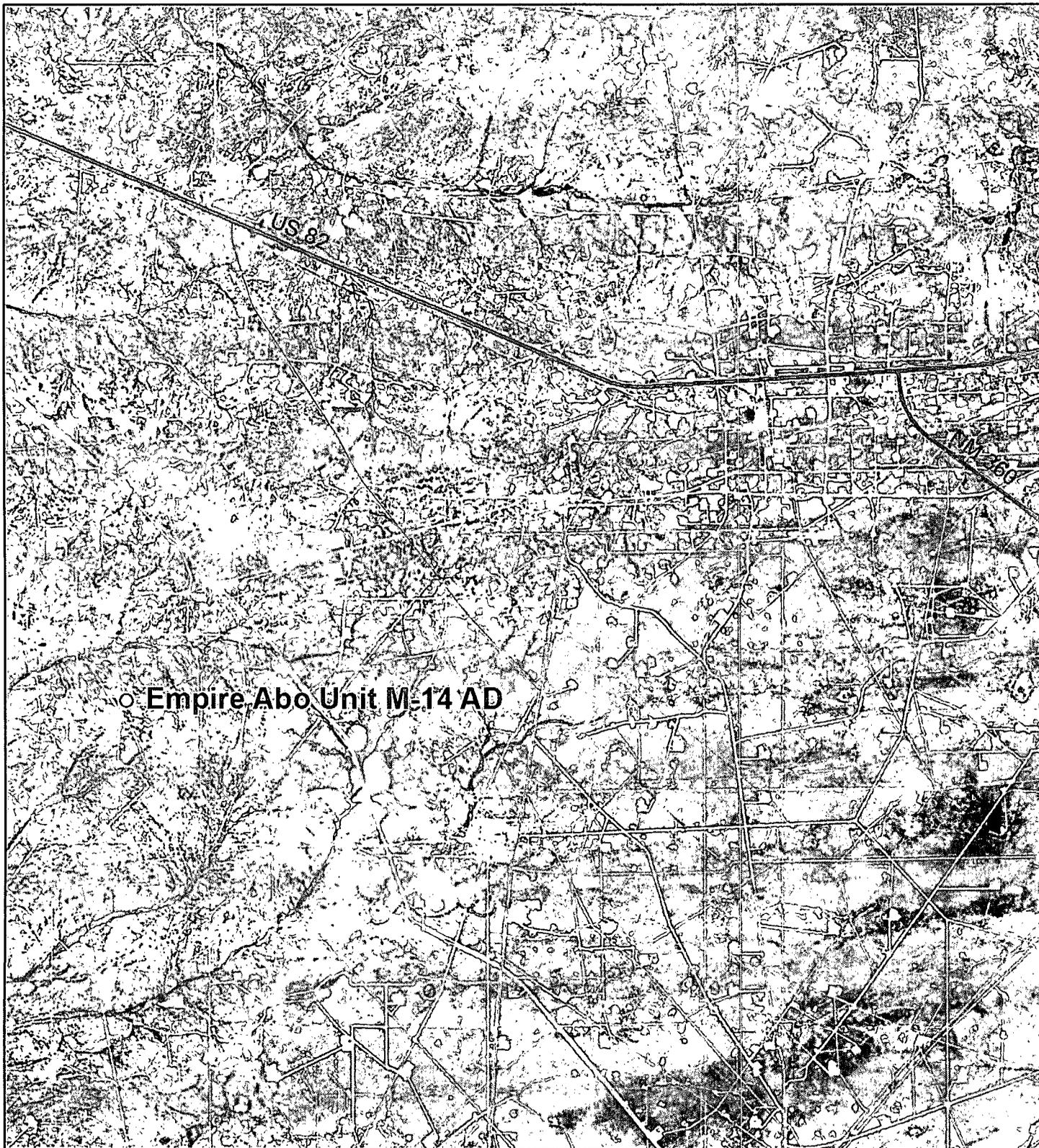
#### Attachments:

- Figure 1: Site Map
- Figure 2: Primary Leak Excavation Summary
- Figure 3: Soil Bore Installation Plat
- Figure 4: Excavation Summary Plat
- Appendix A: Initial Form C-141
- Appendix B: Temporary Monitoring Well and Soil Bore Logs, Letter of Groundwater Verification, and Plugging Report
- Appendix C: Site Photographs
- Appendix D: Primary Leak Laboratory Results
- Appendix E: Historical Impact Area and Soil Bore Laboratory Results
- Appendix F: Final Form C-141

# Figures

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

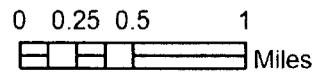
# Site Map



## APACHE EMPIRE ABO UNIT M-14 AD

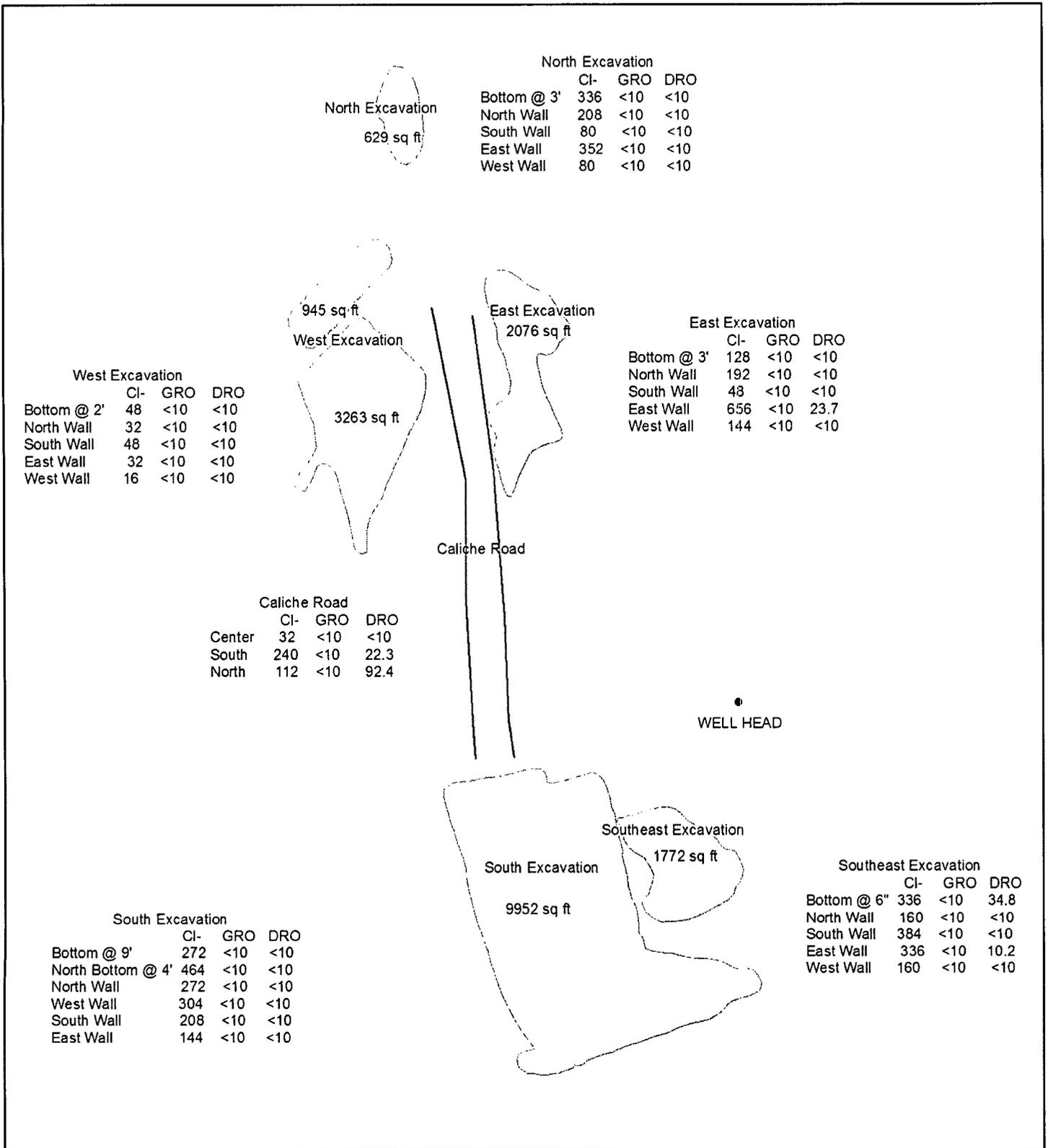
LEGALS: UL/C sec. 11  
T18S R27E

### Figure 1



Drawing date: 7/18/11  
Drafted by: L. Weinheimer

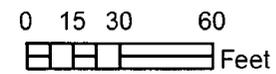
# Primary Leak



**APACHE  
EMPIRE ABO UNIT  
M-14 AD**

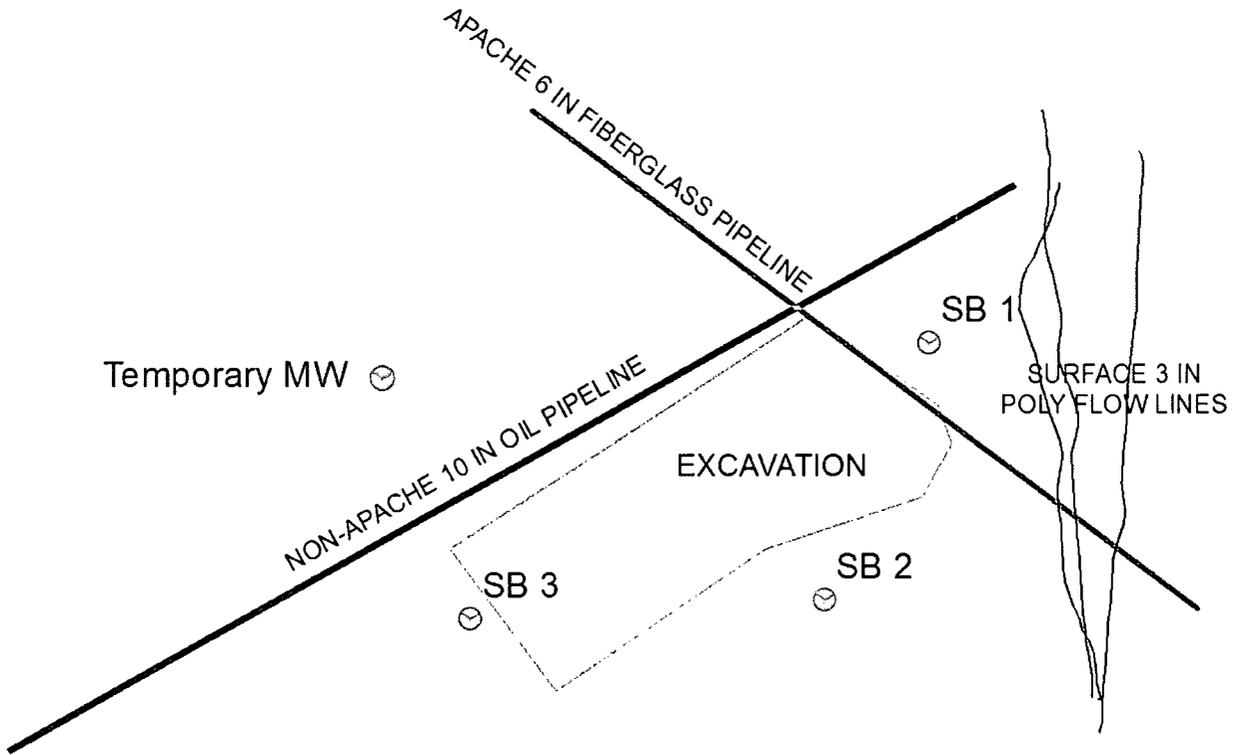
LEGALS: UL/C sec. 11  
T18S R27E

**Figure 2**



Drawing date: 6/21/11  
GPS date: 5/27/11 TG&DH  
Drafted by: L. Weinheimer

# Soil Bore Summary



SB 1					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	1003	0.3	672	<10	448
5'	320	0.6			
10'	174	0.2	80	<10	<10
15'	145	0.3			
20'	149	0.3			
25'	139	0.2			
30'	149	0.3			
35'	152	0.3			
40'	138	6.6	224	<10	<10

SB 2					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	360	31.4	400	<10	140
5'	149	391			
10'	147	320			
15'	237	68.7	256	<10	14
20'	174	66.5			
25'	181	2.3	112	<10	<10

SB 3					
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	1137	105	1480	64.4	2510
5'	180	7.3			
10'	182	2.7	112	<10	<10

