

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

HOBBS OCD

State of New Mexico

Energy Minerals and Natural Resources

HOBBS OCD

MAR 28 2013

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

RECEIVED

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Apache Corporation	Contact	Natalie Gladden
Address	PO Box 1849, Eunice NM 88231	Telephone No.	575-390-4186
Facility Name	Seven Rivers Queen Unit #421	Facility Type	Injection well
Surface Owner	Deck Estate	Mineral Owner	State
		Lease No.	30-025-09022

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	25	22S	36E	1980	FNL	660	FWL	Lea

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	400	Volume Recovered	15
Source of Release	Injection Line	Date and Hour of Occurrence	9/27/12	Date and Hour of Discovery	Same
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking		
By Whom?	Natalie Gladden	Date and Hour	9/27/12		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

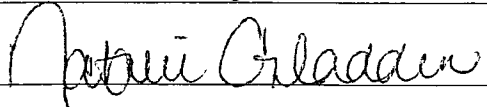

DTW = 220'

Describe Cause of Problem and Remedial Action Taken.*

Injection line leaked due to line rupture releasing fluid down the right-of-way. An attempt to recover the released fluids resulted in 15 of the 400 barrels to be recovered. Saturation levels caused the vacuum trucks to get stuck, therefore all recovery efforts were stopped. The line was excavated and replaced.

Describe Area Affected and Cleanup Action Taken.* Soil samples were taken at the surface and at depth throughout the release area. The samples were field tested for chlorides and hydrocarbons and representative samples were taken to a commercial laboratory for chloride and TPH analysis. Additional samples at depth were collected from four vertical sample points. Each vertical was advanced until two consecutive samples with concentrations below 250 mg/kg chloride were obtained. These two samples from each vertical were submitted to a commercial laboratory for chloride and TPH analyses. Based on the vertical delineation results the excavation began on October 2, 2012. The area north of the Apache pipeline was excavated to 5 and 6 ft bgs. The remaining area south of the pipeline was excavated to 4 ft bgs where a 20-mil reinforced poly liner was installed at 4 ft bgs throughout the majority of that area. Impacted soils were removed to a NMOCD approved disposal facility. The excavation was backfilled with clean, imported soil and the area was contoured to the surrounding landscape.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Natalie Gladden	Approved by District Supervisor  Environmental Specialist	
Title: Sr. Environmental Tech	Approval Date: 03/28/13	Expiration Date: -
E-mail Address: Natalie.gladden@apachecorp.com	Conditions of Approval: -	Attached <input type="checkbox"/>
Date: 3/28/13	Phone: 575-390-4186	IRP-06-14-3087

* Attach Additional Sheets If Necessary

JUN 17 2014
NSAD1416734222



EXPLORING WHAT'S POSSIBLE

HOBBS OCD

MAR 28 2013

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HOBBS OCD

MAR 28 2013

RECEIVED

APACHE CORPORATION

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

Seven Rivers Queen Unit #421

Termination Report

1RP-10-12-2853

API 30-025-09022

Release Date: September 27, 2012

Unit Letter E, Section 25, Township 22S, Range 36E

Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241

Phone 575.393.4411 Fax 575.393.0293

March 1st, 2013

Mr. Geoffrey Leking

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, District 1

1625 N. French Drive

Hobbs, New Mexico 88240

RE: Termination Request

Apache Corporation – Seven Rivers Queen Unit #421

UL/E sec. 25 T22S R36E

API No. 30-025-09022

1RP-10-12-2853

Mr. Leking:

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

Background and Previous Work

The site is a result of an accidental discharge of produced water located approximately 6.5 miles southwest of Eunice, New Mexico at unit letter E, section 25 of T22S R36E. According the New Mexico Office of the State Engineer, groundwater will likely be encountered at a depth of approximately 148 +/- feet.

On September 27, 2012, an injection line leak occurred releasing fluid down the right-of-way. A vacuum truck was dispatched and recovered 15 barrels of the 400 barrels released. The injection line was excavated and replaced. An initial C-141 was submitted by Apache on October 1st, 2012 (Appendix A)

On September 27, 2012, RECS personnel initiated work on site. Soil samples were taken at the surface and at depth throughout the release area (Figure 1). The samples were field tested for chlorides and hydrocarbons and representative samples were taken to a commercial laboratory for chloride and TPH analysis (Appendix B).

Additional samples at depth were collected from four vertical sample points on October 5, 2012 (Figure 2). Each vertical was advanced until two consecutive samples with concentrations below 250 mg/kg chloride were obtained. These two samples from each vertical were submitted to a commercial laboratory for chloride and TPH analyses (Appendix B). Chloride values decreased to less than 250 mg/kg at 13 ft below ground surface (bgs) in Vertical #2, at 14 ft bgs in Vertical #3, at 9 ft bgs in Vertical #4, and at 15 ft bgs in Vertical #5.

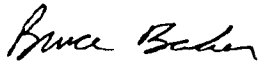
Based on the vertical delineation results (Figure 3), the excavation began on October 2, 2012. The area north of the Apache pipeline was excavated to 5 and 6 ft bgs. The remaining area south of the pipeline was excavated to 4 ft bgs where a 20-mil reinforced poly liner was installed at 4 ft bgs throughout the majority of that area. Impacted soils were removed to a NMOCD approved disposal facility. The excavation was backfilled with clean, imported soil and the area was contoured to the surrounding landscape. Photo documentation of these activities can be found in Appendix C.

Conclusion

Due to the soil remedy having been completed per the NMOCD District 1 office, Apache respectfully requests the termination of the regulatory file for this site. The final C-141 can be found in Appendix D.

RECS appreciates the opportunity to work with you on this project. Please call me at (575) 631-5157 if you have any questions or wish to discuss the site.

