303 Veterans Airpark Lane Midland, TX 79705

Remediation Plan

July 1, 2020

Re: JG Hare #019
Case # NRM2013250166

Background:

On 05/04/2020 a release occurred due to a small leak due to a packing failure at the wellhead resulting in the loss of fluid. The release (GPS: 32.4344521, -103.1711426) is located south of Eunice, NM in unit letter K section 33 township 21S range 37E. A groundwater survey was conducted utilizing the NMOSE wells of record. The nearest well suggest that groundwater beneath the release is 100 feet.

On 6/29/2020 vertical delineation was conducted utilizing a backhoe. Samples were collected in 1-foot intervals. SP 1 was advanced to a depth of 3 foot. SP 1 surface, 2', and 3' were taken to a commercial laboratory for analysis of chloride, TPH, and BTEX. SP 2 samples were also collected in 1-foot interval however, the pad is partially lined at a depth of 2'. SP 2 surface and 1' samples were taken to a commercial laboratory for analysis of chloride, TPH, and BTEX. We did find the further east point of the liner at 2' to the east which is approximately 18' from the wellhead.

Remediation Plan:

Apache Corporation proposes that the release area be excavated to a depth of 1 foot. All excavated material (113 yards) will be hauled to an NMOCD approved facility. After the excavation is complete final 5-point bottom and wall composite samples will be collected not to exceed 500 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Once analytical data confirms that the excavation meet table 1 standards for releases less than 100 feet to groundwater the excavation will be backfilled with clean imported caliche and the pad restored. The remediation will be completed within one year of NMOCD approval of the plan.

Enclosed: Corrected C-141, Groundwater data, Maps, Sample Data, and Laboratory Results

Submitted by;

Bruce Baker

Environmental Technician
larry.baker@apachecorp.com
Cell# 432-631-6982
Off# 575-393-7106

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?	100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ 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)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ 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?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☑ 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

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: Bruce Baker Title: Environmental Tech SR.

Signature: Bruce Baker Date: 7/7/2020

email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☑ Detailed description of proposed remediation technique
- ☑ Scaled sitemap with GPS coordinates showing delineation points
- ☑ Estimated volume of material to be remediated
- ☑ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☑ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Bruce Baker Title: Environmental Tech SR.

Signature: Bruce Baker Date: 7/7/2020

email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____


Show search results for 32.434...
JG Hare #019
CP-00417-POD1
CP-00024-POD1
CP-00726
CP-00034-POD1
CP-01295-POD1
CP-00033-POD1
CP-00025-POD1
1:4513
300ft
-103.163 32.429 Degrees
OSE GIS | USDA FSA, GeoEye, Maxar
POWERED BY esri

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Twp	Rng	(NAD83 UTM in meters) X	Y
	CP 00726	2	4		33	21S	37E	672844	3589980*

Driller License: 208 **Driller Company:** VAN NOY, W.L.

Driller Name: VAN NOY, W.L.

Drill Start Date: 02/23/1988 **Drill Finish Date:** 02/23/1988 **Plug Date:**

Log File Date: 02/26/1988 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 5.50 **Depth Well:** 125 feet **Depth Water:** 100 feet

Water Bearing Stratifications:	Top	Bottom	Description
	100	125	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	106	121

***UTM location was derived from PLSS - see Help**

Show search results for 32.434...

