



September 9, 2020

Mr. Bradford Billings
State of New Mexico Oil Conservation Division
1220 South St Francis Drive
Santa Fe, NM 87505

RE: 2RP-1651 Empire Abo G-331 Emulsion Line

Mr. Billings,

In compliance with 19.15.29.15(B) NMAC and the agreement submitted by Apache Corporation on November 8, 2018, Apache Corporation is submitting information related to closure for the release occurring July 26, 2012. Apache is respectfully submitting the closure report based on remediation and studies occurring in 2013 that demonstrate the site meeting the requirements of the agency. Unless further information is requested by NMOCD, Apache Corporation considers this release closed.

If there are any questions, please feel free to contact me by telephone at 432-631-6982 or by e-mail at larry.baker@apachecorp.com

Sincerely,

A handwritten signature in black ink that reads "Larry Baker". The signature is written in a cursive, flowing style.

Larry Baker
Environmental Technician SR.

Attachment: Closure Report Dated September 9, 2020



303 Veterans Airpark Lane Midland, TX 79705

Closure Report

September 9, 2020

Re: Empire Abo G-331 Emulsion Line
Case # 2RP-1651

On 4/22/2013 a release occurred due to a rupture on a 6 inch fiberglass emulsion line resulting in the loss of fluid. The release (GPS: 32.78842, -104.16870) is located east of Artesia, NM in unit letter K&L section 34 township 17S range 38E. A groundwater survey was conducted utilizing the NMOSE and USGS wells of record. The nearest well suggest that groundwater beneath the release is 95 feet.

On 5/13/2013 and 5/14/2013 vertical delineation was conducted in regular intervals and representative samples were collected and submitted to a commercial laboratory for analysis of chloride and TPH. The area on the pad was scraped to 6 inches and bottom and wall samples were collected and submitted to a commercial laboratory for analysis of chloride and TPH.

After developing a remediation plan the impacted area was excavated to depth ranging from 1.5 feet to 3.5 feet. A 20 mil reinforced liner was installed in the bottom of the 3.5 foot areas. All excavated soil was disposed of at an OCD approved facility. The excavated area was backfilled to grade and contoured to match the surrounding terrain.

Apache Corporation completed remediation in 2013 and request closure of event #2RP-1651.

Enclosed: C-141, Groundwater Data, Maps, Sample Data, Laboratory Results, and Photos.

Submitted by;

Bruce Baker

Environmental Technician

larry.baker@apachecorp.com

Cell# 432-631-6982

Off# 575-393-7106

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

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 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

nJMW1314034086

Name of Company Apache Corporation <i>873</i>		Contact Albert Maes	
Address PO Box 1849, Eunice, NM 88231		Telephone No. (575) 390-0405	
Facility Name Empire Abo G-331 Emulsion Line		Facility Type Emulsion Line Release	

OPERATOR

☒ Initial Report ☐ Final Report

Surface Owner Bogle Ltd Company	Mineral Owner	Lease No.
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LOCATION OF RELEASE

API# 30-015-21784

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K&L	34	17S	28E	1,687	FSL	1,348	FWL	Eddy

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Oil and Produced Water	Volume of Release 300 barrels	Volume Recovered 190 barrels
Source of Release Emulsion Line	Date and Hour of Occurrence: 4/22/13 3:00 pm	Date and Hour of Discovery: 4/23/13 9:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Left message for M. Bratcher	
By Whom? Bruce Baker, RECS	Date and Hour 4/23/13 4:40 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

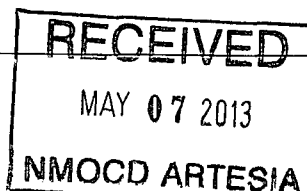
If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A rupture in a 6" fiberglass emulsion line occurred when a rock punctured the line as the site was backfilled.

Describe Area Affected and Cleanup Action Taken.* - Per Bruce w/ RECS:

Area affected is 56,308 total sq. ft. with 41,142 sq. ft. being in adjacent pasture. Analytical data has been obtained for preparation for remediation proposed - MLCB 5/9/13



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

Signature: <i>Albert Maes</i>	OIL CONSERVATION DIVISION	
Printed Name: Albert Maes	Approved by District Supervisor:	Signed By <i>Mike Bratcher</i>
Title: Production Foreman	Approval Date: MAY 20 2013	Expiration Date:
E-mail Address: albertmaes@apachecorp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 5-7-13 Phone: (575) 390-0405	Remediation per OCD Rule & Guidelines. SUBMIT REMEDIATION PROPOSAL NO LATER THAN:	