Sincerely,



Bruce Baker
Field Foreman
RECS
(575) 631-5157

cc Natalie Gladden – Apache Corporation

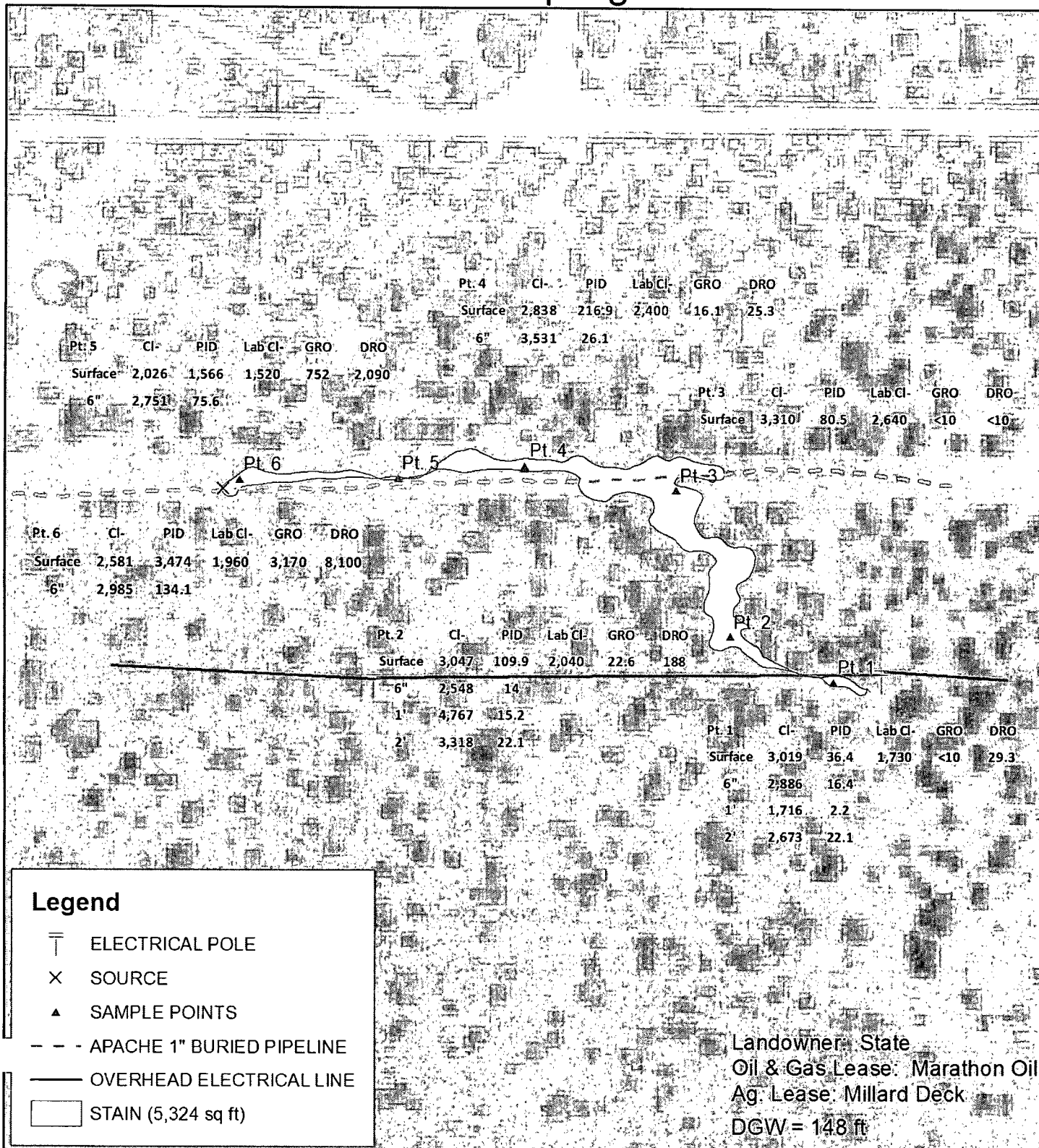
Attachments:

- Figure 1 – Initial Sampling Data
- Figure 2 – Vertical Sampling Data
- Figure 3 – Excavation Diagram
- Appendix A – Initial C-141
- Appendix B – Laboratory Analysis
- Appendix C – Photo-documentation
- Appendix D – Final C-141

Figures

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

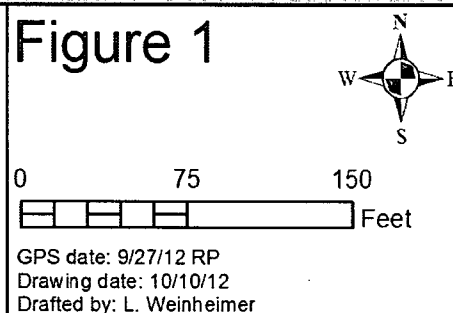
Initial Sampling Data



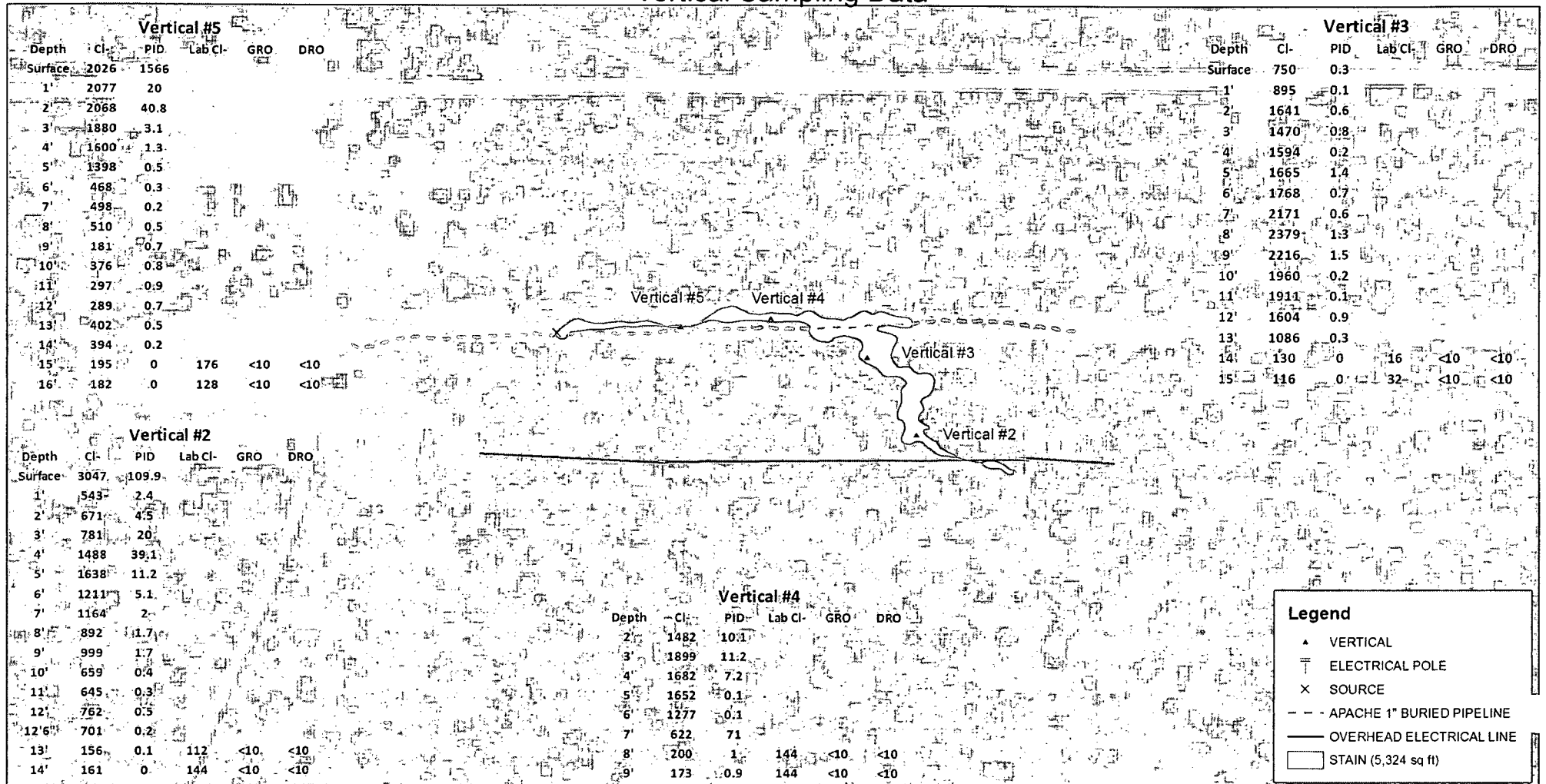
APACHE SEVEN RIVERS QUEEN UNIT #421 AD

LEGALS: UL/E sec. 25
 T-22-S R-36-E
 LEA COUNTY, NM

Figure 1



Vertical Sampling Data



APACHE SEVEN RIVERS QUEEN UNIT #421 AD

LEGALS: UL/E sec. 25
T-22-S R-36-E
LEA COUNTY, NM

Landowner: State
Oil & Gas Lease: Marathon Oil
Ag. Lease: Millard Deck
DGW = 148 ft