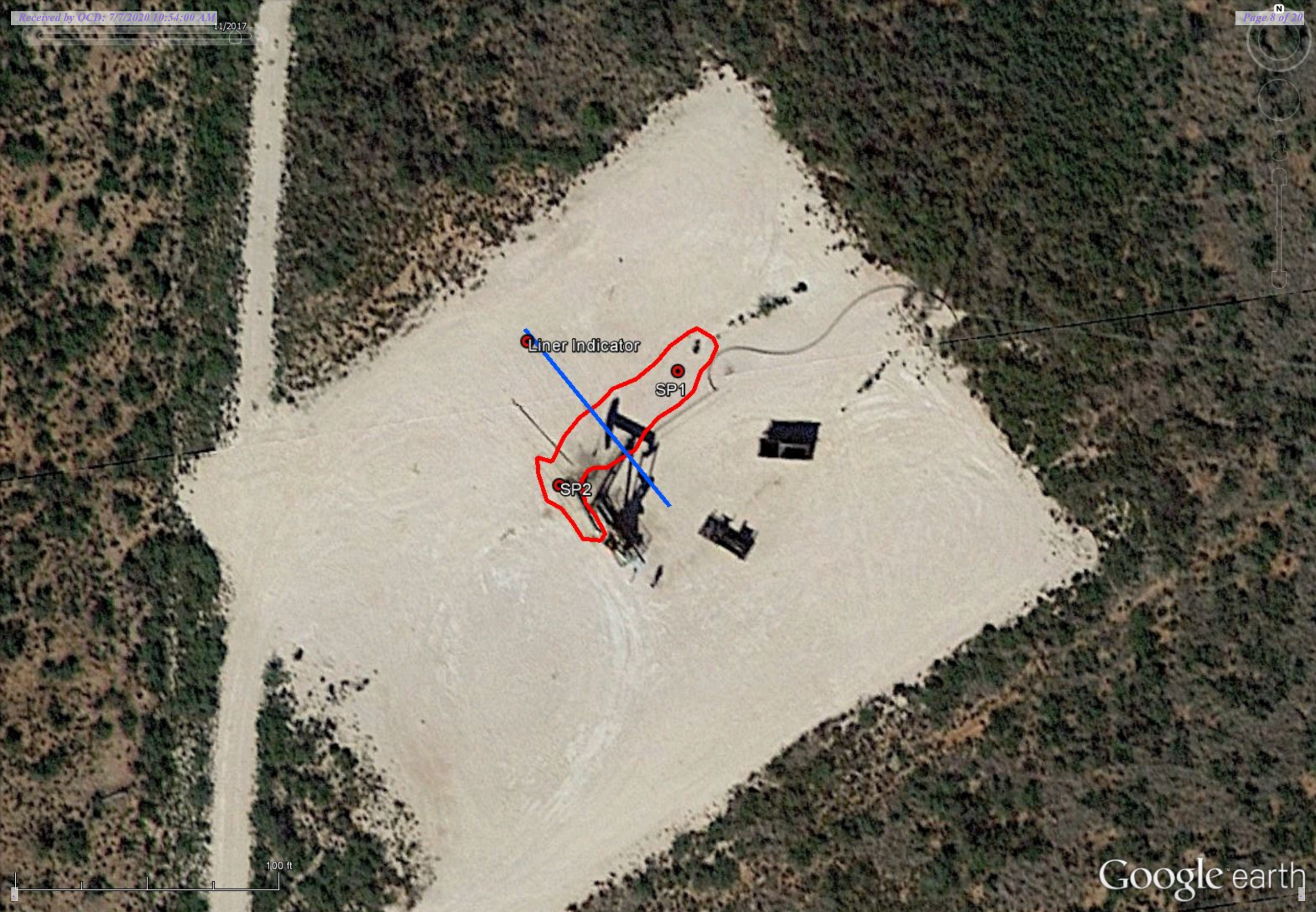
JG Flare #019

CP-01750-POD10
CP-01096-POD2
CP-01750-POD6
CP-01739-POD12
CP-01276-POD2
CP-01739-POD14
CP-00161-POD4
CP-00513-POD1
CP-00322
CP-01739-POD13
CP-01739-POD15
CP-00749
CP-01750-POD11
CP-00161-POD6
CP-00318
CP-01301-POD1
CP-00161-POD5
CP-01302-POD1
CP-01178-POD1
CP-01077-POD1
CP-00206-POD3
CP-00548
CP-00943-POD1
CP-01521-POD1
CP-00022-POD1
CP-01354-POD1
CP-01031-POD1
CP-00205-POD3
CP-00417-POD1
CP-00024-POD1
CP-00140-POD1
CP-00726
CP-00817
CP-00034-POD1
CP-01295-POD1
CP-00033-POD1
CP-00481
CP-00032-POD1
CP-01748-POD2
CP-00666
CP-01748-POD3
CP-00439
CP-00255-POD1
CP-00031-POD1
CP-00082-POD1
CP-00030-POD1
CP-00255-POD2
CP-00451
CP-00099-POD1
CP-00230-POD1
CP-01004-POD1
CP-01339-POD2
CP-01001-POD1
CP-00227-P
CP-01003-POD1
CP-01002-POD1
CP-00228-P
CP-01145-POD1
CP-00287-POD1
CP-00221-POD1
CP-00214-P
CP-01358-POD13
CP-01358-POD4
CP-01358-POD6
CP-01699-POD3
CP-01626-POD1
CP-01699-POD5
CP-01358-POD14
CP-01358-POD12
CP-00229-P
CP-01150-POD3
CP-01150-POD4
CP-01159-POD4
CP-01500-POD1
CP-01500-POD2
CP-01500-POD3
CP-01562-POD1

Oil Wells
Gas Plant
Rodeo Ground
Sewage Disposal
Substa
Drive-in Theatre
Eunice
High Sch
Gravel Pit
Radio
Water Tank
Gas Plant
Gravel Pit
PIPELINE
T 21 S
T 22 S
F I E L D