* Attach Additional Sheets If Necessary

June 20, 2013

2RP-1651

Apache

Warren, JeanMarie, EMNRD

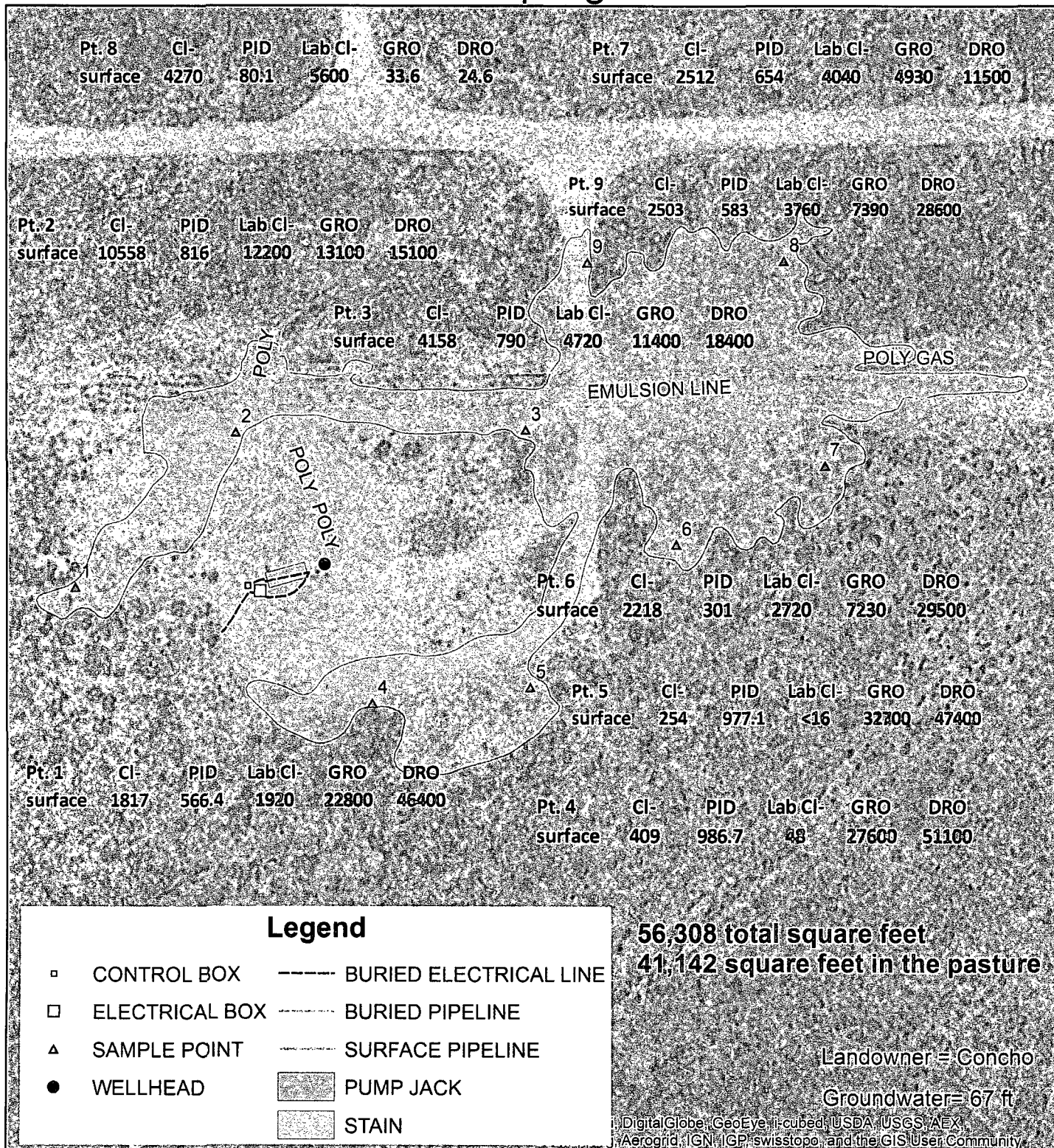
Sent: Thursday, May 09, 2013 7:45 AM**To:** Bratcher, Mike, EMNRD

I called Travis Carns with Apache today to inquire about Empire Abo G-133 Emulsion Line release dated 4/22/13 and the information lacking on the release form C-141. Travis stated that Albert Maes would have more information on the release. So I contacted Albert via phone and he stated that the estimated amount of release was 10% oil, and 90% produced water of the 300 bbls released. The estimated amount recovered was 10bbls oil, and 180bbls produced water. I then advised that the "Describe Area Affected and Cleanup Action Taken.*" was not filled out, and we need to know the approximate footage of the release. Albert directed me to Bruce Baker of RICE-ECS. I contacted Bruce and requested the information that the report was lacking. He stated that when he returned to his office he would email me a copy of the plat he had for the release. Bruce also stated he would be turning in a C-141 for another release at another location, Loco Fed Btry released 3/11/13 on behalf of Apache.