Figure 2

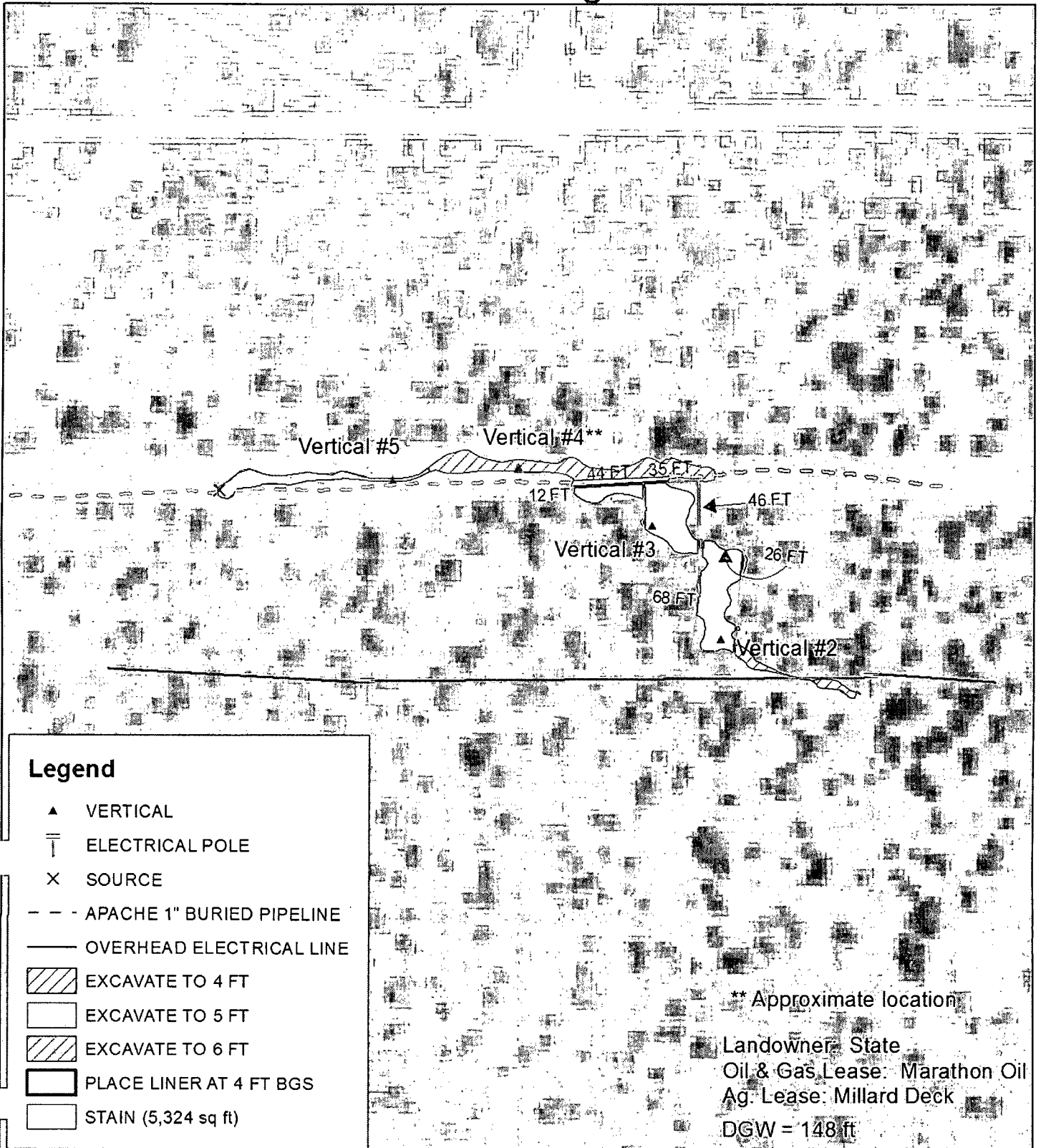


0 75 150
Feet

GPS date: 10/4/12 JK
Drawing date: 10/8/12
Drafted by: L. Weinheimer



Excavation Diagram



APACHE SEVEN RIVERS QUEEN UNIT #421 AD

LEGALS: UL/E sec. 25
T-22-S R-36-E
LEA COUNTY, NM

Figure 3



0 70 140
Feet

GPS date: 10/4/12 JK
Drawing date: 10/8/12
Drafted by: L. Weinheimer

Appendix A

Initial C-141

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

District I
1625 N. French Dr., Hobbs, NM 88240
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District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Apache Corporation	Contact Natalie Gladden	
Address PO Box 1849, Eunice NM 88231	Telephone No. 575-390-4186	
Facility Name Seven Rivers Queen Unit #421	Facility Type Injection Well	
Surface Owner Deck Estate	Mineral Owner State	API No. 30-025-09022

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	25	22S	36	1980	FNL	660	FWL	Lea

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 400	Volume Recovered 15
Source of Release Injection line	Date and Hour of Occurrence 09/27/12	Date and Hour of Discovery Same
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? Natalie Gladden	Date and Hour 09/27/12	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

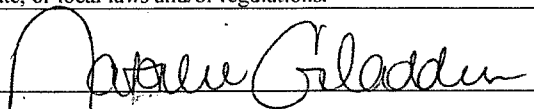
Describe Cause of Problem and Remedial Action Taken.*

Injection line leak due to line rupture released fluid down right-of-way. An attempt to recover the released fluids, which resulting in 15 of the 400bbls to be recovered. Saturation levels caused the vacuum trucks to get stuck, therefore all recovery efforts were stopped. The line was excavated and replaced.