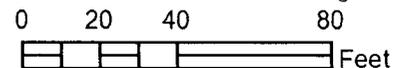
DGW = none



## EMPIRE ABO UNIT M-14 AD Historical Impact Area

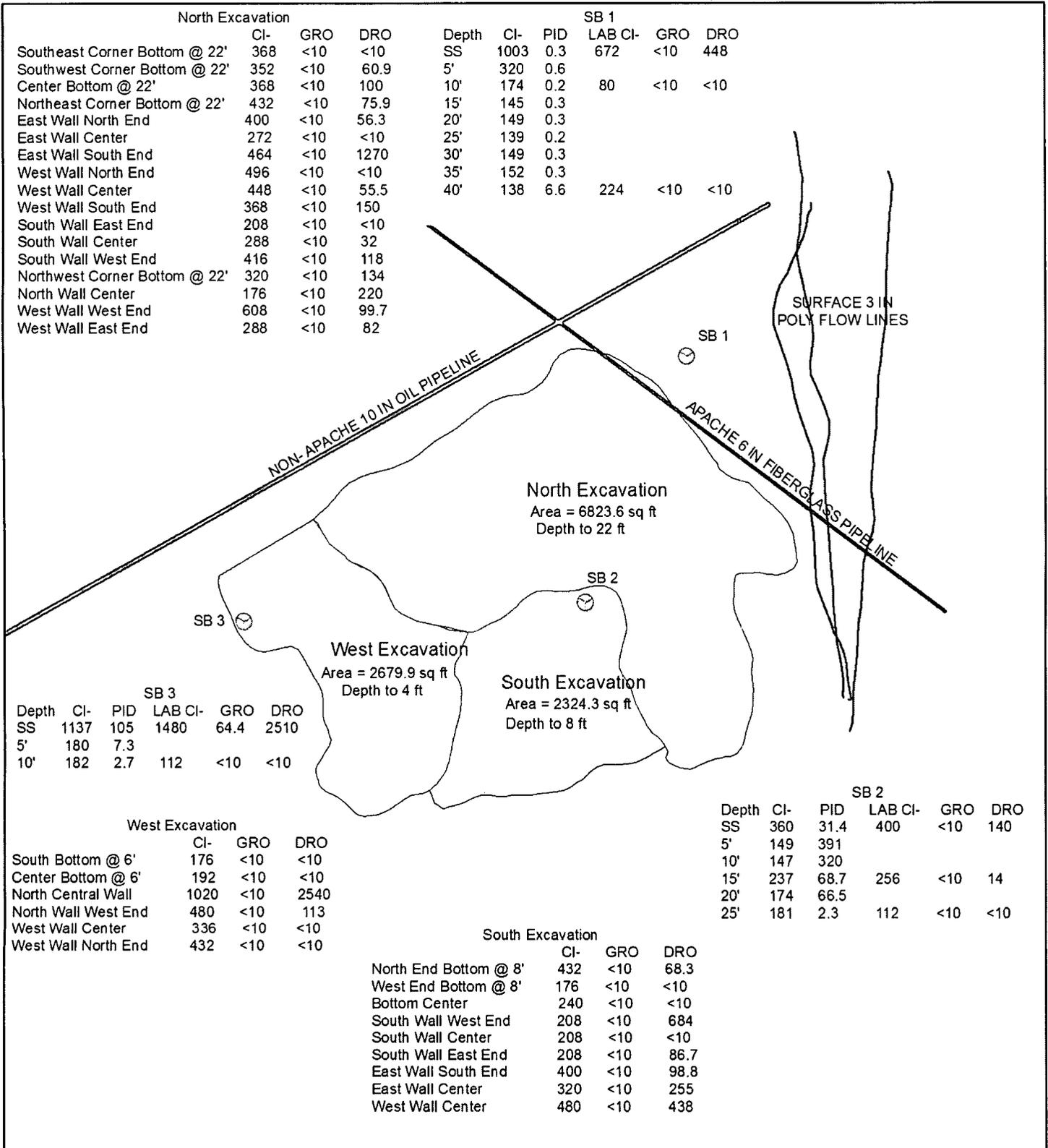
Legals: UL/N sec. 2  
T18S R27E  
Eddy County

### Figure 3



Drawing date: 5/31/11  
GPS date: 5/27/11 TG&DH  
Drafted by: T. Grieco and L. Weinheimer

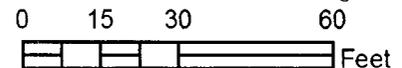
# Excavation Summary



**EMPIRE ABO UNIT  
M-14 AD  
Historical Impact Area**

**Legals: UL/N sec. 2  
T18S R27E**

Figure 4

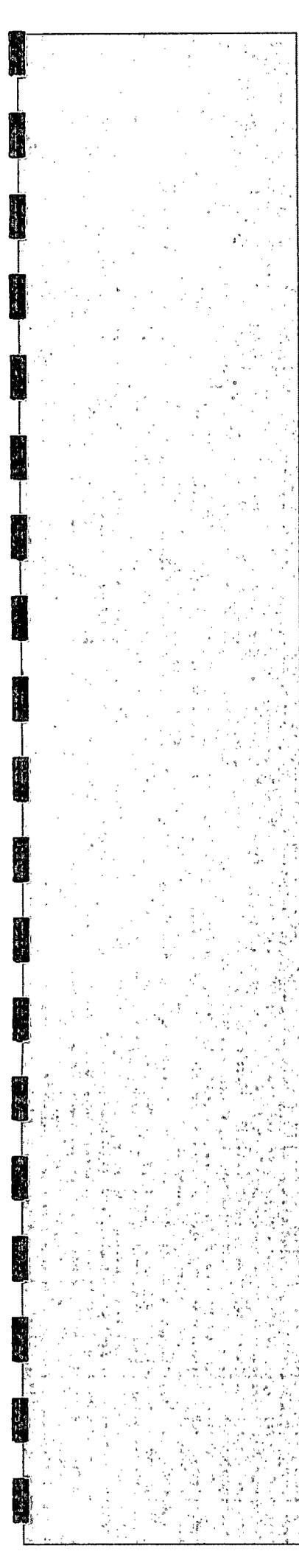


Drawing date: 6/21/11  
GPS date: 6/13/11 DH  
Drafted by: L. Weinheimer

# Appendix A

Initial Form C-141

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



# Appendix B

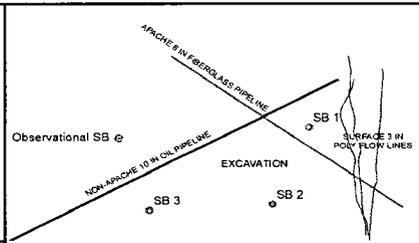
Temporary Monitoring Well and Soil Bore Logs, Letter  
of Groundwater Verification, and Plugging Report

**RICE Environmental Consulting and Safety (RECS)**

P.O. Box 5630 Hobbs, NM 88241

Phone 575.393.4411 Fax 575.393.0293

**Logger:** Jordan Woodfin  
**Driller:** Harrison & Cooper, Inc.  
**Drilling Method:** Air rotary  
**Start Date:** 5/26/2011  
**End Date:** 5/26/2011



**Comments:** All samples were taken from cuttings.  
 DRAFTED BY: L. Weinheimer  
 TD = 40 ft                      GW = none

**Company:** Apache Corporation  
**Project Name:** Empire Abo Unit M-14-2 AD      **Well ID:** SB-1  
**Project Consultant:** RECS  
**Location:** UL/N sec. 2 T18S R27E  
**Lat:** 32°46'13.102"N      **County:** Eddy  
**Long:** 104°15'6.934"W      **State:** NM

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown very fine sand, some well consolidated		
SS	1003	CI-672	0.3			
		GRO <10		Red very fine silty clay		
		DRO 448				
5 ft	320		0.6			
				Light brown very fine silty sand with caliche		
10 ft	174	CI-80	0.2			
		GRO <10				
		DRO <10				
15 ft	145		0.3			
				Tan very fine silty sand with caliche		
20 ft	149		0.3			
25 ft	139		0.2			
30 ft	149		0.3			
35 ft	152		0.3			
				Tan to red very fine silty sand with caliche		
40 ft	138	CI-224	6.6			
		GRO <10				
		DRO <10				



<b>Logger:</b>	Jordan Woodfin		
<b>Driller:</b>	Harrison & Cooper, Inc.		
<b>Drilling Method:</b>	Air rotary		
<b>Start Date:</b>	5/26/2011		
<b>End Date:</b>	5/26/2011	<b>Company:</b> Apache Corporation <b>Project Name:</b> Empire Abo Unit M-14-2 AD <b>Well ID:</b> SB-3	
<b>Comments:</b>		<b>Project Consultant:</b> RECS <b>Location:</b> UL/N sec. 2 T18S R27E	
All samples were taken from cuttings.  DRAFTED BY: L. Weinheimer TD = 10 ft                      GW = none		<b>Lat:</b> 32°46'12.418"N <b>County:</b> Eddy <b>Long:</b> 104°15'8.328"W <b>State:</b> NM	

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown very fine silty sand		
SS	1,137	CI-1480	105			
		GRO 64.4		Red clay with a cemented sand mix		
		DRO 2510				
5 ft	180		7.3			bentonite seal
				Red clay with a cemented sand mix		
10 ft	182	CI-112	2.7			
		GRO <10				
		DRO <10				

<b>Logger:</b>	Jordan Woodfin		
<b>Driller:</b>	Harrison & Cooper, Inc.		
<b>Drilling Method:</b>	Air rotary		
<b>Start Date:</b>	5/25/2011		
<b>End Date:</b>	5/25/2011	<b>Company:</b> Apache Corporation <b>Project Name:</b> Empire Abo Unit M-14-2 AD <b>Well ID:</b> Temp MW-1	
<b>Comments:</b>	No samples were taken while this bore was being installed. <b>Temp. MW PLUGGED 7-7-2011</b> DRAFTED BY: L. Weinheimer TD = 100 ft                      GW = none		<b>Project Consultant:</b> RECS <b>Location:</b> UL/N sec. 2 T18S R27E <b>Lat:</b> 32°46'13.023"N <b>County:</b> Eddy <b>Long:</b> 104°15'8.581"W <b>State:</b> NM

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				NO SAMPLES TAKEN		No casing placed in bore
SS						
5 ft						
10 ft						
15 ft						
20 ft						
25 ft						
30 ft						
35 ft						



Depth (feet)	chloride field tests	LAB	PID	Description		Lithology		Well Construction		
90 ft										
95 ft										
100 ft										

## Rice Environmental Consulting & Safety

---

P.O. Box 5630 Hobbs, NM 88241  
Phone 575.393.4411 Fax 575.393.0293

July 11<sup>th</sup>, 2011

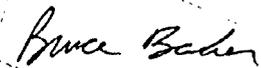
Natalie Gladden  
Apache Corp.  
P.O. Box 1849  
Eunice, New Mexico 88231

**Re: Apache Empire Abo Unit M-14-2 AD**

Ms. Gladden,

On May 25<sup>th</sup>, 2011, RECS personnel drilled an observational well at the Apache Empire Abo Unit M-14-2 AD. On June 28<sup>th</sup>, I supervised ARC Environmental personnel checking for water accumulation within the borehole using a Solinst Water Level Meter. The meter indicated no water had accumulated within the borehole at the total depth of 95.32 ft.

Sincerely,



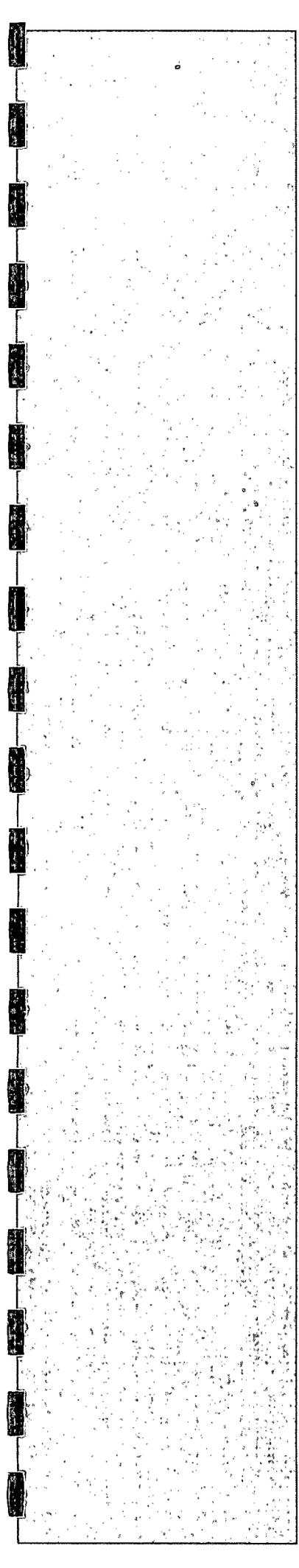
Bruce Baker  
Head Foreman  
Rice Environmental Consulting & Safety



## Monitor Well Plugging Report

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

Client	Apache Corp.
Contractor	RECS
Date Completed	7/7/2011
Site	Empire Abo Unit M-14
County	Eddy
Legal Description	UL/N sec. 2 T18S R27E
Well ID	Temp. MW-1
Casing Diameter	N/A
Well Depth	100'
Casing Material	N/A
Plugging Material	Bentonite