1:18055
0.3mi
-103.183 32.430 Degrees

OSE GIS | Copyright:© 2013 National Geographic Society, i-cubed


11/2017
Liner Indicator
SP1
SP2
100 ft
Google earth

NEDU Injection Line

Complete List

JG Hare #019 Delineation Samples

Map ID	Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates	Lab (L) Field (F)
SP1	6/29/2020	SP1 @ Surface	S	11,600	<.050	<.050	<.050	<.150	<.300	<10.0	15.10	<10.0	32.434497 -103.170938	L
	6/29/2020	SP1 @ 1'	1'	1,025										F
	6/29/2020	SP1 @ 2'	2'	496	<.050	<.050	<.050	<.150	<.300	<10.0	<10.0	<10.0		L
	6/29/2020	SP1 @ 3'	3'	304	<.050	<.050	<.050	<.150	<.300	<10.0	<10.0	<10.0		L
SP2	6/29/2020	SP2 @ Surface	S	34,400	<.050	<.050	<.050	<.150	<.300	<10.0	<10.0	<10.0	32.434378 -103.171084	L
	6/30/2020	SP2 @ 1'	1'	992	<.050	<.050	<.050	<.150	<.300	<10.0	<10.0	<10.0		L

CARDINAL Laboratories

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

June 30, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: J G HARE #019

Enclosed are the results of analyses for samples received by the laboratory on 06/29/20 15:41.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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 accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	06/29/2020	Sampling Date:	06/29/2020
Reported:	06/30/2020	Sampling Type:	Soil
Project Name:	J G HARE #019	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	J G HARE #019		

Sample ID: SP1 @ SURFACE (H001691-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2020	ND	1.96	98.0	2.00	0.117	
Toluene*	<0.050	0.050	06/30/2020	ND	1.97	98.6	2.00	0.0245	
Ethylbenzene*	<0.050	0.050	06/30/2020	ND	2.01	101	2.00	0.00769	
Total Xylenes*	<0.150	0.150	06/30/2020	ND	5.86	97.6	6.00	0.202	
Total BTEX	<0.300	0.300	06/30/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.0 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**11600**	16.0	06/30/2020	ND	416	104	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	06/30/2020	ND	190	95.2	200	1.28	
DRO >C10-C28*	**15.1**	10.0	06/30/2020	ND	185	92.7	200	2.49	
EXT DRO >C28-C36	<10.0	10.0	06/30/2020	ND					

Surrogate: 1-Chlorooctane *113 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *129 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	06/29/2020	Sampling Date:	06/29/2020
Reported:	06/30/2020	Sampling Type:	Soil
Project Name:	J G HARE #019	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	J G HARE #019		

Sample ID: SP1 @ 2' (H001691-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2020	ND	1.96	98.0	2.00	0.117	
Toluene*	<0.050	0.050	06/30/2020	ND	1.97	98.6	2.00	0.0245	
Ethylbenzene*	<0.050	0.050	06/30/2020	ND	2.01	101	2.00	0.00769	
Total Xylenes*	<0.150	0.150	06/30/2020	ND	5.86	97.6	6.00	0.202	
Total BTEX	<0.300	0.300	06/30/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.4 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**496**	16.0	06/30/2020	ND	416	104	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	06/30/2020	ND	190	95.2	200	1.28	
DRO >C10-C28*	<10.0	10.0	06/30/2020	ND	185	92.7	200	2.49	
EXT DRO >C28-C36	<10.0	10.0	06/30/2020	ND					

Surrogate: 1-Chlorooctane *122 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *136 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	06/29/2020	Sampling Date:	06/29/2020
Reported:	06/30/2020	Sampling Type:	Soil
Project Name:	J G HARE #019	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	J G HARE #019		

Sample ID: SP1 @ 3' (H001691-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2020	ND	1.96	98.0	2.00	0.117	
Toluene*	<0.050	0.050	06/30/2020	ND	1.97	98.6	2.00	0.0245	
Ethylbenzene*	<0.050	0.050	06/30/2020	ND	2.01	101	2.00	0.00769	
Total Xylenes*	<0.150	0.150	06/30/2020	ND	5.86	97.6	6.00	0.202	
Total BTEX	<0.300	0.300	06/30/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.9 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	06/30/2020	ND	416	104	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	06/30/2020	ND	190	95.2	200	1.28	
DRO >C10-C28*	<10.0	10.0	06/30/2020	ND	185	92.7	200	2.49	
EXT DRO >C28-C36	<10.0	10.0	06/30/2020	ND					