Describe Area Affected and Cleanup Action Taken.*

All NMOCD guidelines will be followed to closure.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Natalie Gladden		Approved by Environmental Specialist:	
Title: Sr. Environmental Tech		Approval Date:	Expiration Date:
E-mail Address: natalie.gladden@apachecorp.com		Conditions of Approval:	
Date: 10/01/12 Phone: 575-390-4186		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

Appendix B

Laboratory Analysis

RICE Environmental Consulting and Safety (RECS)

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

October 10, 2012

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: SEVEN RIVERS QUEEN #421 AD

Enclosed are the results of analyses for samples received by the laboratory on 10/05/12 10:19.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

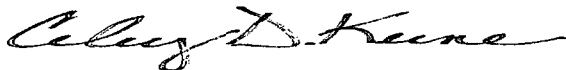
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



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:	10/05/2012	Sampling Date:	09/27/2012
Reported:	10/10/2012	Sampling Type:	Soil
Project Name:	SEVEN RIVERS QUEEN #421 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Hope S. Moreno
Project Location:	EUNICE, NM		

Sample ID: PT. 1 SURFACE (H202426-01)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1730	16.0	10/08/2012	ND	416	104	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/05/2012	ND	210	105	200	4.24	
DRO >C10-C28	29.3	10.0	10/05/2012	ND	209	105	200	7.91	

Surrogate: 1-Chlorooctane 88.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.4 % 63.6-154

Sample ID: PT. 2 SURFACE (H202426-02)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2040	16.0	10/08/2012	ND	416	104	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	22.6	10.0	10/05/2012	ND	210	105	200	4.24	
DRO >C10-C28	188	10.0	10/05/2012	ND	209	105	200	7.91	

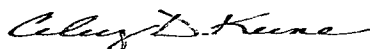
Surrogate: 1-Chlorooctane 90.2 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.7 % 63.6-154

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: 10/05/2012
 Reported: 10/10/2012
 Project Name: SEVEN RIVERS QUEEN #421 AD
 Project Number: NONE GIVEN
 Project Location: EUNICE, NM

 Sampling Date: 09/27/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Hope S. Moreno

Sample ID: PT. 3 SURFACE (H202426-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2640	16.0	10/08/2012	ND	416	104	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/05/2012	ND	210	105	200	4.24	
DRO >C10-C28	<10.0	10.0	10/05/2012	ND	209	105	200	7.91	
Surrogate: 1-Chlorooctane		90.9 %	65.2-140						
Surrogate: 1-Chlorooctadecane		92.2 %	63.6-154						

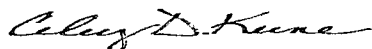
Sample ID: PT. 4 SURFACE (H202426-04)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2400	16.0	10/08/2012	ND	416	104	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	16.1	10.0	10/05/2012	ND	210	105	200	4.24	
DRO >C10-C28	25.3	10.0	10/05/2012	ND	209	105	200	7.91	
Surrogate: 1-Chlorooctane		78.9 %	65.2-140						
Surrogate: 1-Chlorooctadecane		80.5 %	63.6-154						

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: 10/05/2012
 Reported: 10/10/2012
 Project Name: SEVEN RIVERS QUEEN #421 AD
 Project Number: NONE GIVEN
 Project Location: EUNICE, NM

 Sampling Date: 09/27/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Hope S. Moreno

Sample ID: PT. 5 SURFACE (H202426-05)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	10/08/2012	ND	416	104	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	752	50.0	10/05/2012	ND	210	105	200	4.24	
DRO >C10-C28	2090	50.0	10/05/2012	ND	209	105	200	7.91	

Surrogate: 1-Chlorooctane 127 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

Sample ID: PT. 6 SURFACE (H202426-06)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1960	16.0	10/08/2012	ND	416	104	400	3.92		
TPH 8015M		mg/kg	Analyzed By: MS							S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	3170	50.0	10/05/2012	ND	210	105	200	4.24		
DRO >C10-C28	8100	50.0	10/05/2012	ND	209	105	200	7.91		

Surrogate: 1-Chlorooctane 211 % 65.2-140

Surrogate: 1-Chlorooctadecane 151 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

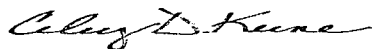
Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache				BILL TO												ANALYSIS REQUEST															
Project Manager: <i>Natalie G. Ladden</i>				P.O. #:				<div style="display: flex; flex-direction: column; align-items: center;"> <div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div> </div>																							
Address:				Company:																											
City:				Attn:																											
Phone #:				Address:																											
Project #:				City:																											
Project Name: <i>7 Rivers Queens unit # 421</i>				State: Zip:																											
Project Location: <i>Emice</i>				Phone #:																											
Sampler Name: <i>Roberto Pansa</i>				Fax #:																											
FOR LAB USE ONLY																															
Lab I.D.		Sample I.D.		(G) RAB OR (C) COMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING																	
								GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:				ACID/BASE ICE / COOL OTHER:		DATE TIME																	
<i>H202428-1</i>		<i>pt1 surface</i>		<i>G</i>		<i>✓</i>						<i>✓</i>		<i>9-27-12</i>		<i>✓</i>															
<i>2</i>		<i>pt2 surface</i>		<i>G</i>		<i>✓</i>						<i>✓</i>		<i>9-27-12</i>		<i>✓</i>															
<i>3</i>		<i>pt3 surface</i>		<i>G</i>		<i>✓</i>						<i>✓</i>		<i>9-27-12</i>		<i>✓</i>															
<i>4</i>		<i>pt4 surface</i>		<i>G</i>		<i>✓</i>						<i>✓</i>		<i>9-27-12</i>		<i>✓</i>															
<i>5</i>		<i>pt5 surface</i>		<i>G</i>		<i>✓</i>						<i>✓</i>		<i>9-27-12</i>		<i>✓</i>															
<i>6</i>		<i>pt6 surface</i>		<i>G</i>		<i>✓</i>						<i>✓</i>		<i>9-27-12</i>		<i>✓</i>															

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

Relinquished By: <i>Roberto Pansa</i>		Date: <i>10.5.12</i>		Received By: <i>L. S. Meador</i>		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Phone #:	
		Time: <i>10:19</i>				Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS: email results <i>W. G. Ladden@apachecorp.com</i> Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com			
		Time:							
Delivered By: (Circle One)				Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other:				Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		(Initials) <i>HSM</i>			

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



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

October 11, 2012

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: SEVEN RIVERS QUEEN #421 AD

Enclosed are the results of analyses for samples received by the laboratory on 10/05/12 15:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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:	10/05/2012	Sampling Date:	10/05/2012
Reported:	10/11/2012	Sampling Type:	Soil
Project Name:	SEVEN RIVERS QUEEN #421 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE, NM		

Sample ID: PT. 2 @ 13' (H202438-01)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	10/10/2012	ND	400	100	400	0.00	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/10/2012	ND	197	98.7	200	1.44	
DRO >C10-C28	<10.0	10.0	10/10/2012	ND	204	102	200	4.09	

Surrogate: 1-Chlorooctane 89.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.4 % 63.6-154

Sample ID: PT. 2 @ 14' (H202438-02)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	10/10/2012	ND	400	100	400	0.00	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/10/2012	ND	197	98.7	200	1.44	
DRO >C10-C28	<10.0	10.0	10/10/2012	ND	204	102	200	4.09	

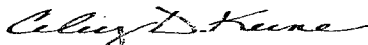
Surrogate: 1-Chlorooctane 90.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 87.9 % 63.6-154

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:	10/05/2012	Sampling Date:	10/05/2012
Reported:	10/11/2012	Sampling Type:	Soil
Project Name:	SEVEN RIVERS QUEEN #421 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE, NM		

Sample ID: VERT. 3 @ 14' (H202438-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/10/2012	ND	400	100	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/10/2012	ND	197	98.7	200	1.44		
DRO >C10-C28	<10.0	10.0	10/10/2012	ND	204	102	200	4.09		