# Appendix C

## Site Photographs

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

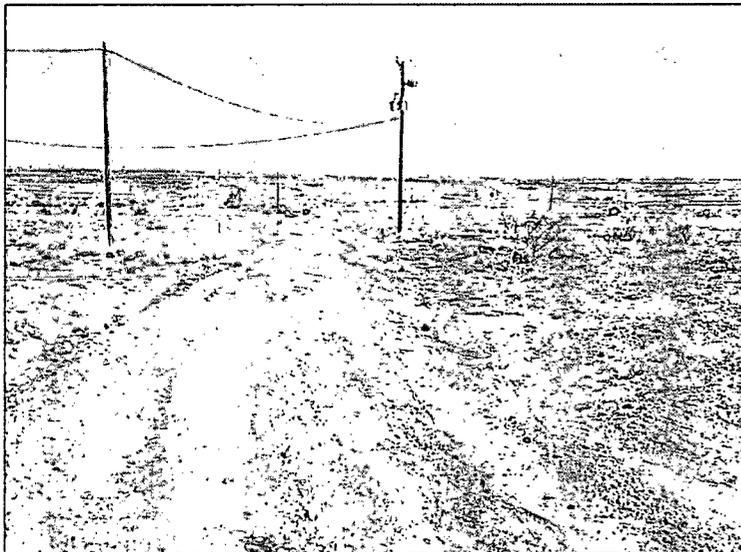
# Empire Abo Unit M-14

Unit C, Section 11, T18S, R27E



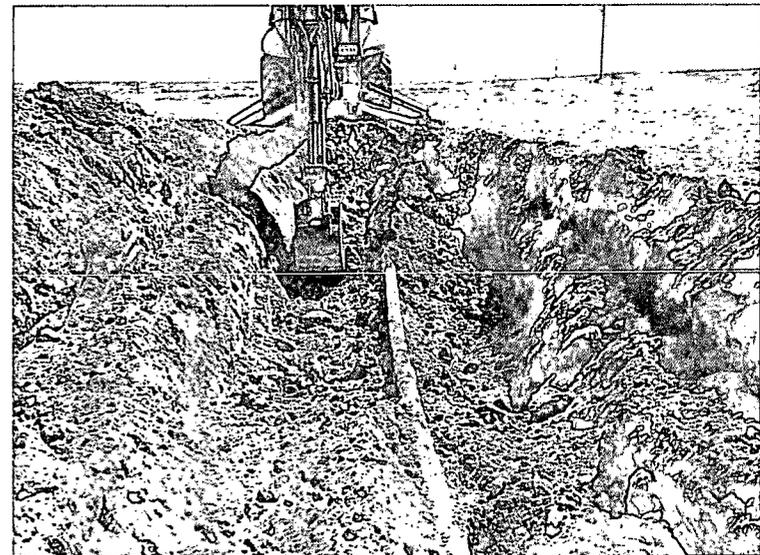
Prior to excavation, facing north

5/2/2011



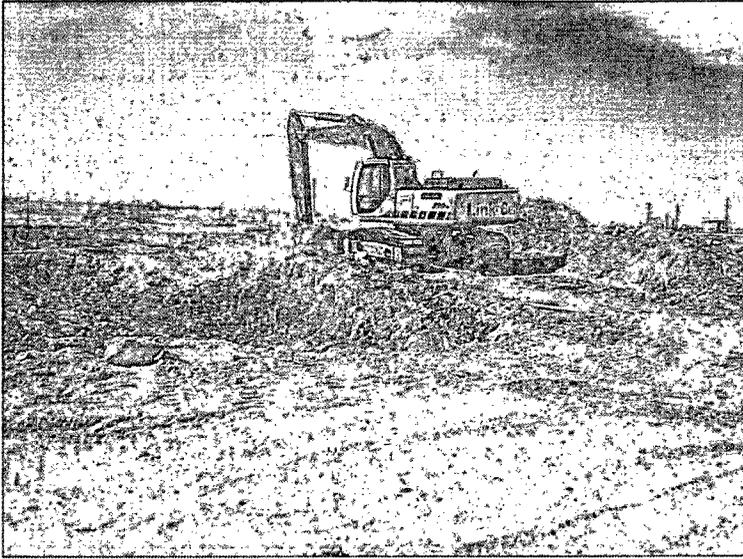
Prior to excavation, facing north

5/2/2011



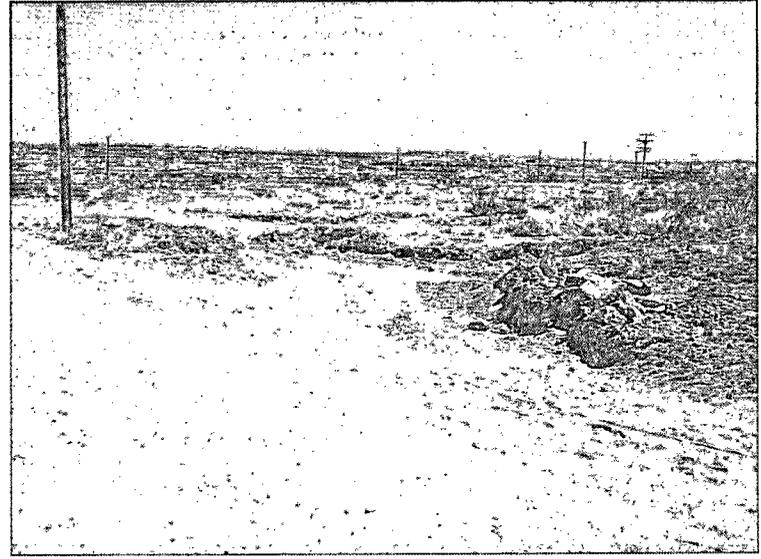
Excavating emulsion line, facing west

5/3/2011



Excavating, facing west

5/9/2011



Final excavation, facing east

5/12/2011



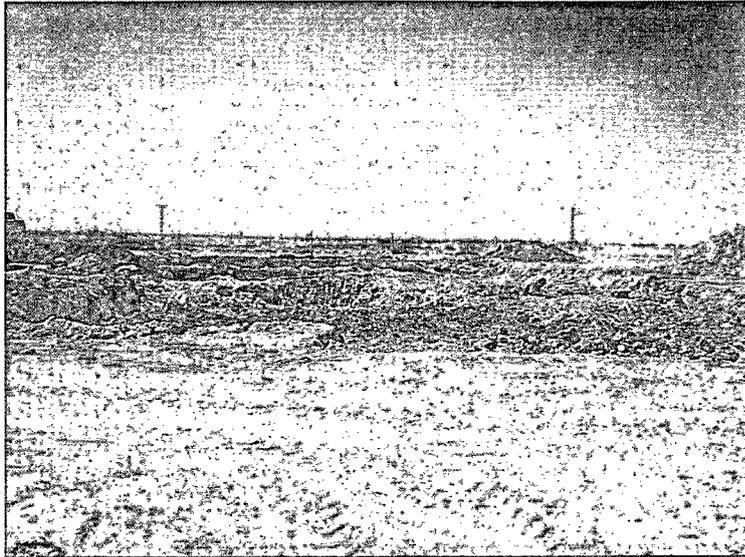
Final excavation west, facing north

5/12/2011



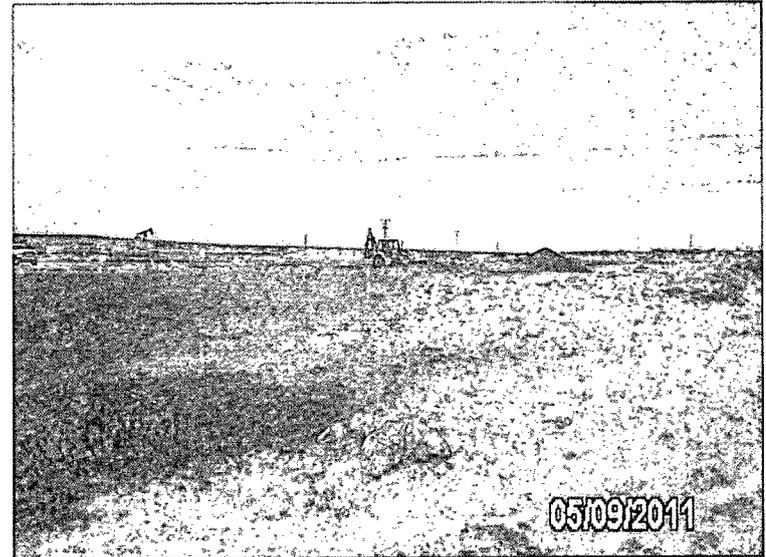
Final excavation south, facing west

5/12/2011



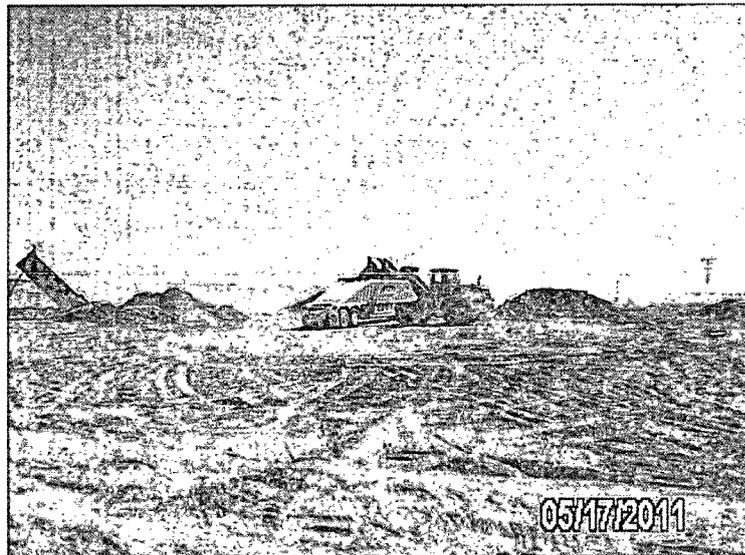
Final excavation, facing east

5/12/2011



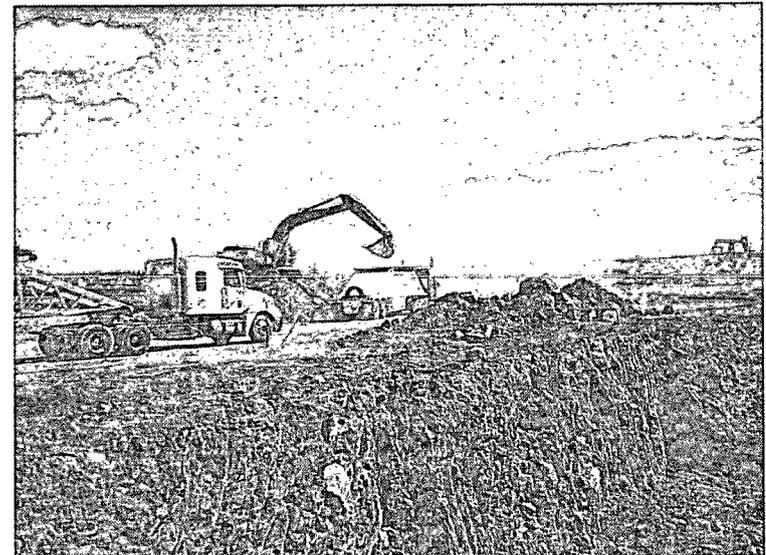
Historical impact area, facing northeast