*Jean-Marie Warren**Business Operations Specialist**NM-OCD District II, Artesia**(575) 748-1283, ext. 101*

Closest well is prob
015-21784 (ut L)
May need to open
as facility

Initial Sampling Data



APACHE EMPIRE ABO G-331 EMULSION LINE

UL K&L SECTION 34
 T-17-S R-28-E
 EDDY COUNTY, NM



0 50 100
 Feet

GPS date: 4/23/13 JK
 Drawing date: 4/30/13
 Drafted by: L. Weinheimer

RE: Empire Abo G-331 Emulsion Line

Bruce Baker [bbaker@rice-ecs.com]

Sent: Thursday, May 09, 2013 9:16 AM

To: Warren, JeanMarie, EMNRD

Cc: steven.fleming@apachecorp.com; Maes, Albert [Albert.Maes@apachecorp.com]; travis.carnes@apachecorp.com; hconder@rice-ecs.com

Attachments: APACHE EMPIRE ABO G-331 EM~1.jpg (7 MB)

Ms. Warren,

Attached is the plat for the Empire Abo G-331 Emulsion Line. The accidental discharge total square feet is 56,308 with 41,142 in the pasture. The line has been repaired and currently the wet area is being scraped up and hauled to a NMOCD approved facility. RECS appreciates the opportunity to work with you on this project. Please call me if you have any questions or wish to discuss the site. Thanks and have a good day.

Bruce Baker
Project Manager
Phone: (575) 393-4411
Cell: (575) 631-5157

From: Warren, JeanMarie, EMNRD [mailto:JeanMarie.Warren@state.nm.us]

Sent: Thursday, May 09, 2013 7:35 AM

To: bbaker@rice-ecs.com

Subject: Empire Abo G-331 Emulsion Line

This is the well location that I was needing the Affected area and Cleanup action on. Thank you.

*Jean-Marie Warren
Business Operations Specialist
NM-OCD District II, Artesia
(575) 748-1283, ext. 101*

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>95</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Larry Baker Title: Environmental Tech SR.
Signature: Larry Baker Date: 9/9/2020
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Larry Baker Title: Environmental Tech SR.
Signature: Larry Baker Date: 9/9/2020
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: OCD Date: 9/9/2020

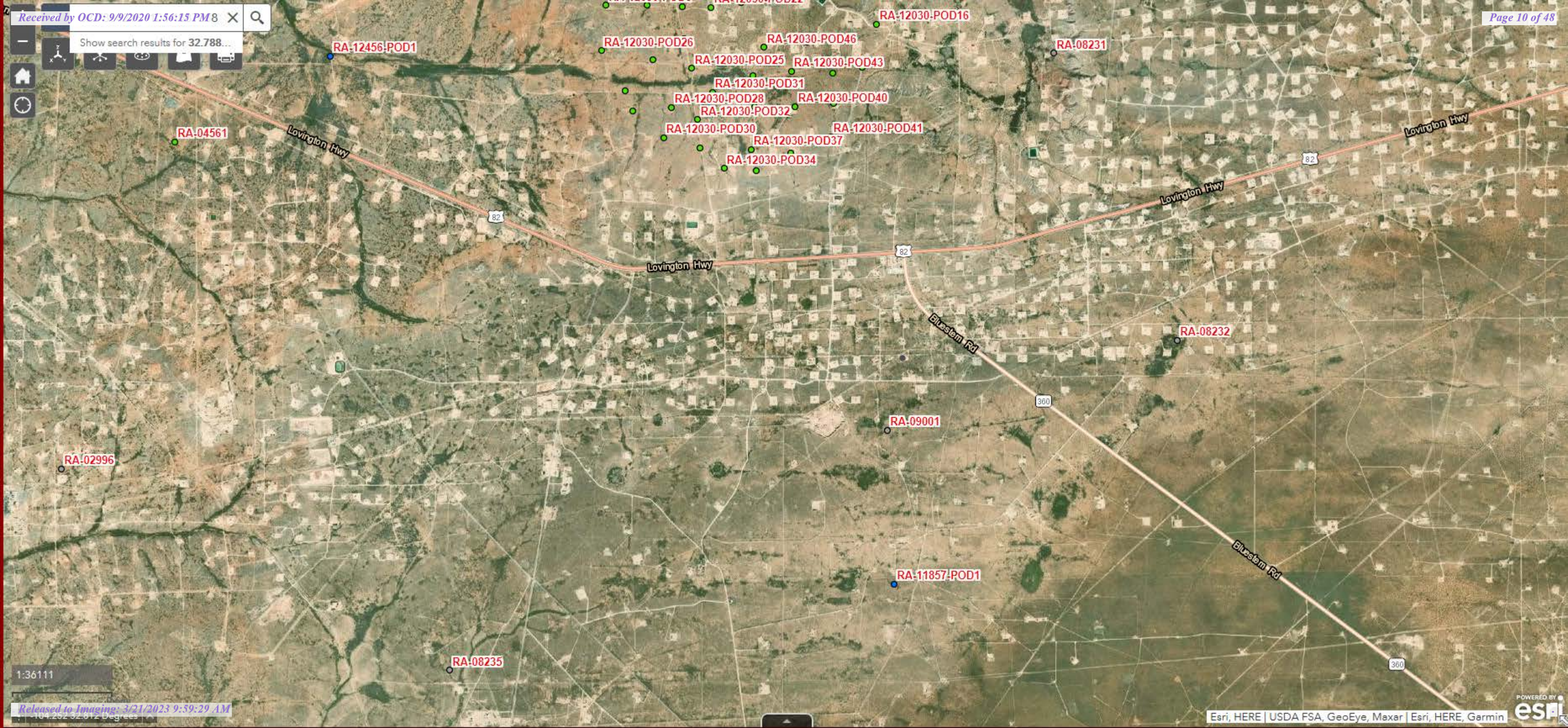
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Ashley Maxwell Date: 3/21/2023
Printed Name: Ashley Maxwell Title: Environmental Specialist