Surrogate: 1-Chlorooctane 91.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.8 % 63.6-154

Sample ID: VERT. 3 @ 15' (H202438-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/10/2012	ND	400	100	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/10/2012	ND	197	98.7	200	1.44		
DRO >C10-C28	<10.0	10.0	10/10/2012	ND	204	102	200	4.09		

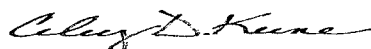
Surrogate: 1-Chlorooctane 87.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 86.3 % 63.6-154

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	10/05/2012	Sampling Date:	10/05/2012
Reported:	10/11/2012	Sampling Type:	Soil
Project Name:	SEVEN RIVERS QUEEN #421 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE, NM		

Sample ID: PT. 5 @ 15' (H202438-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	10/10/2012	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/10/2012	ND	197	98.7	200	1.44	
DRO >C10-C28	<10.0	10.0	10/10/2012	ND	204	102	200	4.09	
Surrogate: 1-Chlorooctane		91.9 %	65.2-140						
Surrogate: 1-Chlorooctadecane		92.2 %	63.6-154						


Sample ID: PT. 5 @ 16' (H202438-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	10/10/2012	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/10/2012	ND	197	98.7	200	1.44	
DRO >C10-C28	<10.0	10.0	10/10/2012	ND	204	102	200	4.09	
Surrogate: 1-Chlorooctane		89.1 %	65.2-140						
Surrogate: 1-Chlorooctadecane		89.3 %	63.6-154						

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:	10/05/2012	Sampling Date:	10/05/2012
Reported:	10/11/2012	Sampling Type:	Soil
Project Name:	SEVEN RIVERS QUEEN #421 AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EUNICE, NM		

Sample ID: PT. 4 @ 8' (H202438-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	10/10/2012	ND	400	100	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/10/2012	ND	197	98.7	200	1.44		
DRO >C10-C28	<10.0	10.0	10/10/2012	ND	204	102	200	4.09		

Surrogate: 1-Chlorooctane 94.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.0 % 63.6-154

Sample ID: PT. 4 @ 9' (H202438-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	10/10/2012	ND	400	100	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/10/2012	ND	197	98.7	200	1.44	
DRO >C10-C28	<10.0	10.0	10/10/2012	ND	204	102	200	4.09	

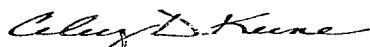
Surrogate: 1-Chlorooctane 87.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 87.8 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

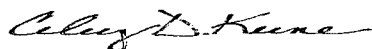
Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

October 10, 2012

NATALIE GLADDEN

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: SEVEN RIVERS QUEEN #421 AD

Enclosed are the results of analyses for samples received by the laboratory on 10/03/12 8:37.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

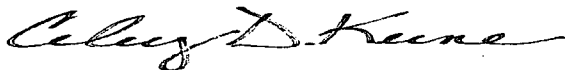
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Cately 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: 10/03/2012
Reported: 10/10/2012
Project Name: SEVEN RIVERS QUEEN #421 AD
Project Number: NONE GIVEN
Project Location: EUNICE, NM

Sampling Date: 09/28/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

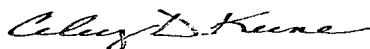
Sample ID: IMPORTED SOIL (H202407-01)

Chloride, SM4500CI-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	10/08/2012	ND	400	100	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager


Notes and Definitions

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

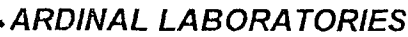
Cardinal Laboratories

*=Accredited Analyte

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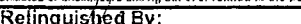
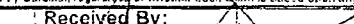





Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Relinquished By: 	Date: 10-3-12	Received By: 	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
	Time: 0710		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #:
Relinquished By: 	Date: 10-3-12	Received By: 	REMARKS:
	Time: 0837		email results
Delivered By: (Circle One)		Sample Condition	natalie.gladden@apachecorp.com
Sampler - UPS - Bus - Other:	-13C	Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	Zconder@rice-ecs.com; Bbaker@rice-ecs.com;
		CHECKED BY: (Initials) 	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com;
			jkamplain@rice-ecs.com