5/9/2011



Removing spoil pile, facing east

5/17/2011



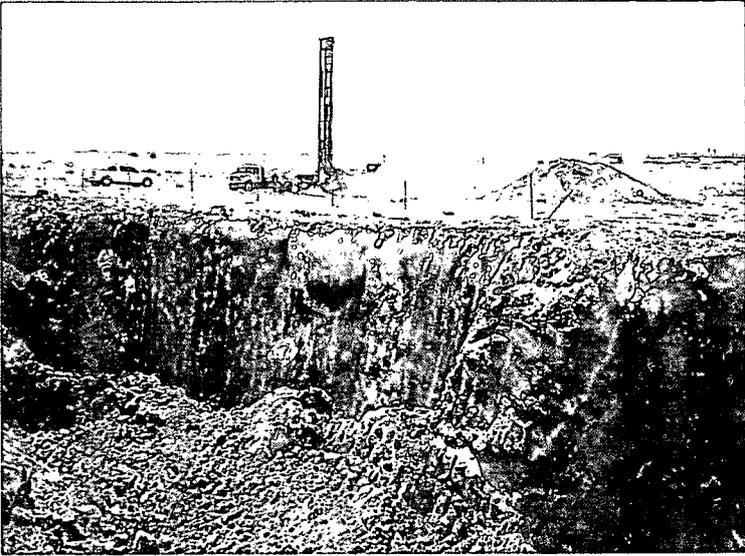
Excavating, facing east

5/19/2011



Sampling, facing west

5/19/2011



Drilling temporary monitor well, facing east 5/25/2011



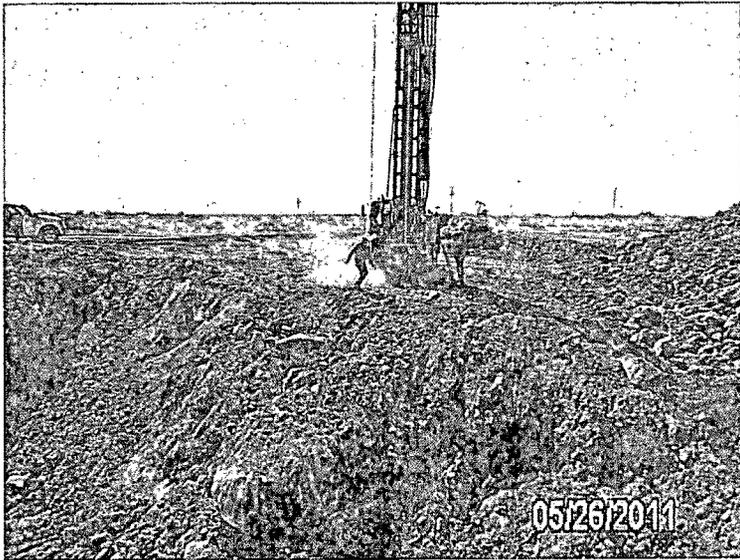
Drilling SB1, facing east

5/26/2011



Plugging SB1, facing north

5/26/2011



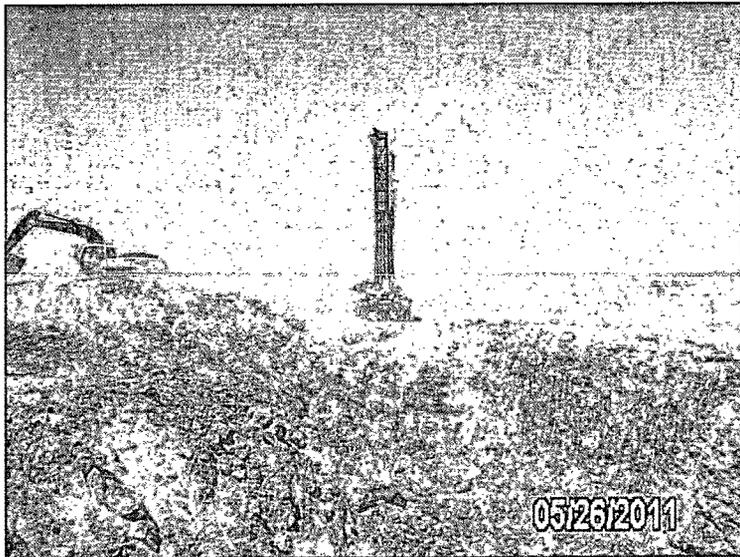
Drilling SB2, facing southeast

5/25/2011



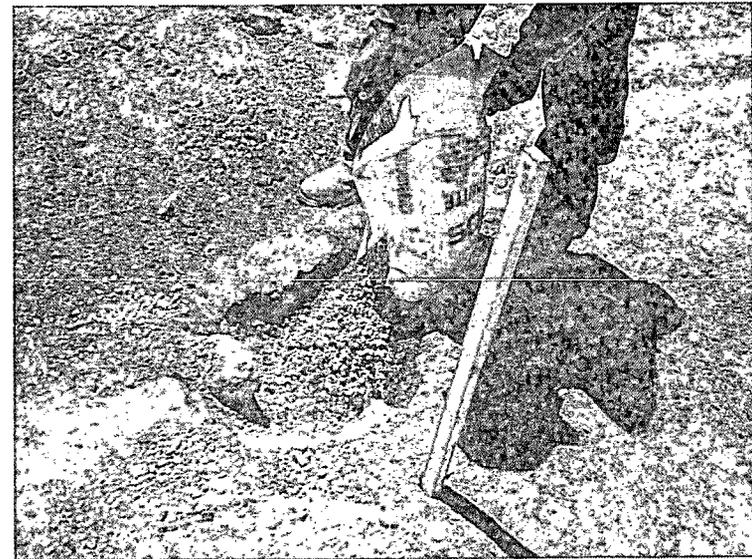
Plugging SB2, facing south

5/26/2011



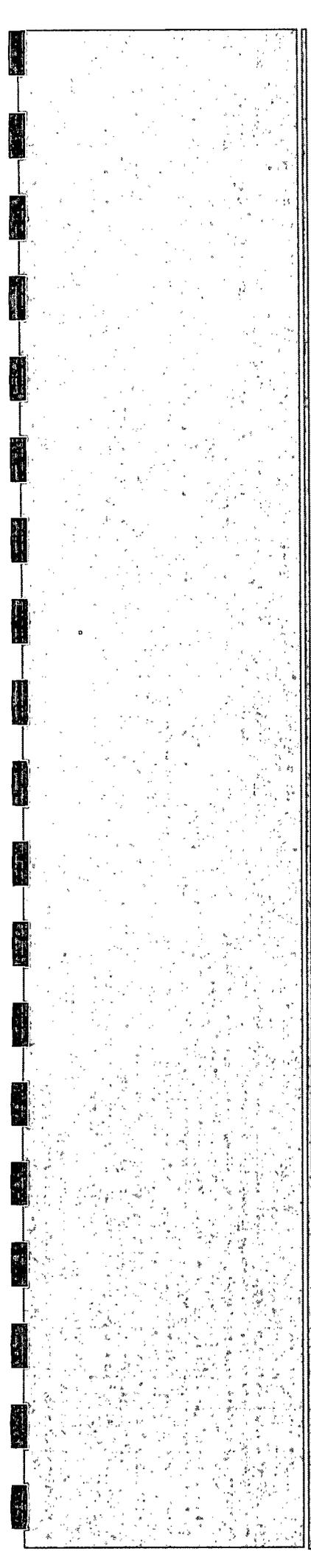
Drilling SB3, facing west

5/26/2011



Plugging SB3, facing west

5/26/2011



# Appendix D

## Primary Leak Laboratory Results

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

**Analytical Results For:**

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

Received:	05/03/2011	Sampling Date:	05/02/2011
Reported:	05/10/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 240' NORTH (H100898-01)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/05/2011	ND	1.93	96.5	2.00	1.75		
<b>Toluene*</b>	<b>0.055</b>	0.050	05/05/2011	ND	1.91	95.5	2.00	1.89		
<b>Ethylbenzene*</b>	<b>0.062</b>	0.050	05/05/2011	ND	1.96	97.8	2.00	1.83		
<b>Total Xylenes*</b>	<b>0.381</b>	0.150	05/05/2011	ND	5.76	96.1	6.00	1.86		

Surrogate: 4-Bromofluorobenzene (PII) 93.3 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>14400</b>	16.0	05/05/2011	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>343</b>	50.0	05/05/2011	ND	207	104	200	6.80		
<b>DRO &gt;C10-C28</b>	<b>14500</b>	50.0	05/05/2011	ND	212	106	200	4.80		

Surrogate: 1-Chlorooctane 108 % 70-130

Surrogate: 1-Chlorooctadecane 115 % 70-130

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

Received:	05/03/2011	Sampling Date:	05/02/2011
Reported:	05/10/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 5' NORTH (H100898-02)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Benzene*</b>	<b>6.09</b>	5.00	05/06/2011	ND	1.93	96.5	2.00	1.75		
<b>Toluene*</b>	<b>43.4</b>	5.00	05/06/2011	ND	1.91	95.5	2.00	1.89		
<b>Ethylbenzene*</b>	<b>41.3</b>	5.00	05/06/2011	ND	1.96	97.8	2.00	1.83		
<b>Total Xylenes*</b>	<b>144</b>	15.0	05/06/2011	ND	5.76	96.1	6.00	1.86		

*Surrogate: 4-Bromofluorobenzene (PIL) 74.7 % 70-130*

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>7300</b>	16.0	05/05/2011	ND	416	104	400	0.00		

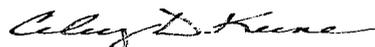
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>5080</b>	50.0	05/05/2011	ND	207	104	200	6.80		
<b>DRO &gt;C10-C28</b>	<b>31100</b>	100	05/10/2011	ND	212	106	200	4.80		

*Surrogate: 1-Chlorooctane 112 % 70-130*
*Surrogate: 1-Chlorooctadecane 107 % 70-130*

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/03/2011	Sampling Date:	05/02/2011
Reported:	05/10/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 700' NORTH 36' WEST (H100898-03)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<1.00	1.00	05/06/2011	ND	1.93	96.5	2.00	1.75		
Toluene*	3.18	1.00	05/06/2011	ND	1.91	95.5	2.00	1.89		
Ethylbenzene*	5.84	1.00	05/06/2011	ND	1.96	97.8	2.00	1.83		
Total Xylenes*	31.6	3.00	05/06/2011	ND	5.76	96.1	6.00	1.86		

Surrogate: 4-Bromofluorobenzene (PIL) 96.1 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10900	16.0	05/05/2011	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	1640	50.0	05/05/2011	ND	207	104	200	6.80		
DRO >C10-C28	31600	100	05/10/2011	ND	212	106	200	4.80		

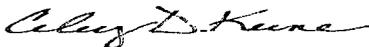
Surrogate: 1-Chlorooctane 119 % 70-130

Surrogate: 1-Chlorooctadecane 122 % 70-130

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\* = Accredited Analyte

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Celest D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 05/03/2011  
 Reported: 05/10/2011  
 Project Name: EMPIRE ABO UNIT M-14  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/02/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: 260' NORTH 25' EAST (H100898-04)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/06/2011	ND	1.93	96.5	2.00	1.75		
Toluene*	2.49	0.050	05/06/2011	ND	1.91	95.5	2.00	1.89		
Ethylbenzene*	6.18	0.050	05/06/2011	ND	1.96	97.8	2.00	1.83		
Total Xylenes*	25.3	0.150	05/06/2011	ND	5.76	96.1	6.00	1.86		

Surrogate: 4-Bromofluorobenzene (PIL) 78.2 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	24800	16.0	05/05/2011	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	2520	50.0	05/05/2011	ND	207	104	200	6.80		
DRO >C10-C28	24100	50.0	05/05/2011	ND	212	106	200	4.80		

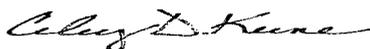
Surrogate: 1-Chlorooctane 86.0 % 70-130

Surrogate: 1-Chlorooctadecane 116 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/03/2011	Sampling Date:	05/02/2011
Reported:	05/10/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 55' NORTH 22' EAST (H100898-05)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<1.00	1.00	05/06/2011	ND	1.93	96.5	2.00	1.75		
Toluene*	15.6	1.00	05/06/2011	ND	1.91	95.5	2.00	1.89		
Ethylbenzene*	20.9	1.00	05/06/2011	ND	1.96	97.8	2.00	1.83		
Total Xylenes*	72.8	3.00	05/06/2011	ND	5.76	96.1	6.00	1.86		

Surrogate: 4-Bromofluorobenzene (PIL) 72.3 % 70-130

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4600	16.0	05/05/2011	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	3500	50.0	05/05/2011	ND	207	104	200	6.80		
DRO >C10-C28	29400	100	05/10/2011	ND	212	106	200	4.80		

Surrogate: 1-Chlorooctane 113 % 70-130

Surrogate: 1-Chlorooctadecane 106 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/03/2011	Sampling Date:	05/02/2011
Reported:	05/10/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 487' NORTH (H100898-06)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/06/2011	ND	1.93	96.5	2.00	1.75		
<b>Toluene*</b>	<b>1.14</b>	0.050	05/06/2011	ND	1.91	95.5	2.00	1.89		
<b>Ethylbenzene*</b>	<b>3.83</b>	0.050	05/06/2011	ND	1.96	97.8	2.00	1.83		
<b>Total Xylenes*</b>	<b>18.0</b>	0.150	05/06/2011	ND	5.76	96.1	6.00	1.86		

Surrogate: 4-Bromofluorobenzene (PIL) 71.1 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	

<b>Chloride</b>	<b>14000</b>	16.0	05/05/2011	ND	416	104	400	0.00	
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TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	

<b>GRO C6-C10</b>	<b>1240</b>	50.0	05/05/2011	ND	207	104	200	6.80	
<b>DRO &gt;C10-C28</b>	<b>26000</b>	50.0	05/05/2011	ND	212	106	200	4.80	

Surrogate: 1-Chlorooctane 98.5 % 70-130

Surrogate: 1-Chlorooctadecane 114 % 70-130

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Celey D. Keene, Lab Director/Quality Manager



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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache Corp.		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>									
Project Manager: Natalie Gladden		F.O. #:											
Address: Apache Corp.		Company:											
City: State: NM Zip:		Addr:											
Phone #: Fax #:		Address:											
Project #: Project Owner:		City:											
Project Name: <i>EMPIRE ALO 4-14</i>		State: Zip:											
Project Location:		Phone #: Fax #:											
Sample Name: <i>DAK HARAS</i>													

Lab I.D.	Sample I.D.	G/FAB OR IC/COMP.	# CONTAINERS	MATRIX						PRESERV		SAMPLING		Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE/COOL	DATE	TIME						
H100898-1	240 North	G	1			✓				✓		5/2/11	9:15	✓	✓	✓			
2	5' North	G	L			✓				✓		5/2/11	9:30	✓	✓	✓			
3	200' North 30' West	G	L			✓				✓		5/2/11	9:40	✓	✓	✓			
4	200' North 95' East	G	L			✓				✓		5/2/11	9:45	✓	✓	✓			
5	55' North 27' East	G	L			✓				✓		5/2/11	9:50	✓	✓	✓			
6	437' North	G	L			✓				✓		5/2/11	10:00	✓	✓	✓			

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Relinquished By: <i>Dak Haras</i>	Date: 5/3/11 Time: 7:30	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By: <i>[Signature]</i>	Date: 5/3/11 Time: 9:40	Received By: <i>Jodi Henson</i>	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One)	Sampler - UPS - Bus - Other: -130	Sample Condition: Cool Intact	REMARKS: email results zconder@rice-ecs.com; Lweinheimer@rice-ecs.com Hconder@riceswd.com; Bbaker@rice-ecs.com Natalie.Gladden@usa.apachecorp.com	
		Checked By: <i>[Signature]</i>		

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

#26

**Analytical Results For:**

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

Received:	05/09/2011	Sampling Date:	05/02/2011
Reported:	05/13/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO # M - 14 A. D.	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: 55' NORTH 22' EAST (H100934-01)**