Show search results for 32.788...

Map navigation controls including zoom in (+), zoom out (-), home, and other standard GIS interface buttons.


1:36111





New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
RA 11857	POD1	1	1	2	05	18S	26E	577784	3625988 

Driller License:	1064	Driller Company:	DELFORD W. MARTIN						
Driller Name:	MARTIN, DELFORD								
Drill Start Date:	09/25/2012	Drill Finish Date:	10/01/2012				Plug Date:		
Log File Date:	10/15/2012	PCW Rcv Date:					Source:	Shallow	
Pump Type:		Pipe Discharge Size:					Estimated Yield:	95 GPM	
Casing Size:	5.00	Depth Well:	235 feet				Depth Water:	95 feet	

Water Bearing Stratifications:		Top	Bottom	Description
		95	130	Sandstone/Gravel/Conglomerate
		160	235	Sandstone/Gravel/Conglomerate

Casing Perforations:		Top	Bottom
		140	235

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/9/20 11:26 AM

POINT OF DIVERSION SUMMARY

Radius

Buffer Size (miles) : 0.5

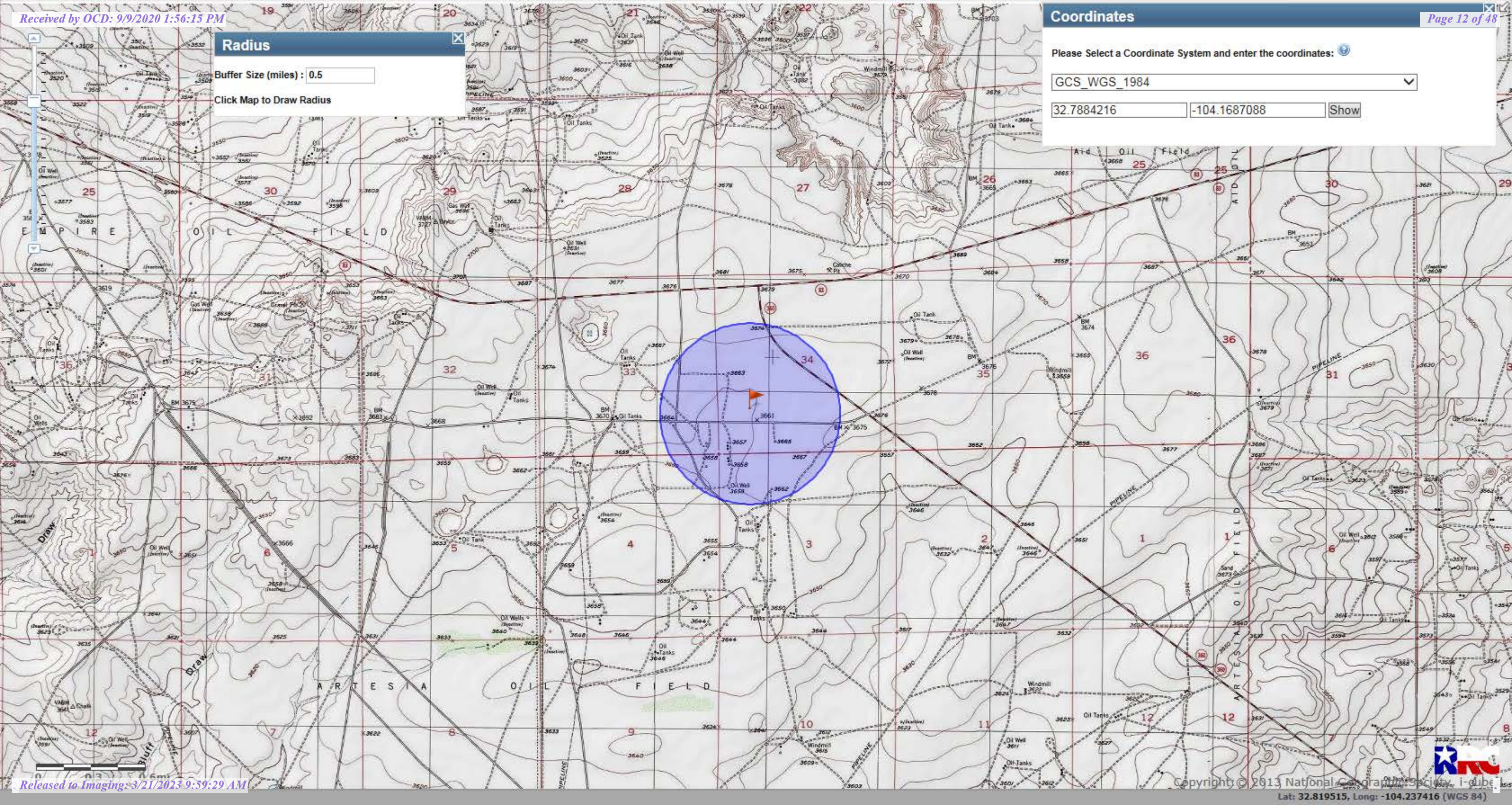
Click Map to Draw Radius

Coordinates

Please Select a Coordinate System and enter the coordinates:

GCS_WGS_1984

32.7884216-104.1687088Show



NEDU Injection Line

Complete List

Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO
5/13/2013	Vert 1	5'	3840						<10.0	<10.0
5/13/2013		13'	64						<10.0	<10.0
5/13/2013		13.5'	64						<10.0	<10.0
5/14/2013	Vert 2	5.5'	2960	<0.100	5.13	12.5	43.9	64.4	648	2310
5/14/2013		6.5'	3040	<0.050	0.162	0.196	0.940	1.3	17	285
5/14/2013		7.5'	144						<10.0	<10.0
5/14/2013		8'	64						<10.0	<10.0
5/14/2013	Vert 3	2'	48						<10.0	<10.0
5/14/2013		2.5'	144						<10.0	<10.0
5/10/2013	S Scrape	6"	64						188	1820
5/14/2013	S Scrape -N Wall		32						<10.0	<10.0
5/14/2013	S Scrape-S Wall		<16.0						<10.0	<10.0
5/14/2013	S Scrape-E Wall		<16.0						<10.0	<10.0
5/14/2013	S-Scrape-W Wall		<16.0						<10.0	<10.0



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

May 16, 2013

STEVEN FLEMING

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: EAU G-331 EMULSION LINE

Enclosed are the results of analyses for samples received by the laboratory on 05/14/13 8:25.

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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 05/14/2013
 Reported: 05/16/2013
 Project Name: EAU G-331 EMULSION LINE
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 05/10/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S SCRAPE 5 PT COMP @ 6" (H301145-01)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/14/2013	ND	432	108	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	188	10.0	05/14/2013	ND	211	106	200	1.96	
DRO >C10-C28	1820	10.0	05/14/2013	ND	208	104	200	1.47	

Surrogate: 1-Chlorooctane 144 % 65.2-140

Surrogate: 1-Chlorooctadecane 145 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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

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

[illegible]

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>Kampl</i>		Date: <i>5/14/13</i>	Received By: <i>Jodi Henson</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
		Time: <i>8:25</i>		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS: email results Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; JKAMPLAIN@RICE-ECS.COM	
		Time:			
Delivered By: (Circle One)			Sample Condition	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:			<i>-30</i> <input checked="" type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	<i>SH</i>	