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

#26

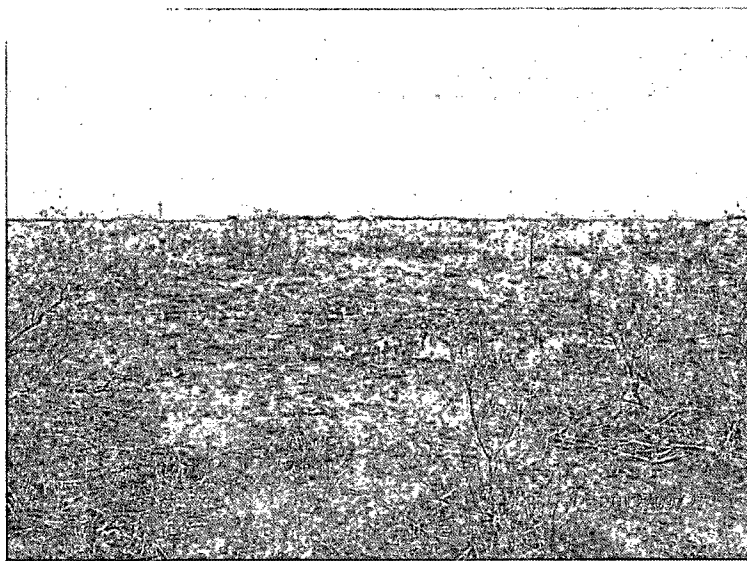
Appendix C

Photo Documentation

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

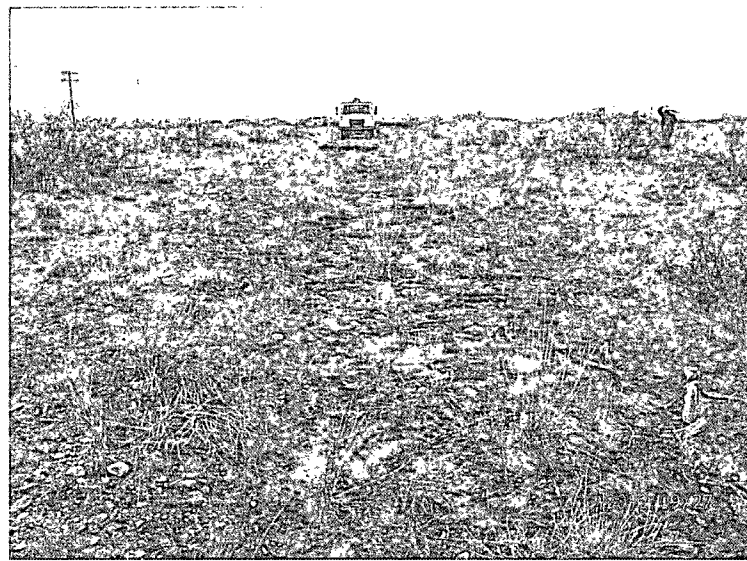
Apache Seven Rivers Queen Unit #421 AD

Unit Letter E, Section 25, T22S, R36E



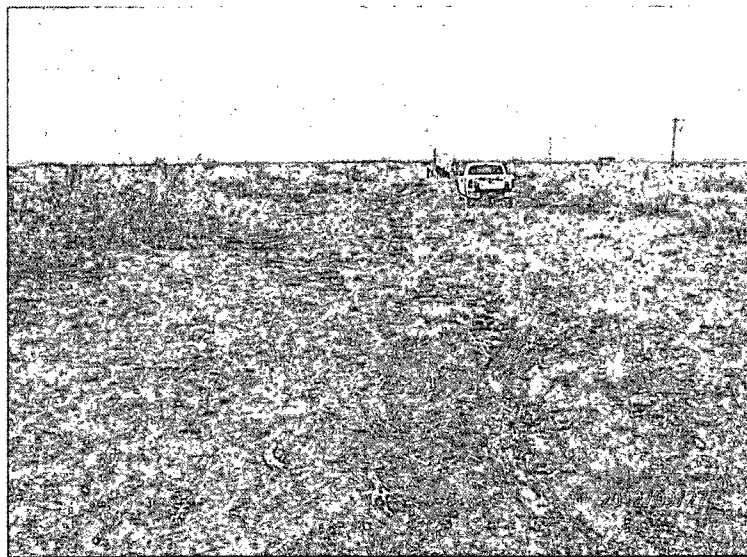
Initial release area, facing north

9/27/12



Initial release area, facing west

9/27/12



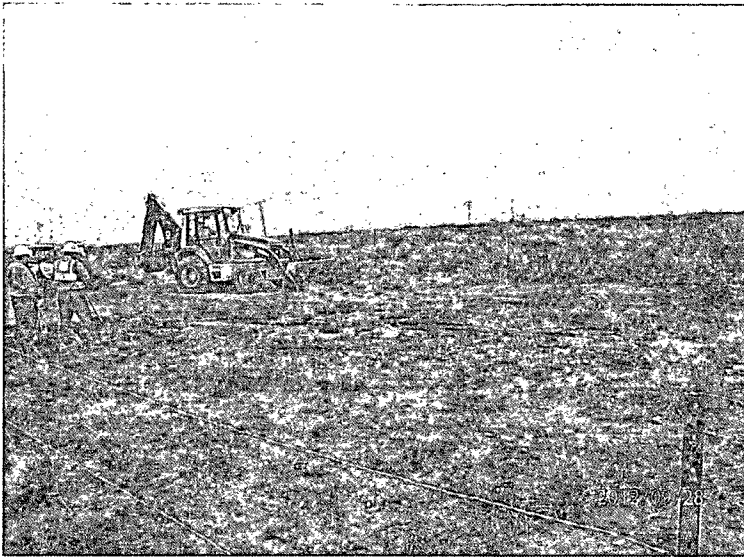
Initial release area, facing east

9/27/12



Initial release area, facing west

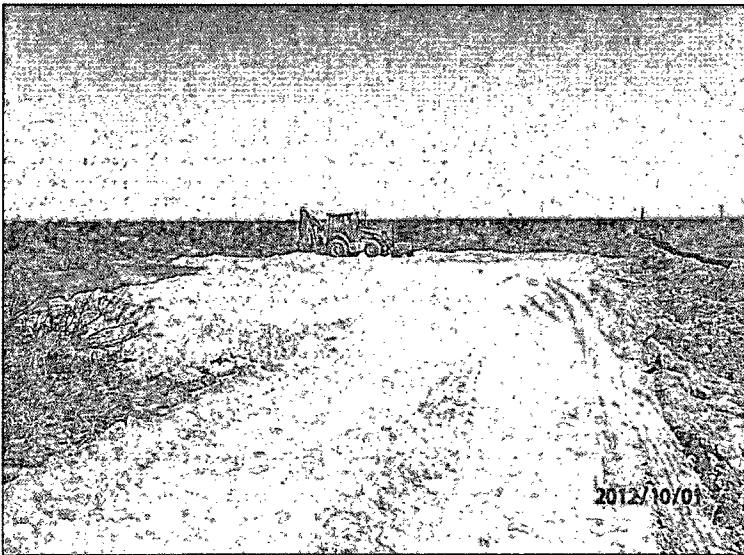
9/27/12



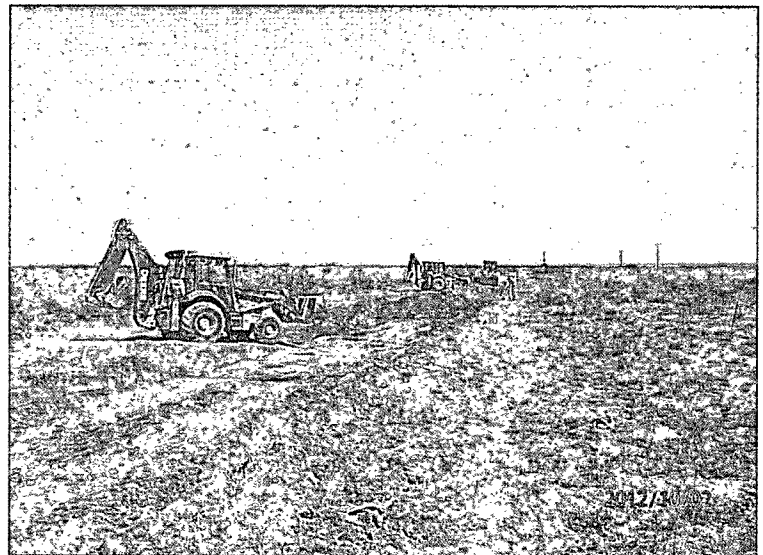
Building access road, facing northwest 9/28/12



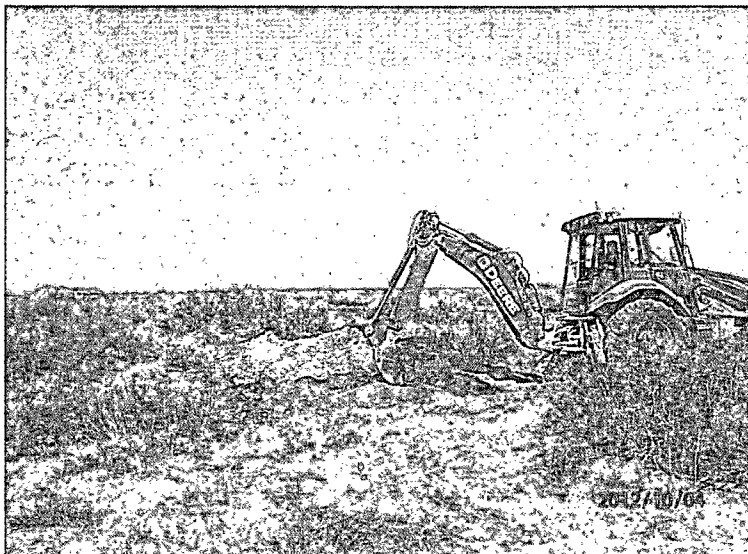
Digging Vertical #1, facing northwest 9/28/12