BTEX 8021B		mg/kg		Analyzed By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>9.93</b>	5.00	05/11/2011	ND	1.97	98.7	2.00	2.34	
<b>Toluene*</b>	<b>14.4</b>	5.00	05/11/2011	ND	1.99	99.6	2.00	2.26	
<b>Ethylbenzene*</b>	<b>15.8</b>	5.00	05/11/2011	ND	2.00	100	2.00	1.50	
<b>Total Xylenes*</b>	<b>59.0</b>	15.0	05/11/2011	ND	5.98	99.6	6.00	1.71	

Surrogate: 4-Bromofluorobenzene (PIL) 92.5 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4040</b>	16.0	05/10/2011	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>611</b>	100	05/12/2011	ND	173	86.3	200	0.975	
<b>DRO &gt;C10-C28</b>	<b>27700</b>	100	05/12/2011	ND	198	98.9	200	0.901	

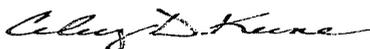
Surrogate: 1-Chlorooctane 96.4 % 70-130

Surrogate: 1-Chlorooctadecane 83.7 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/09/2011	Sampling Date:	05/02/2011
Reported:	05/13/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO # M - 14 A. D.	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: 260' NORTH 25' EAST (H100934-02)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/11/2011	ND	1.97	98.7	2.00	2.34		
Toluene*	<b>0.441</b>	0.050	05/11/2011	ND	1.99	99.6	2.00	2.26		
Ethylbenzene*	<b>0.811</b>	0.050	05/11/2011	ND	2.00	100	2.00	1.50		
Total Xylenes*	<b>5.53</b>	0.150	05/11/2011	ND	5.98	99.6	6.00	1.71		

Surrogate: 4-Bromofluorobenzene (PIL) 105 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<b>24000</b>	16.0	05/10/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<b>501</b>	100	05/12/2011	ND	173	86.3	200	0.975		
DRO >C10-C28	<b>11100</b>	100	05/12/2011	ND	198	98.9	200	0.901		

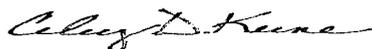
Surrogate: 1-Chlorooctane 130 % 70-130

Surrogate: 1-Chlorooctadecane 127 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/09/2011	Sampling Date:	05/02/2011
Reported:	05/13/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO # M - 14 A. D.	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: SOURCE OF LEAK (H100934-03)**

BTX 8021B		mg/kg		Analyzed By: CMS				S-LOW		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.100	0.100	05/11/2011	ND	1.97	98.7	2.00	2.34		
<b>Toluene*</b>	<b>1.18</b>	0.100	05/11/2011	ND	1.99	99.6	2.00	2.26		
<b>Ethylbenzene*</b>	<b>2.77</b>	0.100	05/11/2011	ND	2.00	100	2.00	1.50		
<b>Total Xylenes*</b>	<b>12.2</b>	0.300	05/11/2011	ND	5.98	99.6	6.00	1.71		

*Surrogate: 4-Bromofluorobenzene (PIL) 61.7 % 70-130*

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>6240</b>	16.0	05/10/2011	ND	448	112	400	0.00		

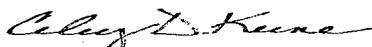
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>1620</b>	100	05/12/2011	ND	173	86.3	200	0.975		
<b>DRO &gt;C10-C28</b>	<b>34700</b>	100	05/12/2011	ND	198	98.9	200	0.901		

*Surrogate: 1-Chlorooctane 104 % 70-130*
*Surrogate: 1-Chlorooctadecane 71.8 % 70-130*

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/09/2011	Sampling Date:	05/02/2011
Reported:	05/13/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO # M - 14 A. D.	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: 700' NORTH 36' WEST (H100934-04)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/11/2011	ND	1.97	98.7	2.00	2.34		
Toluene*	<b>0.263</b>	0.050	05/11/2011	ND	1.99	99.6	2.00	2.26		
Ethylbenzene*	<b>0.895</b>	0.050	05/11/2011	ND	2.00	100	2.00	1.50		
Total Xylenes*	<b>4.29</b>	0.150	05/11/2011	ND	5.98	99.6	6.00	1.71		

Surrogate: 4-Bromofluorobenzene (PIL) 95.2 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<b>5000</b>	16.0	05/10/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<b>620</b>	100	05/12/2011	ND	173	86.3	200	0.975		
DRO >C10-C28	<b>29600</b>	100	05/12/2011	ND	198	98.9	200	0.901		

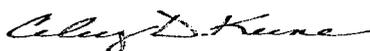
Surrogate: 1-Chlorooctane 73.6 % 70-130

Surrogate: 1-Chlorooctadecane 81.3 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/09/2011	Sampling Date:	05/02/2011
Reported:	05/13/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO # M - 14 A. D.	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: 487' NORTH CENTER OF PAD (H100934-05)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/11/2011	ND	1.97	98.7	2.00	2.34		
<b>Toluene*</b>	<b>0.292</b>	0.050	05/11/2011	ND	1.99	99.6	2.00	2.26		
<b>Ethylbenzene*</b>	<b>0.966</b>	0.050	05/11/2011	ND	2.00	100	2.00	1.50		
<b>Total Xylenes*</b>	<b>4.43</b>	0.150	05/11/2011	ND	5.98	99.6	6.00	1.71		

Surrogate: 4-Bromofluorobenzene (PIL) 86.6 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>12600</b>	16.0	05/10/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>460</b>	100	05/12/2011	ND	173	86.3	200	0.975		
<b>DRO &gt;C10-C28</b>	<b>19200</b>	100	05/12/2011	ND	198	98.9	200	0.901		

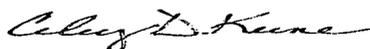
Surrogate: 1-Chlorooctane 121 % 70-130

Surrogate: 1-Chlorooctadecane 110 % 70-130

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**CARDINAL LABORATORIES**

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache Corp.		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>															
Project Manager: Natalie Gladden		P.O. #:		Chlorides TPH 8015 M BTEX Texas TPH Complete Cations/Anions TDS															
Address: Apache Corp.		Company:																	
City: State: NM Zip:		Addr:																	
Phone #: Fax #:		Address:																	
Project #: Project Owner:		City:																	
Project Name: <b>EMPIRE Abo # M-14 A.O.</b>		State: Zip:																	
Project Location:		Phone #:																	
Sampler Name: <b>DAK</b>		Fax #:																	
Lab I.D.	Sample I.D.	CONTAINER OR CONTAINER #	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME											
				GROUNDWATER WASTEWATER SOIL SOLID OTHER:	ACID/DRAINAGE ICE/FROST OTHER:														
<b>H100934</b>																			
-1	55' N 22' E	G-1	1	✓	✓		5-8-11	8:30	✓	✓	✓								
2	260' N 35' E	G-1	1	✓	✓		5-8-11	3:50	✓	✓	✓								
3	Source of LEAK	G-1	1	✓	✓		5-8-11	4:10	✓	✓	✓								
4	700' N 36' W	G-1	1	✓	✓		5-8-11	4:25	✓	✓	✓								
5	487' N Center of PAD	G-1	1	✓	✓		5-8-11	4:50	✓	✓	✓								

PLEASE NOTE: Cardinal cannot accept verbal changes. Please fax written changes to 505-393-6776

Analyzed By: <i>Dak Harris</i> Date: <b>5-9-11</b> Time: <b>3:00</b>	Received By: <i>Kyle W...</i> Date: <b>5-9-11</b> Time: <b>3:15</b>	Delivered By: (Circle One) <input checked="" type="checkbox"/> Driver <input type="checkbox"/> Other:	Remarks: email results tconder@rice-ecs.com; lweinheimer@rice-ecs.com tconder@riceswd.com; bhaker@rice-ecs.com natalie.gladden@usa.apachecorp.com
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† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-6776

#26

**Analytical Results For:**

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

 Received: 05/13/2011  
 Reported: 05/16/2011  
 Project Name: EMPIRE ABO UNIT M-14  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/10/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: CALICHE ROAD CENTER (H100985-01)**

BTEX 8260B		mg/kg		Analyzed By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66	
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21	
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78	
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10	

Surrogate: Dibromofluoromethane 88.7 % 80-120

Surrogate: Toluene-d8 107 % 80-120

Surrogate: 4-Bromofluorobenzene 102 % 80-120

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/13/2011	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48	
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75	

Surrogate: 1-Chlorooctane 113 % 70-130

Surrogate: 1-Chlorooctadecane 109 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: CALICHE ROAD SOUTH (H100985-02)**

BTEX 8260B		mg/kg		Analyzed By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66	
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21	
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78	
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10	

Surrogate: Dibromofluoromethane 90.8 % 80-120  
 Surrogate: Toluene-d8 108 % 80-120  
 Surrogate: 4-Bromofluorobenzene 102 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	05/13/2011	ND	448	112	400	0.00	

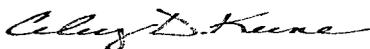
TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48	
DRO >C10-C28	22.3	10.0	05/15/2011	ND	164	82.2	200	3.75	

Surrogate: 1-Chlorooctane 99.7 % 70-130  
 Surrogate: 1-Chlorooctadecane 96.4 % 70-130

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: CALICHE ROAD NORTH (H100985-03)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 89.3 % 80-120

Surrogate: Toluene-d8 106 % 80-120

Surrogate: 4-Bromofluorobenzene 107 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>112</b>	16.0	05/13/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
<b>DRO &gt;C10-C28</b>	<b>92.4</b>	10.0	05/15/2011	ND	164	82.2	200	3.75		

Surrogate: 1-Chlorooctane 98.8 % 70-130

Surrogate: 1-Chlorooctadecane 92.4 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: E EXC BTM @ 3' (H100985-04)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

*Surrogate: Dibromofluoromethane* 94.2 % 80-120

*Surrogate: Toluene-d8* 107 % 80-120

*Surrogate: 4-Bromofluorobenzene* 105 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>128</b>	16.0	05/13/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

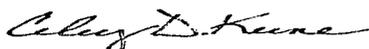
*Surrogate: 1-Chlorooctane* 112 % 70-130

*Surrogate: 1-Chlorooctadecane* 110 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 05/13/2011  
 Reported: 05/16/2011  
 Project Name: EMPIRE ABO UNIT M-14  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/10/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: E EXC N WALL (H100985-05)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

*Surrogate: Dibromofluoromethane* 94.7 % 80-120

*Surrogate: Toluene-d8* 108 % 80-120

*Surrogate: 4-Bromofluorobenzene* 106 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>192</b>	16.0	05/13/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

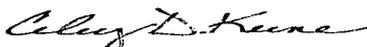
*Surrogate: 1-Chlorooctane* 100 % 70-130

*Surrogate: 1-Chlorooctadecane* 95.3 % 70-130

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: E EXC S WALL (H100985-06)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 92.9 % 80-120  
 Surrogate: Toluene-d8 106 % 80-120  
 Surrogate: 4-Bromofluorobenzene 104 % 80-120

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/13/2011	ND	448	112	400	0.00		

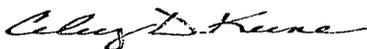
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

Surrogate: 1-Chlorooctane 110 % 70-130  
 Surrogate: 1-Chlorooctadecane 108 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: E EXC E WALL (H100985-07)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 92.6 % 80-120

Surrogate: Toluene-d8 105 % 80-120

Surrogate: 4-Bromofluorobenzene 105 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>656</b>	16.0	05/13/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
<b>DRO &gt;C10-C28</b>	<b>23.7</b>	10.0	05/15/2011	ND	164	82.2	200	3.75		

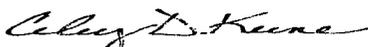
Surrogate: 1-Chlorooctane 103 % 70-130

Surrogate: 1-Chlorooctadecane 94.0 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: E EXC W WALL (H100985-08)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 93.4 % 80-120

Surrogate: Toluene-d8 106 % 80-120

Surrogate: 4-Bromofluorobenzene 105 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>144</b>	16.0	05/13/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

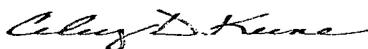
Surrogate: 1-Chlorooctane 109 % 70-130

Surrogate: 1-Chlorooctadecane 107 % 70-130

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Celestine D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: N EXC BTM CENT @3' (H100986-01)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 93.0 % 80-120

Surrogate: Toluene-d8 106 % 80-120

Surrogate: 4-Bromofluorobenzene 104 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	05/14/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

Surrogate: 1-Chlorooctane 102 % 70-130

Surrogate: 1-Chlorooctadecane 105 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: N EXC N WALL (H100986-02)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 93.8 % 80-120

Surrogate: Toluene-d8 107 % 80-120

Surrogate: 4-Bromofluorobenzene 105 % 80-120

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>208</b>	16.0	05/14/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

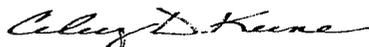
Surrogate: 1-Chlorooctane 108 % 70-130

Surrogate: 1-Chlorooctadecane 109 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: N EXC S WALL (H100986-03)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 94.7 % 80-120

Surrogate: Toluene-d8 107 % 80-120

Surrogate: 4-Bromofluorobenzene 104 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>80.0</b>	16.0	05/14/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

Surrogate: 1-Chlorooctane 101 % 70-130

Surrogate: 1-Chlorooctadecane 101 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: N EXC E WALL (H100986-04)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 92.9 % 80-120