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

#54



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

May 16, 2013

STEVEN FLEMING

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

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A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/14/2013	Sampling Date:	05/13/2013
Reported:	05/16/2013	Sampling Type:	Soil
Project Name:	EAU G-331 EMULSION LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERT 1 @ 5' (H301146-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3840	16.0	05/14/2013	ND	432	108	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	05/14/2013	ND	211	106	200	1.96	
DRO >C10-C28	<10.0	10.0	05/14/2013	ND	208	104	200	1.47	
Surrogate: 1-Chlorooctane	111 %	65.2-140							
Surrogate: 1-Chlorooctadecane	123 %	63.6-154							

Sample ID: VERT 1 @ 13' (H301146-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/14/2013	ND	432	108	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	05/14/2013	ND	211	106	200	1.96	
DRO >C10-C28	<10.0	10.0	05/14/2013	ND	208	104	200	1.47	
Surrogate: 1-Chlorooctane	117 %	65.2-140							
Surrogate: 1-Chlorooctadecane	126 %	63.6-154							

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 05/14/2013
 Reported: 05/16/2013
 Project Name: EAU G-331 EMULSION LINE
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 05/13/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: VERT 1 @ 13.5' (H301146-03)

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: DW							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	05/14/2013	ND	432	108	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	05/14/2013	ND	211	106	200	1.96		
DRO >C10-C28	<10.0	10.0	05/14/2013	ND	208	104	200	1.47		

Surrogate: 1-Chlorooctane 113 % 65.2-140

Surrogate: 1-Chlorooctadecane 122 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache Corp.				BILL TO				ANALYSIS REQUEST																					
Project Manager: S. Flannings				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:		State:		Zip:		Attn:																							
Phone #:		Fax #:		Address:																									
Project #:		Project Owner:		City:																									
Project Name: EAL Emission 6-331 AA				State:																Zip:									
Project Location:				Phone #:																									
Sampler Name: JKAMPLAIN				Fax #:																									
FOR LAB USE ONLY																													
Lab I.D.		Sample I.D.		(GRAB OR C) OMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING															
								GROUNDWATER				ACID/BASE:		DATE		TIME													
								WASTEWATER				ICE / COOL																	
								SOIL				OTHER:																	
								OIL																					
								SLUDGE																					
								OTHER:																					
H3D1146																													
1 Vert 1 @ 5'				9		1						✓		5-13-13		1:00		✓											
2 Vert 1 @ 13'				9		1						✓		✓		2:22		✓											
3 Vert 1 @ 13.5'				9		1						✓		✓		2:25		✓											

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Relinquished By:		Date: 5/14/13		Received By: Jodi Benson		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Phone #:	
Time: 8:25						Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS: email results Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; JKAMPLAIN@RICE-ECS.COM			
		Time:							
Delivered By: (Circle One)				Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other:				Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					

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

#54



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

May 23, 2013

STEVEN FLEMING

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: EAU G-331 EMULSION LINE

Enclosed are the results of analyses for samples received by the laboratory on 05/16/13 10:37.

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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/16/2013	Sampling Date:	05/14/2013
Reported:	05/23/2013	Sampling Type:	Soil
Project Name:	EAU G-331 EMULSION LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VERT 2 @ 5.5' (H301176-01)

BTX 8021B		mg/kg		Analyzed By: AP				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	05/22/2013	ND	2.28	114	2.00	3.54	
Toluene*	5.13	0.100	05/22/2013	ND	2.05	103	2.00	3.17	
Ethylbenzene*	12.5	0.100	05/22/2013	ND	2.22	111	2.00	2.97	
Total Xylenes*	43.9	0.300	05/22/2013	ND	6.42	107	6.00	2.81	
Total BTX	61.4	0.600	05/22/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID) 268 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2960	16.0	05/17/2013	ND	432	108	400	3.77	

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	648	50.0	05/16/2013	ND	214	107	200	3.92	
DRO >C10-C28	2310	50.0	05/16/2013	ND	212	106	200	5.93	

Surrogate: 1-Chlorooctane 161 % 65.2-140

Surrogate: 1-Chlorooctadecane 140 % 63.6-154

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 05/16/2013
 Reported: 05/23/2013
 Project Name: EAU G-331 EMULSION LINE
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 05/14/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: VERT 2 @ 6.5' (H301176-02)

