



303 Veterans Airpark Lane Midland, TX 79705

Remediation Plan

September 2, 2020

Re: EBDU 22

Case # NRM2017549520

Background:

On 6/8/2020 a release was discovered due to a steel connection corroded at the well head resulting in the loss of produced water. The release (GPS 32.48805, -103.12631) is located north of Eunice, New Mexico in unit letter P section 11 township 21S range 37E. A ground water survey was conducted utilizing well data from USGS and NMOSE. The nearest well suggest that ground water below the release is 60 feet. On 8/26/2020 and 8/27/2020 vertical and horizontal delineation was conducted utilizing a backhoe collecting samples in regular intervals. All samples collected were field tested for chlorides and representative samples were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX.

Remediation Plan:

Apache Corporation proposes that the area around SP 1 be excavated to a depth of six inches to 1 foot. Once the excavation is complete final five point bottom composite samples will be collected not exceeding 500 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Final five point wall composite samples will be collected not to exceed 200 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. The areas around SP 2, 3, 4, 5 and 6 final five point surface composite samples will be collected not exceeding 500 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX.

Once laboratory analysis for all samples confirm levels below table one standards for releases 51-100 feet to ground water the excavation will be backfilled with clean imported caliche and contoured to the surrounding area. All excavated soil (60 yards) will be disposed of at an OCD approved facility. Apache Corporation will complete remediation within six months of OCD approval of the plan

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

Submitted by;

Bruce Baker

Environmental Technician

larry.baker@apachecorp.com

Cell# 432-631-6982

Off# 432-818-1000

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>60</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: 9/2/2020
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

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: Larry Baker Title: Environmental Tech SR.
Signature: Larry Baker Date: 9/2/2020
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: _____



SP1
HC1
SP2
SP3
HC2
SP6

18

CP 01221

© 2020 Google

Google earth


795 ft
1997

Imagery Date: 2/20/2019 lat 32.488481° lon -103.126783° elev 3437 ft eye alt 7030 ft