Surrogate: Toluene-d8 106 % 80-120

Surrogate: 4-Bromofluorobenzene 104 % 80-120

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	05/14/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

Surrogate: 1-Chlorooctane 97.8 % 70-130

Surrogate: 1-Chlorooctadecane 105 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: N EXC W WALL (H100986-05)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 94.4 % 80-120

Surrogate: Toluene-d8 108 % 80-120

Surrogate: 4-Bromofluorobenzene 104 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	05/14/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

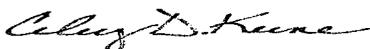
Surrogate: 1-Chlorooctane 103 % 70-130

Surrogate: 1-Chlorooctadecane 103 % 70-130

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 05/13/2011  
 Reported: 05/16/2011  
 Project Name: EMPIRE ABO UNIT M-14  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/11/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S EXC N WALL (H100988-01)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 94.0 % 80-120

Surrogate: Toluene-d8 106 % 80-120

Surrogate: 4-Bromofluorobenzene 102 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	05/14/2011	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/16/2011	ND	199	99.4	200	2.21		
DRO >C10-C28	<10.0	10.0	05/16/2011	ND	172	85.9	200	2.45		

Surrogate: 1-Chlorooctane 121 % 70-130

Surrogate: 1-Chlorooctadecane 118 % 70-130

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\* = Accredited Analyte

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Celestine D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/11/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: S EXC W WALL (H100988-02)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 93.4 % 80-120

Surrogate: Toluene-d8 107 % 80-120

Surrogate: 4-Bromofluorobenzene 105 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	05/14/2011	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/16/2011	ND	199	99.4	200	2.21		
DRO >C10-C28	<10.0	10.0	05/16/2011	ND	172	85.9	200	2.45		

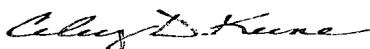
Surrogate: 1-Chlorooctane 93.4 % 70-130

Surrogate: 1-Chlorooctadecane 78.1 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/12/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SE EXC BTM @ 6" (H100988-03)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 95.2 % 80-120

Surrogate: Toluene-d8 107 % 80-120

Surrogate: 4-Bromofluorobenzene 106 % 80-120

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	05/14/2011	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/16/2011	ND	199	99.4	200	2.21		
DRO >C10-C28	34.8	10.0	05/16/2011	ND	172	85.9	200	2.45		

Surrogate: 1-Chlorooctane 110 % 70-130

Surrogate: 1-Chlorooctadecane 106 % 70-130

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Celestine D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/12/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SE EXC W WALL (H100988-05)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 94.6 % 80-120  
 Surrogate: Toluene-d8 105 % 80-120  
 Surrogate: 4-Bromofluorobenzene 104 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>160</b>	16.0	05/14/2011	ND	432	108	400	0.00		

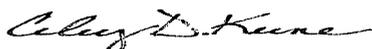
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/16/2011	ND	199	99.4	200	2.21		
DRO >C10-C28	<10.0	10.0	05/16/2011	ND	172	85.9	200	2.45		

Surrogate: 1-Chlorooctane 110 % 70-130  
 Surrogate: 1-Chlorooctadecane 108 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/12/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SE EXC S WALL (H100988-06)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/14/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/14/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/14/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/14/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 92.7 % 80-120

Surrogate: Toluene-d8 106 % 80-120

Surrogate: 4-Bromofluorobenzene 104 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>384</b>	16.0	05/14/2011	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/16/2011	ND	199	99.4	200	2.21		
DRO >C10-C28	<10.0	10.0	05/16/2011	ND	172	85.9	200	2.45		

Surrogate: 1-Chlorooctane 124 % 70-130

Surrogate: 1-Chlorooctadecane 122 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/12/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SE EXC E WALL (H100988-07)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/14/2011	ND	2.08	104	2.00	1.66		
Toluene*	<0.050	0.050	05/14/2011	ND	2.10	105	2.00	3.21		
Ethylbenzene*	<0.050	0.050	05/14/2011	ND	2.08	104	2.00	2.78		
Total Xylenes*	<0.150	0.150	05/14/2011	ND	6.36	106	6.00	3.10		

Surrogate: Dibromofluoromethane 91.7 % 80-120

Surrogate: Toluene-d8 106 % 80-120

Surrogate: 4-Bromofluorobenzene 106 % 80-120

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	05/14/2011	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GR0 C6-C10	<10.0	10.0	05/16/2011	ND	199	99.4	200	2.21		
DRO >C10-C28	10.2	10.0	05/16/2011	ND	172	85.9	200	2.45		

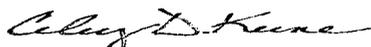
Surrogate: 1-Chlorooctane 106 % 70-130

Surrogate: 1-Chlorooctadecane 101 % 70-130

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Celey D. Keene, Lab Director/Quality Manager



**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

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

Company Name: Apache		<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>													
Project Manager: Natalie Gladden		P.O. #:				Chlorides TPH 8015 M BTEX Texas TPH Complete Cations/Anions TDS													
Address:		Company:																	
City:	State: NM Zip:	Attn:																	
Phone #:	Fax #:	Address:																	
Project #:	Project Owner:	City:																	
Project Name: <u>Apache Empire Abo HH-14</u>		State:		Zip:															
Project Location:		Phone #:																	
Sampler Name: <u>Zach</u>		Fax #:																	

FOR LAB USE ONLY	Lab I.D.	Sample I.D.	GRAB OR (COMP. # CONTAINERS	MATRIX					PRESERV.			SAMPLING		DATE	TIME
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE	ICE / COOL	OTHER:			

6	1	South Excavation North Wall			✓				✓			5-11-11	11:45am	✓	✓	✓																	
6	1	South Excavation West Wall			✓				✓			5-11-11	11:50am	✓	✓	✓																	
6	1	South East Excavation Btm @ 6"			✓				✓			5-12-11	10:30am	✓	✓	✓																	
6	1	South east Excavation North Wall			✓				✓			5-12-11	10:15am	✓	✓	✓																	
6	1	Southeast Excavation West Wall			✓				✓			5-12-11	10:20am	✓	✓	✓																	
6	1	Southeast Excavation South Wall			✓				✓			5-12-11	10:30am	✓	✓	✓																	
6	1	Southeast Excavation East Wall			✓				✓			5-12-11	10:37am	✓	✓	✓																	

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Relinquished By: <u>Dan Hays</u>	Date: <u>5-13-11</u> Time: <u>10:24am</u>	Received By: <u>Bruce Baker</u>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #: Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #: REMARKS: <u>email results Rush !!!</u> Natalie.Gladden@usa.apachecorp.com; Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com
Relinquished By: <u>Bruce Baker</u>	Date: <u>5-13-11</u> Time: <u>10:29am</u>	Received By: <u>Jodi Henson</u>	
Delivered By: (Circle One) Sampler - UPS - Bus - <u>Other:</u>	Sample Condition: Cool: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Checked By: (Initials) <u>GH</u>	

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

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: W EXC BTM @2' (H100987-01)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.15	107	2.00	11.8		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	11.9		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.30	105	6.00	13.0		

*Surrogate: 4-Bromofluorobenzene (PIE) 91.7 % 70-130*

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<b>48.0</b>	16.0	05/14/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

*Surrogate: 1-Chlorooctane 99.1 % 70-130*
*Surrogate: 1-Chlorooctadecane 99.8 % 70-130*

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: W EXC N WALL (H100987-02)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.15	107	2.00	11.8		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	11.9		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.30	105	6.00	13.0		

*Surrogate: 4-Bromofluorobenzene (PIL) 91.8 % 70-130*

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/14/2011	ND	448	112	400	0.00		

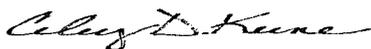
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

*Surrogate: 1-Chlorooctane 117 % 70-130*
*Surrogate: 1-Chlorooctadecane 119 % 70-130*

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: W EXC S WALL (H100987-03)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.15	107	2.00	11.8		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	11.9		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.30	105	6.00	13.0		

*Surrogate: 4-Bromofluorobenzene (PIL) 91.9 % 70-130*

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/14/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

*Surrogate: 1-Chlorooctane 95.0 % 70-130*
*Surrogate: 1-Chlorooctadecane 94.8 % 70-130*

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 05/13/2011  
 Reported: 05/16/2011  
 Project Name: EMPIRE ABO UNIT M-14  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/10/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: W EXC E WALL (H100987-04)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2011	ND	2.15	107	2.00	11.8		
Toluene*	<0.050	0.050	05/13/2011	ND	2.10	105	2.00	11.9		
Ethylbenzene*	<0.050	0.050	05/13/2011	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	05/13/2011	ND	6.30	105	6.00	13.0		

*Surrogate: 4-Bromofluorobenzene (PIL) 91.8 % 70-130*

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/14/2011	ND	448	112	400	0.00		

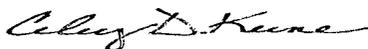
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

*Surrogate: 1-Chlorooctane 115 % 70-130*
*Surrogate: 1-Chlorooctadecane 111 % 70-130*

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/10/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: W EXC W WALL (H100987-05)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/14/2011	ND	2.15	107	2.00	11.8		
Toluene*	<0.050	0.050	05/14/2011	ND	2.10	105	2.00	11.9		
Ethylbenzene*	<0.050	0.050	05/14/2011	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	05/14/2011	ND	6.30	105	6.00	13.0		

Surrogate: 4-Bromofluorobenzene (PII) 91.8 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/14/2011	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

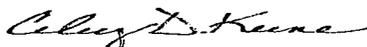
Surrogate: 1-Chlorooctane 105 % 70-130

Surrogate: 1-Chlorooctadecane 103 % 70-130

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/11/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: S EXC S BTM@ 9' (H100987-06)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/14/2011	ND	2.15	107	2.00	11.8		
Toluene*	<0.050	0.050	05/14/2011	ND	2.10	105	2.00	11.9		
Ethylbenzene*	<0.050	0.050	05/14/2011	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	05/14/2011	ND	6.30	105	6.00	13.0		

*Surrogate: 4-Bromofluorobenzene (PIE) 93.3 % 70-130*

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>272</b>	16.0	05/14/2011	ND	432	108	400	0.00		

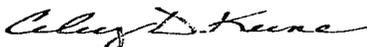
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	186	92.9	200	5.48		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	164	82.2	200	3.75		

*Surrogate: 1-Chlorooctane 108 % 70-130*
*Surrogate: 1-Chlorooctadecane 107 % 70-130*

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Celestine D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/11/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: S EXC N BTM @ 4' (H100987-07)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/14/2011	ND	2.15	107	2.00	11.8		
Toluene*	<0.050	0.050	05/14/2011	ND	2.10	105	2.00	11.9		
Ethylbenzene*	<0.050	0.050	05/14/2011	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	05/14/2011	ND	6.30	105	6.00	13.0		

*Surrogate: 4-Bromofluorobenzene (PII)* 91.0 % 70-130

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>464</b>	16.0	05/14/2011	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	<10.0	10.0	05/15/2011	ND	199	99.4	200	2.21			
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	172	85.9	200	2.45			

*Surrogate: 1-Chlorooctane* 90.6 % 70-130

*Surrogate: 1-Chlorooctadecane* 66.2 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/11/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: S EXC S WALL (H100987-08)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/14/2011	ND	2.15	107	2.00	11.8		
Toluene*	<0.050	0.050	05/14/2011	ND	2.10	105	2.00	11.9		
Ethylbenzene*	<0.050	0.050	05/14/2011	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	05/14/2011	ND	6.30	105	6.00	13.0		

Surrogate: 4-Bromofluorobenzene (PIE) 93.1 % 70-130

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	05/14/2011	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	<10.0	10.0	05/15/2011	ND	199	99.4	200	2.21			
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	172	85.9	200	2.45			

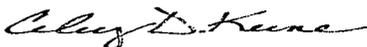
Surrogate: 1-Chlorooctane 85.3 % 70-130

Surrogate: 1-Chlorooctadecane 66.7 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/13/2011	Sampling Date:	05/11/2011
Reported:	05/16/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: S EXC E WALL (H100987-09)**

BTEX 8021B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/14/2011	ND	2.15	107	2.00	11.8		
Toluene*	<0.050	0.050	05/14/2011	ND	2.10	105	2.00	11.9		
Ethylbenzene*	<0.050	0.050	05/14/2011	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	05/14/2011	ND	6.30	105	6.00	13.0		

Surrogate: 4-Bromofluorobenzene (PIL) 97.7 % 70-130

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	05/14/2011	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/15/2011	ND	199	99.4	200	2.21		
DRO >C10-C28	<10.0	10.0	05/15/2011	ND	172	85.9	200	2.45		

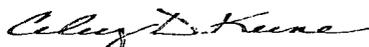
Surrogate: 1-Chlorooctane 115 % 70-130

Surrogate: 1-Chlorooctadecane 111 % 70-130

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\* = Accredited Analyte

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Celestine 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		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																																																																																																																																																																																																																											
Project Manager: Natalie Gladden		P.O. #:		<table border="1"> <tr><td>Chlorides</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>TPH 8015 M</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>BTEX</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Texas TPH</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Complete Cations/Anions</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>TDS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>										Chlorides																					TPH 8015 M																					BTEX																					Texas TPH																					Complete Cations/Anions																					TDS																																																																																																								
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Project Location:		Phone #:																																																																																																																																																																																																																													
Sampler Name: <i>Zach Dack</i>		Fax #:																																																																																																																																																																																																																													