BTEx 8021B		mg/kg	Analyzed By: AP					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/22/2013	ND	2.28	114	2.00	3.54	
Toluene*	0.162	0.050	05/22/2013	ND	2.05	103	2.00	3.17	
Ethylbenzene*	0.196	0.050	05/22/2013	ND	2.22	111	2.00	2.97	
Total Xylenes*	0.940	0.150	05/22/2013	ND	6.42	107	6.00	2.81	
Total BTEX	1.30	0.300	05/22/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID) 145 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3040	16.0	05/17/2013	ND	432	108	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	17.0	10.0	05/16/2013	ND	214	107	200	3.92	
DRO >C10-C28	285	10.0	05/16/2013	ND	212	106	200	5.93	

Surrogate: 1-Chlorooctane 114 % 65.2-140

Surrogate: 1-Chlorooctadecane 119 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/16/2013
Reported: 05/23/2013
Project Name: EAU G-331 EMULSION LINE
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 05/14/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: VERT 2 @ 7.5' (H301176-03)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	05/17/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/17/2013	ND	212	106	200	0.0761	
DRO >C10-C28	<10.0	10.0	05/17/2013	ND	210	105	200	1.98	
Surrogate: 1-Chlorooctane	109 %	65.2-140							
Surrogate: 1-Chlorooctadecane	119 %	63.6-154							

Sample ID: VERT 2 @ 8' (H301176-04)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/20/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/17/2013	ND	212	106	200	0.0761	
DRO >C10-C28	<10.0	10.0	05/17/2013	ND	210	105	200	1.98	
Surrogate: 1-Chlorooctane	101 %	65.2-140							
Surrogate: 1-Chlorooctadecane	106 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/16/2013
Reported: 05/23/2013
Project Name: EAU G-331 EMULSION LINE
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 05/14/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: VERT 3 @ 2' (H301176-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/20/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/17/2013	ND	212	106	200	0.0761	
DRO >C10-C28	<10.0	10.0	05/17/2013	ND	210	105	200	1.98	
Surrogate: 1-Chlorooctane	96.5 %	65.2-140							
Surrogate: 1-Chlorooctadecane	103 %	63.6-154							

Sample ID: VERT 3 @ 2.5' (H301176-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	05/20/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/17/2013	ND	212	106	200	0.0761	
DRO >C10-C28	166	10.0	05/17/2013	ND	210	105	200	1.98	
Surrogate: 1-Chlorooctane	102 %	65.2-140							
Surrogate: 1-Chlorooctadecane	105 %	63.6-154							

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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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.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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*=Accredited Analyte

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A handwritten signature in black ink, reading "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache Corp.				BILL TO				ANALYSIS REQUEST											
Project Manager: S. Flemings				P.O. #:				<div style="display: flex; justify-content: space-around;"> <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: State: Zip:				Attn:															
Phone #: Fax #:				Address:															
Project #: Project Owner:				City:															
Project Name: EAM G #331 Emulsion line AD				State: Zip:															
Project Location:				Phone #:															
Sampler Name: JKAMPLAIN				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING							
								GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:		ACID/BASE ICE / COOL OTHER:		DATE TIME							
H301176																			
1 Vert 2 @ 5.5'				1								5-14-13 12:00							
2 Vert 2 @ 6.5'				1								12:05							
3 Vert 2 @ 7.5'				1								12:10							
4 Vert 2 @ 8'				1								12:15							
5 Vert 3 @ 2'				1								2:05							
6 Vert 3 @ 2.5'				1								2:10							
7 Vert 3 @ 2.5'				1								2:00							

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Relinquished By:		Date: 8/16/13		Received By:		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Phone #:	
		Time: 10:37				Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS: email results Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; JKAMPLAIN@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					

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

#54



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

May 20, 2013

STEVEN FLEMING

APACHE - EUNICE

P. O. BOX 1849

EUNICE, NM 88231

RE: EAU G-331 EMULSION LINE

Enclosed are the results of analyses for samples received by the laboratory on 05/16/13 10:37.

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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 05/16/2013
 Reported: 05/20/2013
 Project Name: EAU G-331 EMULSION LINE
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 05/14/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S SCRAPE-N WALL CENTER (H301177-01)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/17/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/17/2013	ND	212	106	200	0.0761	
DRO >C10-C28	<10.0	10.0	05/17/2013	ND	210	105	200	1.98	
Surrogate: 1-Chlorooctane	104 %	65.2-140							
Surrogate: 1-Chlorooctadecane	113 %	63.6-154							

Sample ID: S SCRAPE-S WALL CENTER (H301177-02)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/17/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/17/2013	ND	212	106	200	0.0761	
DRO >C10-C28	<10.0	10.0	05/17/2013	ND	210	105	200	1.98	
Surrogate: 1-Chlorooctane	103 %	65.2-140							
Surrogate: 1-Chlorooctadecane	108 %	63.6-154							