Building pad, facing northeast 10/1/12



Excavating site, facing northeast 10/2/12



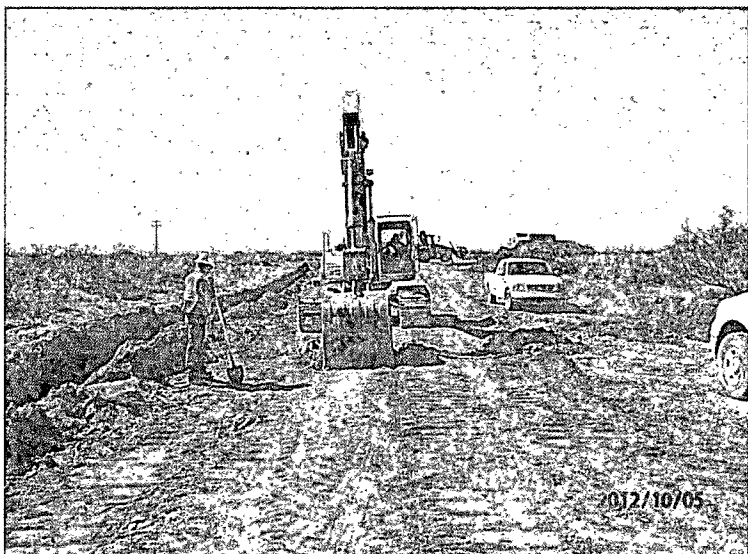
Digging Vertical #2, facing northwest

10/4/12



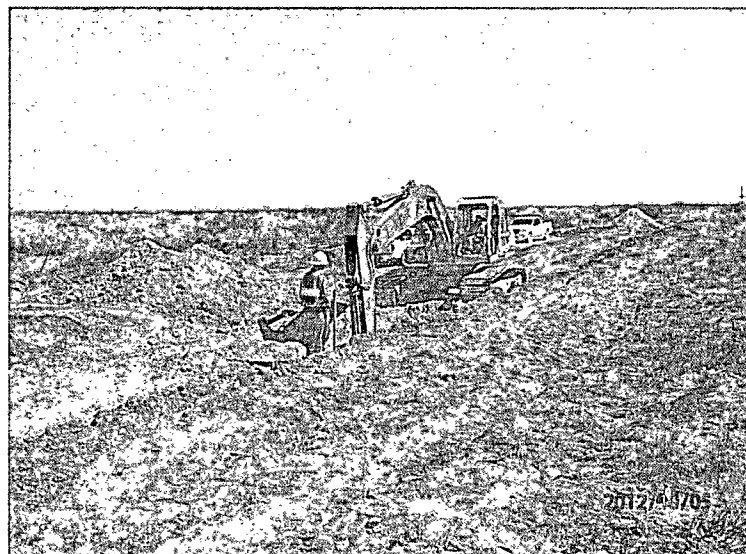
Digging Vertical #3

10/4/12



Digging Vertical #4, facing west

10/5/12

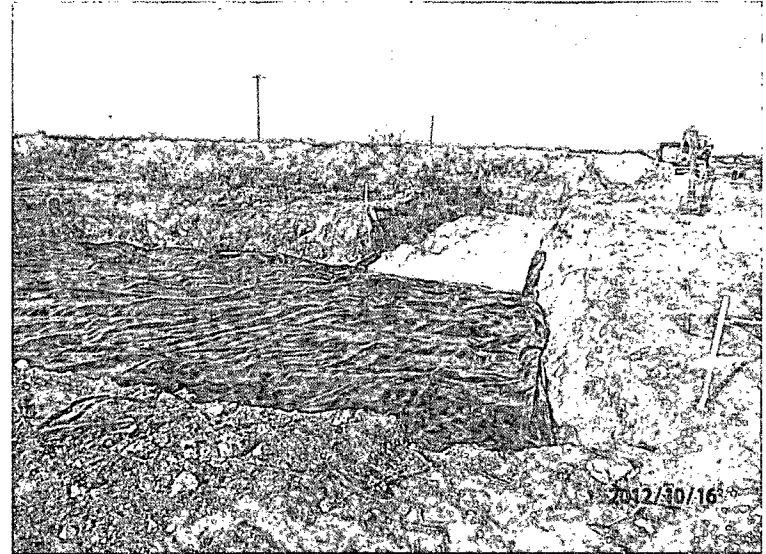


Digging Vertical #5, facing northwest

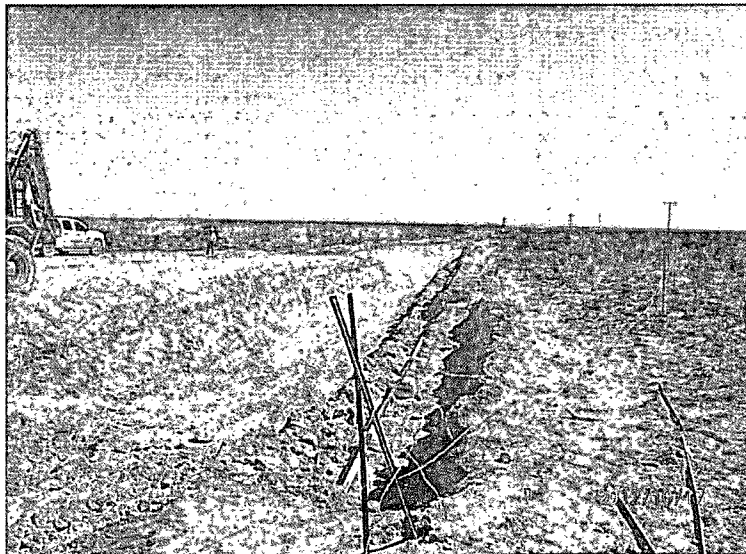
10/5/12



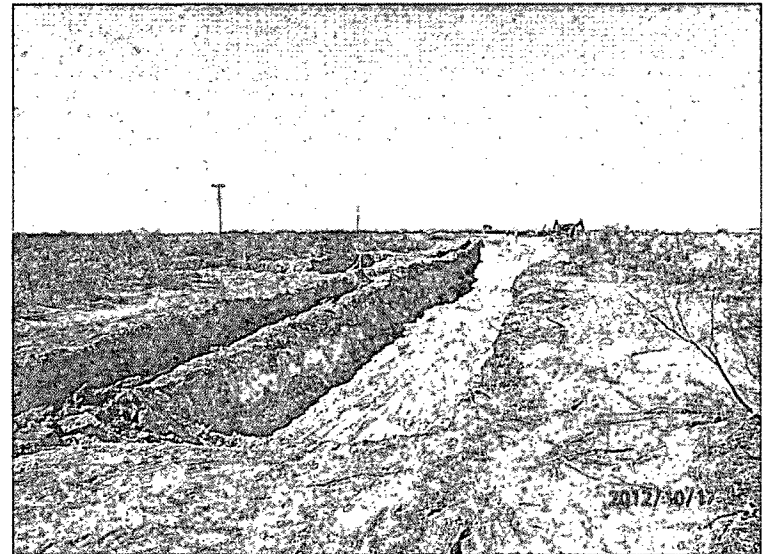
Liner in SE excavation, facing southeast 10/16/12