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
<i>H100887</i>														
1	West Excavation Btm @ 2'	G	1			✓				✓		5-10-11	9:42 AM	
2	West Excavation North Wall	G	1			✓				✓		5-10-11	9:45 AM	
3	West Excavation South Wall	G	1			✓				✓		5-10-11	9:50 AM	
4	West Excavation East Wall	G	1			✓				✓		5-10-11	9:53 AM	
5	West Excavation West Wall	G	1			✓				✓		5-10-11	10:20 AM	
	<del>South Excavation South Wall</del>													
6	South Excavation Btm @ 4'	G	1			✓				✓		5-11-11	11:00 AM	
7	South Excavation South Wall	G	1			✓				✓		5-11-11	11:07 AM	
8	South Excavation South Wall	G	1			✓				✓		5-11-11	11:25 AM	
9	South Excavation East Wall	G	1			✓				✓		5-11-11	11:30 AM	

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Relinquished By: <i>LHP Hines</i>	Date: <i>5-13-11</i> Time: <i>9:31 AM</i>	Received By: <i>Bruce Baker</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By: <i>Bruce Baker</i>	Date: <i>5-13-11</i> Time: <i>10:27 AM</i>	Received By: <i>Jodi Henson</i>	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - <u>Other</u>	Sample Condition Cool - Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <i>JH</i>	REMARKS: email results <i>Rush!!!</i> Natalie.Gladden@usa.apachecorp.com; Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com	

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

*#26*



# Appendix E

Historical Impact Area and Soil Bore  
Laboratory Results

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

**Analytical Results For:**

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

Received:	06/11/2011	Sampling Date:	06/10/2011
Reported:	06/17/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	NONE GIVEN		

**Sample ID: S. EXC N END BTM @ 8' (H101217-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>432</b>	16.0	06/13/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/14/2011	ND	142	70.9	200	1.47		
<b>DRO &gt;C10-C28</b>	<b>68.3</b>	10.0	06/14/2011	ND	148	73.9	200	3.69		

<i>Surrogate: 1-Chlorooctane</i>	99.6 %	70-130
<i>Surrogate: 1-Chlorooctadecane</i>	110 %	70-130

**Sample ID: S. EXC W END BTM @ 8' (H101217-02)**

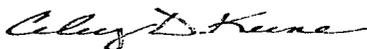
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>176</b>	16.0	06/13/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/14/2011	ND	142	70.9	200	1.47		
DRO >C10-C28	<10.0	10.0	06/14/2011	ND	148	73.9	200	3.69		

<i>Surrogate: 1-Chlorooctane</i>	90.7 %	70-130
<i>Surrogate: 1-Chlorooctadecane</i>	98.4 %	70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 06/11/2011  
 Reported: 06/17/2011  
 Project Name: EMPIRE ABO UNIT M-14-2  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 06/10/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Hope S. Moreno

**Sample ID: S. EXC BTM CENTER (H101217-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>240</b>	16.0	06/13/2011	ND	432	108	400	3.77		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/14/2011	ND	142	70.9	200	1.47		
DRO >C10-C28	<10.0	10.0	06/14/2011	ND	148	73.9	200	3.69		

*Surrogate: 1-Chlorooctane* 85.9 % 70-130

*Surrogate: 1-Chlorooctadecane* 88.7 % 70-130

**Sample ID: S. EXC S WALL W END (H101217-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>208</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/14/2011	ND	142	70.9	200	1.47		
<b>DRO &gt;C10-C28</b>	<b>684</b>	10.0	06/14/2011	ND	148	73.9	200	3.69		

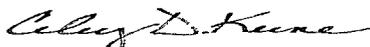
*Surrogate: 1-Chlorooctane* 86.9 % 70-130

*Surrogate: 1-Chlorooctadecane* 94.7 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/11/2011	Sampling Date:	06/10/2011
Reported:	06/17/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	NONE GIVEN		

**Sample ID: S. EXC S WALL CENTER (H101217-05)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>208</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/14/2011	ND	142	70.9	200	1.47		
DRO >C10-C28	<10.0	10.0	06/14/2011	ND	148	73.9	200	3.69		

Surrogate: 1-Chlorooctane 86.6 % 70-130  
 Surrogate: 1-Chlorooctadecane 110 % 70-130

**Sample ID: S. EXC S WALL E END (H101217-06)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>208</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	142	70.9	200	1.47		
<b>DRO &gt;C10-C28</b>	<b>86.7</b>	10.0	06/15/2011	ND	148	73.9	200	3.69		

Surrogate: 1-Chlorooctane 91.8 % 70-130  
 Surrogate: 1-Chlorooctadecane 102 % 70-130

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Celest D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 06/11/2011  
 Reported: 06/17/2011  
 Project Name: EMPIRE ABO UNIT M-14-2  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 06/10/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Hope S. Moreno

**Sample ID: S. EXC E WALL S END (H101217-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>400</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/14/2011	ND	142	70.9	200	1.47		
<b>DRO &gt;C10-C28</b>	<b>98.8</b>	10.0	06/14/2011	ND	148	73.9	200	3.69		

Surrogate: 1-Chlorooctane 80.6 % 70-130  
 Surrogate: 1-Chlorooctadecane 81.3 % 70-130

**Sample ID: S. EXC E WALL CENTER (H101217-08)**

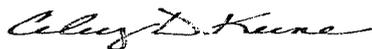
Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>320</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/14/2011	ND	142	70.9	200	1.47		
<b>DRO &gt;C10-C28</b>	<b>255</b>	10.0	06/14/2011	ND	148	73.9	200	3.69		

Surrogate: 1-Chlorooctane 69.3 % 70-130  
 Surrogate: 1-Chlorooctadecane 71.2 % 70-130

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Celest D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/11/2011	Sampling Date:	06/10/2011
Reported:	06/17/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	NONE GIVEN		

**Sample ID: S. EXC W WALL CENTER (H101217-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>480</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>438</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 91.0 % 70-130  
 Surrogate: 1-Chlorooctadecane 93.3 % 70-130

**Sample ID: W EXC S BTM @ 6' (H101217-10)**

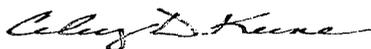
Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>176</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
DRO >C10-C28	<10.0	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 93.6 % 70-130  
 Surrogate: 1-Chlorooctadecane 107 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 06/11/2011  
 Reported: 06/17/2011  
 Project Name: EMPIRE ABO UNIT M-14-2  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 06/10/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Hope S. Moreno

**Sample ID: W EXC CENTER BTM @ 6' (H101217-11)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>192</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
DRO >C10-C28	<10.0	10.0	06/15/2011	ND	186	93.1	200	1.38		
<i>Surrogate: 1-Chlorooctane</i>		<i>84.7 %</i>	<i>70-130</i>							
<i>Surrogate: 1-Chlorooctadecane</i>		<i>96.7 %</i>	<i>70-130</i>							

**Sample ID: W EXC N CENT WALL (H101217-12)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1020</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>2540</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		
<i>Surrogate: 1-Chlorooctane</i>		<i>86.7 %</i>	<i>70-130</i>							
<i>Surrogate: 1-Chlorooctadecane</i>		<i>81.1 %</i>	<i>70-130</i>							

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 06/11/2011  
 Reported: 06/17/2011  
 Project Name: EMPIRE ABO UNIT M-14-2  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 06/10/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Hope S. Moreno

**Sample ID: W EXC N WALL W END (H101217-13)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>480</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>113</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 86.0 % 70-130  
 Surrogate: 1-Chlorooctadecane 86.4 % 70-130

**Sample ID: W EXC W WALL CENT (H101217-14)**

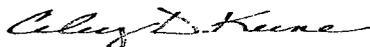
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>336</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
DRO >C10-C28	<10.0	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 87.4 % 70-130  
 Surrogate: 1-Chlorooctadecane 85.1 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/11/2011	Sampling Date:	06/10/2011
Reported:	06/17/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	NONE GIVEN		

**Sample ID: W EXC W WALL N END (H101217-15)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>432</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
DRO >C10-C28	<10.0	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 89.2 % 70-130  
 Surrogate: 1-Chlorooctadecane 102 % 70-130

**Sample ID: N EXC SE CORN BTM @ 22' (H101217-16)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>368</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
DRO >C10-C28	<10.0	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 75.4 % 70-130  
 Surrogate: 1-Chlorooctadecane 83.7 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 06/11/2011  
 Reported: 06/17/2011  
 Project Name: EMPIRE ABO UNIT M-14-2  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 06/07/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Hope S. Moreno

**Sample ID: N EXC SW CRN BTM @ 22' (H101217-17)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>352</b>	16.0	06/13/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>60.9</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 81.1 % 70-130  
 Surrogate: 1-Chlorooctadecane 86.2 % 70-130

**Sample ID: N EXC CENTER BTM @ 22' (H101217-18)**

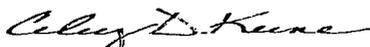
Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>368</b>	16.0	06/14/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>100</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 81.5 % 70-130  
 Surrogate: 1-Chlorooctadecane 95.0 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 06/11/2011  
 Reported: 06/17/2011  
 Project Name: EMPIRE ABO UNIT M-14-2  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 06/07/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Hope S. Moreno

**Sample ID: N EXC NE CRN BTM @ 22' (H101217-19)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>432</b>	16.0	06/14/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>75.9</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 93.5 % 70-130

Surrogate: 1-Chlorooctadecane 107 % 70-130

**Sample ID: N EXC E WALL N END (H101217-20)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>400</b>	16.0	06/14/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>56.3</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		

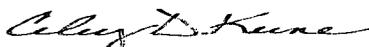
Surrogate: 1-Chlorooctane 76.5 % 70-130

Surrogate: 1-Chlorooctadecane 69.9 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/11/2011	Sampling Date:	06/10/2011
Reported:	06/17/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	NONE GIVEN		

**Sample ID: N EXC E WALL CENT (H101217-21)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>272</b>	16.0	06/14/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
DRO >C10-C28	<10.0	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 86.2 % 70-130  
 Surrogate: 1-Chlorooctadecane 68.6 % 70-130

**Sample ID: N EXC E WALL S END (H101217-22)**

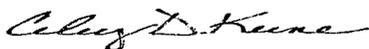
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>464</b>	16.0	06/14/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>1270</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		

Surrogate: 1-Chlorooctane 70.4 % 70-130  
 Surrogate: 1-Chlorooctadecane 87.4 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/11/2011	Sampling Date:	06/10/2011
Reported:	06/17/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	NONE GIVEN		

**Sample ID: N EXC W WALL N END (H101217-23)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>496</b>	16.0	06/14/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
DRO >C10-C28	<10.0	10.0	06/15/2011	ND	186	93.1	200	1.38		

*Surrogate: 1-Chlorooctane* 88.6 % 70-130

*Surrogate: 1-Chlorooctadecane* 87.4 % 70-130

**Sample ID: N EXC W WALL CENT (H101217-24)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>448</b>	16.0	06/14/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>55.5</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		

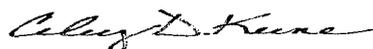
*Surrogate: 1-Chlorooctane* 88.8 % 70-130

*Surrogate: 1-Chlorooctadecane* 88.1 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/11/2011	Sampling Date:	06/10/2011
Reported:	06/17/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	NONE GIVEN		

**Sample ID: N EXC W WALL S END (H101217-25)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>368</b>	16.0	06/14/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	199	99.7	200	3.18		
<b>DRO &gt;C10-C28</b>	<b>150</b>	10.0	06/15/2011	ND	186	93.1	200	1.38		

<i>Surrogate: 1-Chlorooctane</i>	93.4 %	70-130
<i>Surrogate: 1-Chlorooctadecane</i>	96.8 %	70-130

**Sample ID: N EXC S WALL E END (H101217-26)**

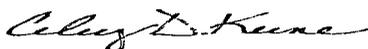
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>208</b>	16.0	06/14/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	154	76.9	200	3.51		
DRO >C10-C28	<10.0	10.0	06/15/2011	ND	152	75.8	200	3.11		

<i>Surrogate: 1-Chlorooctane</i>	50.0 %	70-130
<i>Surrogate: 1-Chlorooctadecane</i>	69.0 %	70-130

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\*=Accredited Analyte

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Celestine D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 06/11/2011  
 Reported: 06/17/2011  
 Project Name: EMPIRE ABO UNIT M-14-2  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 06/10/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Hope S. Moreno

**Sample ID: N EXC S WALL CENT (H101217-27)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>288</b>	16.0	06/14/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	154	76.9	200	3.51		
<b>DRO &gt;C10-C28</b>	<b>32.0</b>	10.0	06/15/2011	ND	152	75.8	200	3.11		

Surrogate: 1-Chlorooctane 79.1 % 70-130  
 Surrogate: 1-Chlorooctadecane 81.3 % 70-130

**Sample ID: N EXC S WALL W END (H101217-28)**

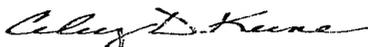
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>416</b>	16.0	06/14/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	154	76.9	200	3.51		
<b>DRO &gt;C10-C28</b>	<b>118</b>	10.0	06/15/2011	ND	152	75.8	200	3.11		