Surrogate: 1-Chlorooctane *135 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *153 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	06/29/2020	Sampling Date:	06/29/2020
Reported:	06/30/2020	Sampling Type:	Soil
Project Name:	J G HARE #019	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	J G HARE #019		

Sample ID: SP2 @ SURFACE (H001691-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2020	ND	1.96	98.0	2.00	0.117	
Toluene*	<0.050	0.050	06/30/2020	ND	1.97	98.6	2.00	0.0245	
Ethylbenzene*	<0.050	0.050	06/30/2020	ND	2.01	101	2.00	0.00769	
Total Xylenes*	<0.150	0.150	06/30/2020	ND	5.86	97.6	6.00	0.202	
Total BTEX	<0.300	0.300	06/30/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.1 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**34400**	16.0	06/30/2020	ND	416	104	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	06/30/2020	ND	190	95.2	200	1.28	
DRO >C10-C28*	<10.0	10.0	06/30/2020	ND	185	92.7	200	2.49	
EXT DRO >C28-C36	<10.0	10.0	06/30/2020	ND					

Surrogate: 1-Chlorooctane *110 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *120 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Apache Corporation	**BILL TO**	
Project Manager:	Bruce Baker	P.O. #:	
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	JG HARE #019	State: Zip:	
Project Location:	JG HARE #019	Phone #:	
Sampler Name:	Jeff Brown	Fax #:	

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	CL -	BTEX	EXT. TPH
H001691																	
1	SP1 @ Surface	6											6/29/20	1020	✓	✓	✓
2	SP1 @ 2'	6												1024	✓	✓	✓
3	SP1 @ 3'	6												1022	✓	✓	✓
4	SP2 @ Surface	6											6/29/20	1225	✓	✓	✓

Relinquished By: Jeff Brown	Date: 6/29/20 Time: 1541	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address:
Relinquished By:	Date: Time:	Received By:	REMARKS:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 5.4 Corrected Temp. °C	Sample Condition Cool Yes / No Intact Yes / No	CHECKED BY: (Initials) T.O.	Turnaround Time: Standard / Rush ☐ Thermometer ID #113 Correction Factor None
				☑ Bacteria (only) Sample Condition Cool Yes / No Intact Yes / No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.1 06/04/20

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

July 01, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: J G HARE #019

Enclosed are the results of analyses for samples received by the laboratory on 06/30/20 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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 accreditated 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,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	06/30/2020	Sampling Date:	06/30/2020
Reported:	07/01/2020	Sampling Type:	Soil
Project Name:	J G HARE #019	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	J G HARE #019		

Sample ID: SP 2 @ 1' (H001709-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2020	ND	1.97	98.5	2.00	2.41	
Toluene*	<0.050	0.050	07/01/2020	ND	1.98	98.9	2.00	2.46	
Ethylbenzene*	<0.050	0.050	07/01/2020	ND	2.00	100	2.00	2.43	
Total Xylenes*	<0.150	0.150	07/01/2020	ND	5.80	96.7	6.00	2.33	
Total BTEX	<0.300	0.300	07/01/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.1 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**992**	16.0	07/01/2020	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	07/01/2020	ND	223	112	200	0.608	
DRO >C10-C28*	<10.0	10.0	07/01/2020	ND	237	118	200	0.342	
EXT DRO >C28-C36	<10.0	10.0	07/01/2020	ND					

Surrogate: 1-Chlorooctane *92.3 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *96.0 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Apache Corporation	**BILL TO**	
Project Manager:	Bruce Baker	P.O. #:	
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	JG HARE #019	State: Zip:	
Project Location:	JG HARE #019	Phone #:	
Sampler Name:	Jeff Brown	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	CL	BTEX	EXT. TPH									
H001709																									
1	SP2 @ 1'		1			X					X		6/30/20	1356	✓	✓	✓								

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 consequental 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: ~~6~~ 6/30/20	Received By:	Verbal Result: ☐ Yes ☐ No	Add'l Phone #:	
	Time: 1648		All Results are emailed. Please provide Email address:		
Relinquished By:	Date:	Received By:	REMARKS:		
	Time:				

Delivered By: (Circle One)	Observed Temp. °C 2.1	Sample Condition	CHECKED BY:	Turnaround Time: Standard / Rush	Bacteria (only) Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool: ~~Yes~~ Yes / No; Intact: ~~Yes~~ Yes / No	(Initials) TO.	Thermometer ID #113 Correction Factor None	Cool: Yes / No; Intact: Yes / No; Observed Temp. °C; Corrected Temp. °C

FORM-006 R 3.1 06/04/20

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com