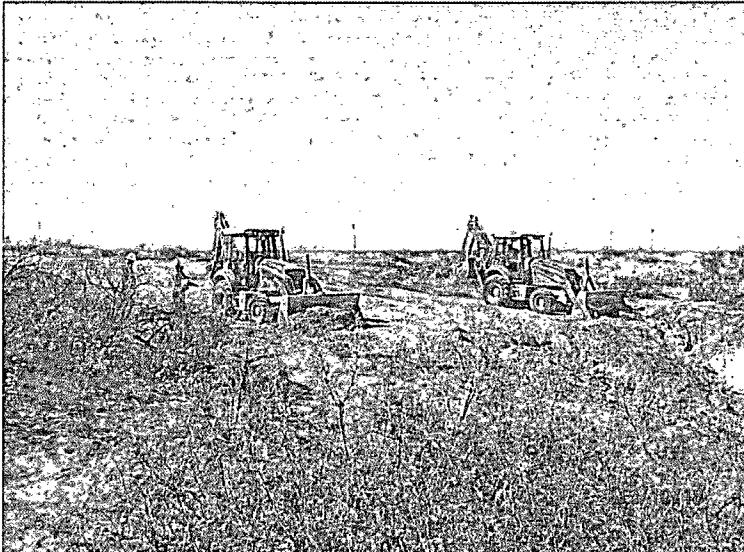
Liner in SE excavation, facing west 10/16/12



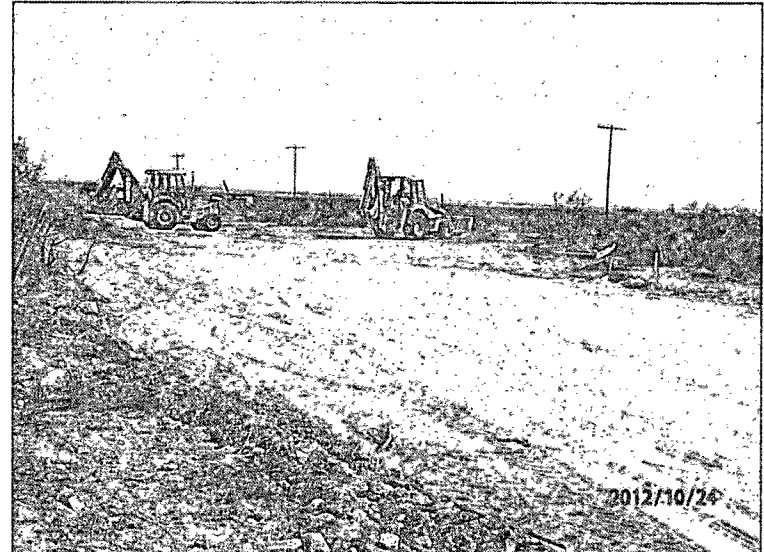
Excavation complete, facing east 10/17/12



Excavation complete, facing southwest 10/17/12



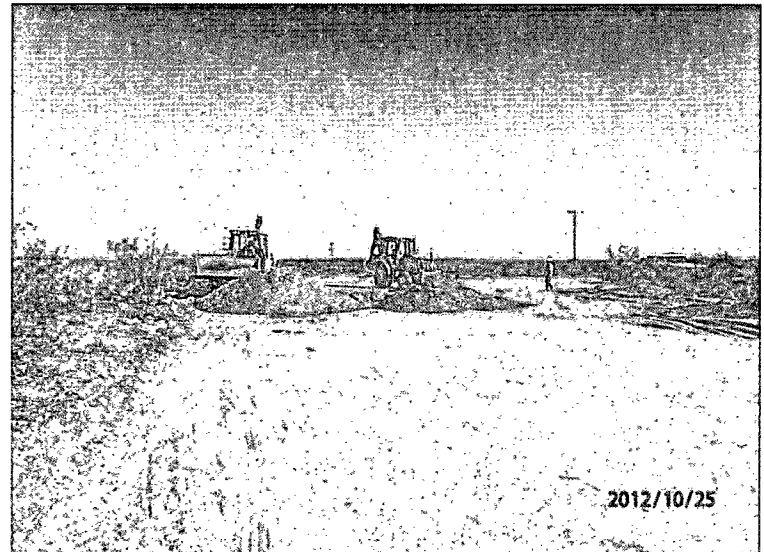
Backfilling with caliche, facing northwest 10/18/12



Backfilling SE excavation, facing southeast 10/24/12



Backfilling SE excavation, facing northwest 10/24/12



Spreading topsoil, facing east 10/25/12

Appendix D

Final C-141

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

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

HOBBS OGD

State of New Mexico

Energy Minerals and Natural Resources

HOBBS OGD

MAR 28 2

MAR 28 2013

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

RECEIVED

RECEIVED

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Apache Corporation	Contact Natalie Gladden	
Address PO Box 1849, Eunice NM 88231	Telephone No. 575-390-4186	
Facility Name Seven Rivers Queen Unit #421	Facility Type Injection well	
Surface Owner Deck Estate	Mineral Owner State	Lease No. 30-025-09022

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	25	22S	36E	1980	FNL	660	FWL	Lea

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 400	Volume Recovered 15
Source of Release Injection Line	Date and Hour of Occurrence 9/27/12	Date and Hour of Discovery Same
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? Natalie Gladden	Date and Hour 9/27/12	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

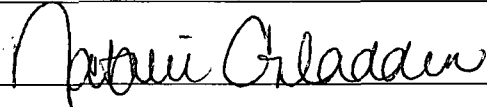

DTW = 220'

Describe Cause of Problem and Remedial Action Taken.*

Injection line leaked due to line rupture releasing fluid down the right-of-way. An attempt to recover the released fluids resulted in 15 of the 400 barrels to be recovered. Saturation levels caused the vacuum trucks to get stuck, therefore all recovery efforts were stopped. The line was excavated and replaced.

Describe Area Affected and Cleanup Action Taken.* Soil samples were taken at the surface and at depth throughout the release area. The samples were field tested for chlorides and hydrocarbons and representative samples were taken to a commercial laboratory for chloride and TPH analysis. Additional samples at depth were collected from four vertical sample points. Each vertical was advanced until two consecutive samples with concentrations below 250 mg/kg chloride were obtained. These two samples from each vertical were submitted to a commercial laboratory for chloride and TPH analyses. Based on the vertical delineation results the excavation began on October 2, 2012. The area north of the Apache pipeline was excavated to 5 and 6 ft bgs. The remaining area south of the pipeline was excavated to 4 ft bgs where a 20-mil reinforced poly liner was installed at 4 ft bgs throughout the majority of that area. Impacted soils were removed to a NMOCD approved disposal facility. The excavation was backfilled with clean, imported soil and the area was contoured to the surrounding landscape.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Natalie Gladden	Approved by District Supervisor  Environmental Specialist	
Title: Sr. Environmental Tech	Approval Date: 03/28/13	Expiration Date: -
E-mail Address: Natalie.gladden@apachecorp.com	Conditions of Approval: -	Attached <input type="checkbox"/>
Date: 3/28/13 Phone: 575-390-4186	IRP-06-14-3087	

* Attach Additional Sheets If Necessary