Surrogate: 1-Chlorooctane 76.0 % 70-130  
 Surrogate: 1-Chlorooctadecane 75.8 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/11/2011	Sampling Date:	06/10/2011
Reported:	06/17/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	NONE GIVEN		

**Sample ID: N. EXC NW CRNR BTM @ 22' (H101217-29)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>320</b>	16.0	06/14/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	154	76.9	200	3.51		
<b>DRO &gt;C10-C28</b>	<b>134</b>	10.0	06/15/2011	ND	152	75.8	200	3.11		
<i>Surrogate: 1-Chlorooctane</i>	74.0 %	70-130								
<i>Surrogate: 1-Chlorooctadecane</i>	75.0 %	70-130								

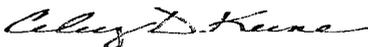
**Sample ID: N EXC N WALL CENT (H101217-30)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>176</b>	16.0	06/14/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	154	76.9	200	3.51		
<b>DRO &gt;C10-C28</b>	<b>220</b>	10.0	06/15/2011	ND	152	75.8	200	3.11		
<i>Surrogate: 1-Chlorooctane</i>	70.2 %	70-130								
<i>Surrogate: 1-Chlorooctadecane</i>	74.5 %	70-130								

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/11/2011	Sampling Date:	06/10/2011
Reported:	06/17/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	NONE GIVEN		

**Sample ID: N EXC N WALL W END (H101217-31)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>608</b>	16.0	06/14/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	154	76.9	200	3.51		
<b>DRO &gt;C10-C28</b>	<b>99.7</b>	10.0	06/15/2011	ND	152	75.8	200	3.11		

Surrogate: 1-Chlorooctane 86.7 % 70-130  
 Surrogate: 1-Chlorooctadecane 69.0 % 70-130

**Sample ID: N EXC N WALL E END (H101217-32)**

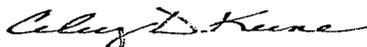
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>288</b>	16.0	06/14/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: ab						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/15/2011	ND	154	76.9	200	3.51		
<b>DRO &gt;C10-C28</b>	<b>82.0</b>	10.0	06/15/2011	ND	152	75.8	200	3.11		

Surrogate: 1-Chlorooctane 72.3 % 70-130  
 Surrogate: 1-Chlorooctadecane 74.8 % 70-130

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Celey D. Keene, Lab Director/Quality Manager







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

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

Company Name: <u>Apache</u>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>											
Project Manager: <u>Natalie Gladden</u>		P.O. #:													
Address:		Company:													
City: State: Zip:		Attn:													
Phone #: Fax #:		Address:													
Project #: Project Owner:		City:													
Project Name:		State: Zip:													
Project Location: <u>Empire Abo Unit M-14-2 AD</u>		Phone #:													
Sampler Name: <u>DAK Harris</u>		Fax #:													

Lab I.D.	Sample I.D.	(GRAB OR (C)OMP. # CONTAINERS	MATRIX						PRESERV.			SAMPLING		DATE	TIME	C1	TPH	8015M
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER							
<del>16</del> 17	North Excavation SE Corner Btm @ 22'	G 1			✓					✓			6-7-11	2:00	✓	✓		
<del>18</del> 17	North Excavation SW Corner Bottom Btm @ 22'	G 1			✓					✓			6-7-11	2:15	✓	✓		
<del>20</del> 18	North Excavation Center Btm @ 22'	G 1			✓					✓			6-7-11	2:21	✓	✓		
<del>21</del> 19	North Excavation NE Corner Btm @ 22'	G 1			✓					✓			6-7-11	2:28	✓	✓		

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Relinquished By: <u>Dak Harris</u>	Date: <u>06/11/11</u>	Received By: <u>Lara Weinheimer</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: <u>11:25</u>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Natalie Gladden HACK Cowden Bruce Baker LARA Weinheimer	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Checked By: (Initials) <u>LW</u>		

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

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

Company Name: <u>Apache</u>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>											
Project Manager: <u>Natalie Gladden</u>		P.O. #:													
Address:		Company:													
City:	State:	Zip:	Attn:												
Phone #:	Fax #:	Address:													
Project #:	Project Owner:		City:												
Project Name:	State:		Zip:												
Project Location: <u>Empire Ave Unit M-14-2 AD</u>	Phone #:														
Sampler Name: <u>Dak Harris</u>	Fax #:														

Lab I.D.	Sample I.D.	GIRAB OR (C)OMP	# CONTAINERS	MATRIX						PRESERV			SAMPLING		DATE	TIME	ce	TPH 8015
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER						
23 H101217-20	North Excavation West	G	1			✓				✓			6-10-11	1:49pm	✓	✓		
-24 32	Wall North End	G	1			✓				✓			6-10-11	1:54pm	✓	✓		
-25 34	North Excavation West Wall	G	1			✓				✓			6-10-11	1:57pm	✓	✓		
-26 35	Wall Center	G	1			✓				✓			6-10-11	1:57pm	✓	✓		
-27 36	North Excavation South Wall	G	1			✓				✓			6-10-11	2:03pm	✓	✓		
-28 37	East End	G	1			✓				✓			6-10-11	2:07pm	✓	✓		
-29 38	North Excavation South Wall Center	G	1			✓				✓			6-10-11	2:10pm	✓	✓		
-30 39	North Excavation South Wall West End	G	1			✓				✓			6-10-11	2:10pm	✓	✓		

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Relinquished By: <u>Dak Harris</u>	Date: <u>06/11/11</u>	Received By: <u>Steph S. Moran</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Time: <u>11:25</u>	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One)	Sample Condition	CHECKED BY:	REMARKS:	
Sampler - UFS - Bus - Other:	Cool <input type="checkbox"/> Intact <input type="checkbox"/>	(Initials)	Email <u>Natalie Gladden</u>	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>HSW</u>	<u>HACK Cowden</u>	
	<input type="checkbox"/> No <input type="checkbox"/> No		<u>Bruce Baker</u>	
			<u>LARA Weinheimer</u>	

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

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

Company Name: <i>Apache</i>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>											
Project Manager: <i>Natalie Gladden</i>		P.O. #:													
Address:		Company:													
City:	State:	Zip:	Attn:												
Phone #:	Fax #:	Address:													
Project #:	Project Owner:		City:												
Project Name:		State: Zip:													
Project Location: <i>Empire Abo Unit M-14-2 A.D.</i>		Phone #:													
Sampler Name: <i>Diak Harris</i>		Fax #:													
FOR LAB USE ONLY													<i>CI - TPH GC/MS-14</i>		
Lab I.D.	Sample I.D.	(GRAB OR (COMP. # CONTAINERS	MATRIX					PRESERV.			SAMPLING				
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE		TIME	
<i>29</i>															
<i>1101217-40</i>	<i>North Excavation NW Corner Btm @ 22'</i>	<i>G 1</i>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<i>6-10-11</i>		<i>1:30pm</i>	
<i>30-42</i>	<i>North Excavation North Wall Center</i>	<i>G 1</i>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<i>6-10-11</i>		<i>1:35pm</i>	
<i>31-44</i>	<i>North Excavation North Wall West End</i>	<i>G 1</i>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<i>6-10-11</i>		<i>1:42pm</i>	
<i>32-46</i>	<i>North Excavation North Wall East End</i>	<i>G 1</i>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<i>6-10-11</i>		<i>1:45pm</i>	

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Relinquished By: <i>Diak Harris</i>	Date: <i>06/11/11</i> Time: <i>11:25</i>	Received By: <i>Hope S. Maden</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UFS - Bus - Other:		Sample Condition Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	CHECKED BY: (Initials) <i>HSH</i>	
REMARKS: <i>Email NATALIE Gladden Mack Cowder Bruce Baker LARA Weinheimer</i>				

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**Analytical Results For:**

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

 Received: 05/27/2011  
 Reported: 06/02/2011  
 Project Name: EMPIRE ABO UNIT M-14-2  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 05/26/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: SB 1 SURFACE SAMPLE (H101103-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>672</b>	16.0	05/31/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/31/2011	ND	203	101	200	1.89		
<b>DRO &gt;C10-C28</b>	<b>448</b>	10.0	05/31/2011	ND	163	81.7	200	0.0275		

Surrogate: 1-Chlorooctane 135 % 70-130  
 Surrogate: 1-Chlorooctadecane 126 % 70-130

**Sample ID: SB 1 @ 10' (H101103-02)**

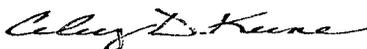
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>80.0</b>	16.0	05/31/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/01/2011	ND	175	87.7	200	0.360		
DRO >C10-C28	<10.0	10.0	06/01/2011	ND	165	82.5	200	1.74		

Surrogate: 1-Chlorooctane 114 % 70-130  
 Surrogate: 1-Chlorooctadecane 116 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/27/2011	Sampling Date:	05/26/2011
Reported:	06/02/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

**Sample ID: SB 1 @ 40' (H101103-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>224</b>	16.0	05/31/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/01/2011	ND	175	87.7	200	0.360		
DRO >C10-C28	<10.0	10.0	06/01/2011	ND	165	82.5	200	1.74		

Surrogate: 1-Chlorooctane 120 % 70-130  
 Surrogate: 1-Chlorooctadecane 135 % 70-130

**Sample ID: SB 2 SURFACE SAMPLE (H101103-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>400</b>	16.0	05/31/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/01/2011	ND	175	87.7	200	0.360		
<b>DRO &gt;C10-C28</b>	<b>140</b>	10.0	06/01/2011	ND	165	82.5	200	1.74		

Surrogate: 1-Chlorooctane 128 % 70-130  
 Surrogate: 1-Chlorooctadecane 122 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/27/2011	Sampling Date:	05/26/2011
Reported:	06/02/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

**Sample ID: SB 2 @ 15' (H101103-05)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>256</b>	16.0	05/31/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/02/2011	ND	175	87.7	200	0.360		
<b>DRO &gt;C10-C28</b>	<b>14.0</b>	10.0	06/02/2011	ND	165	82.5	200	1.74		

Surrogate: 1-Chlorooctane 126 % 70-130  
 Surrogate: 1-Chlorooctadecane 127 % 70-130

**Sample ID: SB 2 @ 25' (H101103-06)**

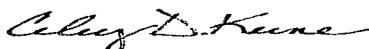
Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>112</b>	16.0	05/31/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/02/2011	ND	175	87.7	200	0.360		
DRO >C10-C28	<10.0	10.0	06/02/2011	ND	165	82.5	200	1.74		

Surrogate: 1-Chlorooctane 158 % 70-130  
 Surrogate: 1-Chlorooctadecane 160 % 70-130

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/27/2011	Sampling Date:	05/26/2011
Reported:	06/02/2011	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT M-14-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

**Sample ID: SB 3 SURFACE SAMPLE (H101103-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1480</b>	16.0	05/31/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>64.4</b>	10.0	06/02/2011	ND	175	87.7	200	0.360		
<b>DRO &gt;C10-C28</b>	<b>2510</b>	10.0	06/02/2011	ND	165	82.5	200	1.74		

Surrogate: 1-Chlorooctane 142 % 70-130  
 Surrogate: 1-Chlorooctadecane 130 % 70-130

**Sample ID: SB 3 @ 10' (H101103-08)**

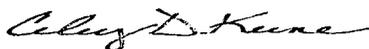
Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>112</b>	16.0	05/31/2011	ND	448	112	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/02/2011	ND	175	87.7	200	0.360		
DRO >C10-C28	<10.0	10.0	06/02/2011	ND	165	82.5	200	1.74		

Surrogate: 1-Chlorooctane 132 % 70-130  
 Surrogate: 1-Chlorooctadecane 141 % 70-130

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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		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>												
Project Manager: Natalie Gladden		P.O. #:		Chlorides TPH 8015 M BTEX Texas TPH Complete Cations/Anions TDS												
Address:		Company:														
City: State: NM Zip:		Attn:														
Phone #: Fax #:		Address:														
Project #: Project Owner:		City:														
Project Name: Empire Abo Unit M-14-2		State: Zip:														
Project Location:		Phone #:														
Sampler Name:		Fax #:														
FOR LAB USE ONLY																
Lab I.D.	Sample I.D.	(GRAB OR (COMP. # CONTAINERS	MATRIX	PRESERV.	SAMPLING											
			GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :	ACID/BASE: ICE / COOL OTHER :	DATE	TIME										
H101103-																
01	SB 1 surface sample	1			5/26/11	09:00	✓	✓								
02	SB 1 @ 10'	1				09:15	✓	✓								
03	SB 1 @ 40'	1				09:30	✓	✓								
04	SB 2 Surface Sample	1				10:00	✓	✓								
05	SB 2 @ 15'	1				10:15	✓	✓								
06	SB 2 @ 25'	1				10:30	✓	✓								
07	SB 3 Surface Sample	1				11:00	✓	✓								
08	SB 3 @ 10'	1				11:30	✓	✓								

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Relinquished By: <i>Jordan Woodfin</i>	Date: 5/27/11	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time: 3:20		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:		email results	
Delivered By: (Circle One)	Sample Condition	CHECKED BY:	Natalie.Gladden@usa.apachecorp.com;	
Sampler - UPS - Bus - Other:	Cool Intact	(Initials)	Zconder@rice-ecs.com; Bbaker@rice-ecs.com;	
	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes	<i>cdk</i>	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com	
	<input type="checkbox"/> No <input type="checkbox"/> No			

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

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# Appendix F

Final Form C-141

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