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/16/2013
Reported: 05/20/2013
Project Name: EAU G-331 EMULSION LINE
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 05/14/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S SCRAPE-E WALL CENTER (H301177-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/17/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/17/2013	ND	212	106	200	0.0761	
DRO >C10-C28	<10.0	10.0	05/17/2013	ND	210	105	200	1.98	
Surrogate: 1-Chlorooctane	108 %	65.2-140							
Surrogate: 1-Chlorooctadecane	115 %	63.6-154							

Sample ID: S SCRAPE-W WALL CENTER (H301177-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/17/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/17/2013	ND	212	106	200	0.0761	
DRO >C10-C28	<10.0	10.0	05/17/2013	ND	210	105	200	1.98	
Surrogate: 1-Chlorooctane		106 %	65.2-140						
Surrogate: 1-Chlorooctadecane		110 %	63.6-154						

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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*=Accredited Analyte

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

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.				BILL TO				ANALYSIS REQUEST																
Project Manager: S. Flemings				P.O. #:				Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS											
Address:				Company:																				
City:		State:		Zip:		Attn:																		
Phone #:		Fax #:		Address:																				
Project #:		Project Owner:		City:																				
Project Name: EAH G #331 Evans on line				State:		Zip:																		
Project Location:				Phone #:																				
Sampler Name: JKAMPLAIN				Fax #:																				
FOR LAB USE ONLY																								
Lab I.D.		Sample I.D.		(GRAB OR (C)OMP. # CONTAINERS		MATRIX				PRESERV.		SAMPLING												
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME								
H301177																								
1	S. Scumpe	N. wall entr	g	1				1					1		5-14-13	3:00	✓	✓						
2		S. wall entr	g	1				1					1		3:05		✓	✓						
3		E. wall entr	g	1				1					1		3:10		✓	✓						
4		N. wall entr	g	1				1					1		3:15		✓	✓						

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Relinquished By: 		Date: 3/16/13 Time: 10:37		Received By: Jodi Henson		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:	
Relinquished By:		Date:		Received By:		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		50		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) 	
						REMARKS: email results Zconder@rice-ecs.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; JKAMPLAIN@RICE-EC.S.COM	

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#54

Apache – Empire ABO G331 Remediation Photo Documentation



Line Spotting



Initial Assessment



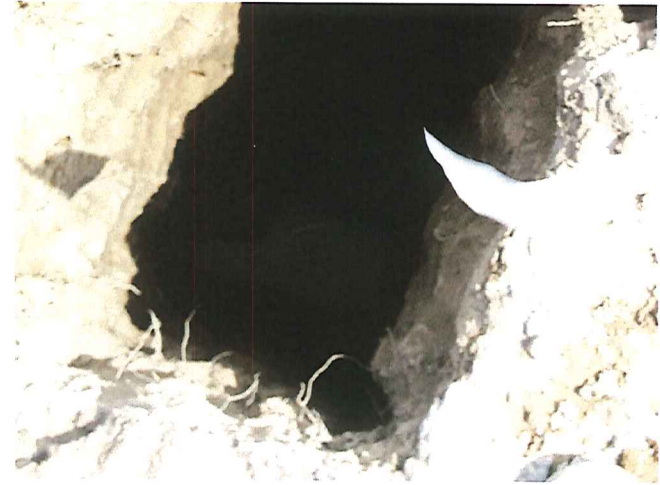
Initial Assessment



Initial Assessment



Initial Assessment



Location Overview



2-Foot Scrape



3-Foot Excavation



3-Foot Excavation



Liner Installation



Backfill Ops



Empire ABO G-331 Emulsion Line:

Scope of Work: The area north of the pipeline needs to be excavated to 3.5 ft. padded with 6 inches of blow sand and install a 20 ml. reinforced liner. A small area west of the lease road will also need to be excavated to a depth of 3.5 padded with blow sand and install a 20 ml. reinforced liner. The area south of the pipeline will also need to be excavated to 3.5 ft. padded with 6 inches of blow sand and install a 20 ml reinforced liner. The areas to south in the pasture west of vertical 5 will need to excavate to a depth of 2 ft. The area south of the pit will need to be excavated to a depth of 1.5 ft. All soil will need to be disposed of at NMOCD approved facility. The areas in the pasture will need to be backfilled with top soil and roads and pads will need to be backfilled with caliche.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 10093

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 10093
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	3/21/2023