New Mexico Office of the State Engineer

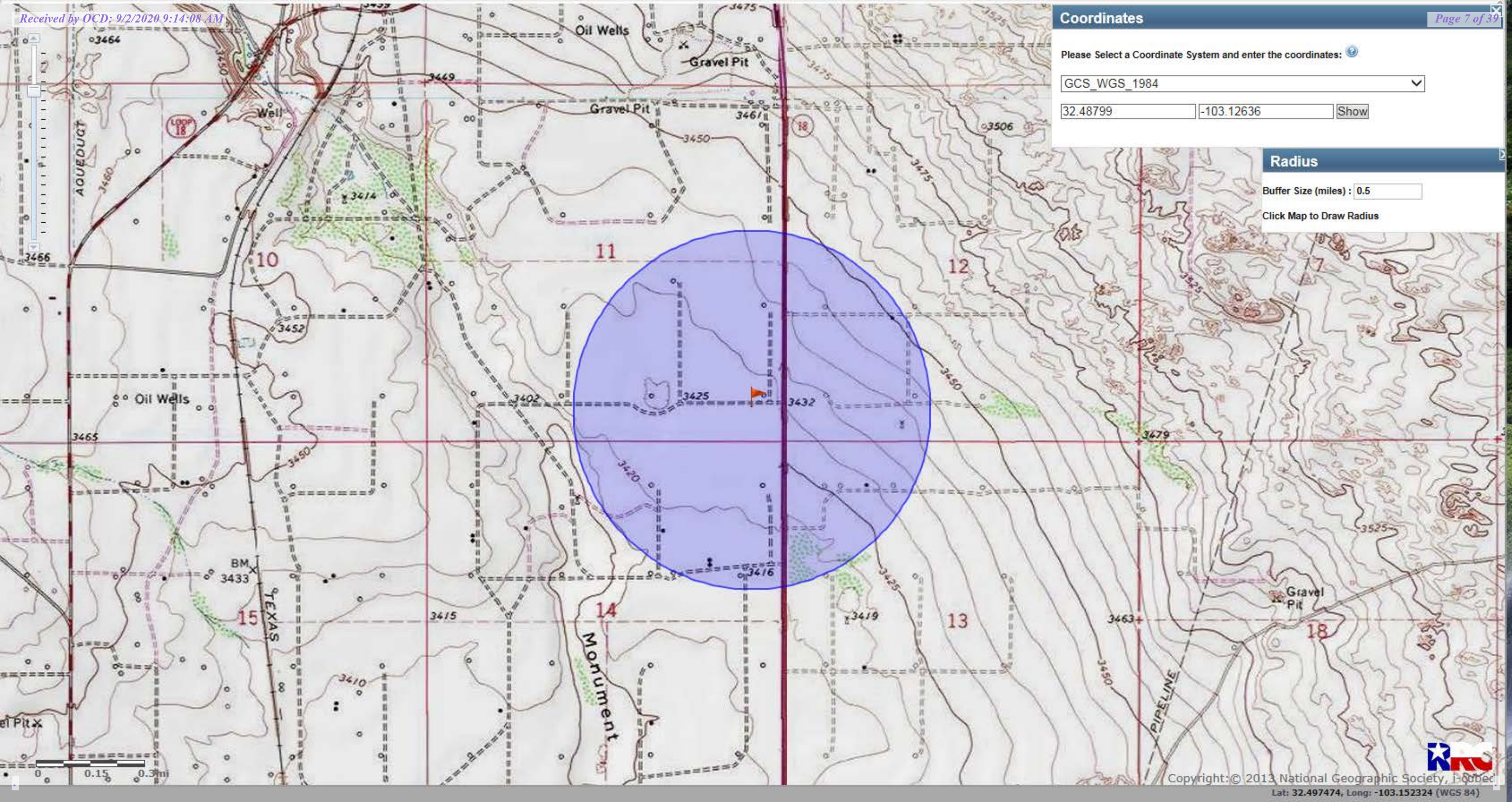
Point of Diversion Summary

		(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
	CP 01221 POD1	4	4	4	11	21S	37E	676254	3588506 
Driller License:	1711	Driller Company:			STRAUB CORPORATION				
Driller Name:	MARTIN STRAUB								
Drill Start Date:	11/07/2013	Drill Finish Date:			11/07/2013		Plug Date:		
Log File Date:	12/09/2013	PCW Rcv Date:						Source:	Shallow
Pump Type:		Pipe Discharge Size:						Estimated Yield:	
Casing Size:	4.00	Depth Well:			75 feet		Depth Water:		60 feet
Water Bearing Stratifications:					Top	Bottom	Description		
					60	66	Sandstone/Gravel/Conglomerate		
					66	75	Sandstone/Gravel/Conglomerate		
Casing Perforations:					Top	Bottom			
					50	75			

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.

9/2/20 6:06 AM

POINT OF DIVERSION SUMMARY



Coordinates

Please Select a Coordinate System and enter the coordinates:

GCS_WGS_1984

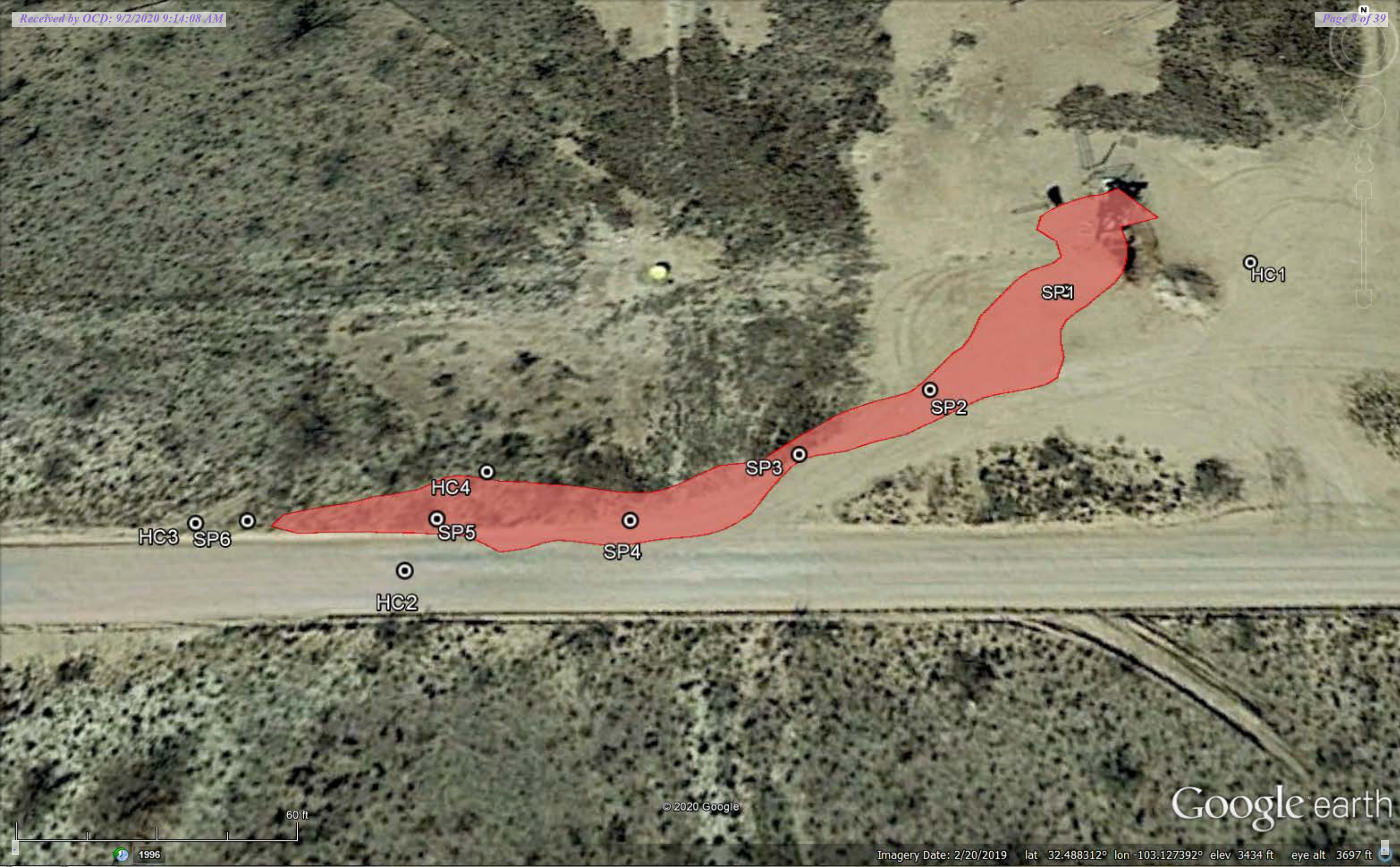
32.48799 -103.12636 Show

Radius

Buffer Size (miles) : 0.5

Click Map to Draw Radius





Google earth

© 2020 Google

60 ft
1996

Imagery Date: 2/20/2019 lat 32.488312° lon -103.127392° elev 3434 ft eye alt 3697 ft

Sample Date	Sample ID	Depth	Chloride Field	Chloride Lab	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
8/26/2020	SP1	S	11618	14400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	17.2	<10.0	32.48799,- 103.12636
8/26/2020		1'	2,351										
8/26/2020		2'	2211	843	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/26/2020		3'	1616										
8/26/2020		4'	1817	208	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
		5'	1563										
8/26/2020		6'	1654	576	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/26/2020		8'	1226	320	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/26/2020		9'	3414										
8/26/2020		10'	298	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/26/2020	SP2	S	7069								<10.0	<10.0	32.48792,- 103.12650
8/26/2020		1'	890										
8/26/2020		2'	449	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/26/2020	SP3	S	378	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.48786,- 103.12661
8/26/2020	SP4	S	299	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.48782,- 103.12674
8/26/2020	SP5	S	176	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.48782,- 103.12689
8/26/2020	SP6	S	87	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.48782,- 103.12704
8/27/2020	HC1	S	300	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.48803,- 103.12621
8/27/2020	HC2	S	295	736	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.48778,- 103.12691
8/31/2020	HC2	S		128									
8/27/2020	HC3	S	88	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.48782,- 103.12708
8/27/2020	HC4	S	177	528	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.48784,- 103.12686



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

August 28, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: EBDU 22

Enclosed are the results of analyses for samples received by the laboratory on 08/26/20 12:33.

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ SURFACE (H002255-01)

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	08/27/2020	ND	2.12	106	2.00	1.44	
Toluene*	<0.050	0.050	08/27/2020	ND	2.12	106	2.00	1.76	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	2.09	105	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	6.07	101	6.00	1.51	
Total BTEX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 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	14400	16.0	08/27/2020	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	08/27/2020	ND	210	105	200	4.91	
DRO >C10-C28*	17.2	10.0	08/27/2020	ND	224	112	200	5.31	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 79.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 82.3 % 42.2-156

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 2' (H002255-02)

BTX 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	08/27/2020	ND	2.12	106	2.00	1.44	
Toluene*	<0.050	0.050	08/27/2020	ND	2.12	106	2.00	1.76	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	2.09	105	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	6.07	101	6.00	1.51	
Total BTX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 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	843	16.0	08/27/2020	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	08/27/2020	ND	210	105	200	4.91	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	224	112	200	5.31	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 103 % 44.3-144

Surrogate: 1-Chlorooctadecane 106 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 4' (H002255-03)

BTX 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	08/27/2020	ND	2.12	106	2.00	1.44	
Toluene*	<0.050	0.050	08/27/2020	ND	2.12	106	2.00	1.76	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	2.09	105	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	6.07	101	6.00	1.51	
Total BTX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 112 % 44.3-144

Surrogate: 1-Chlorooctadecane 117 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 6' (H002255-04)

BTX 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	08/27/2020	ND	2.12	106	2.00	1.44	
Toluene*	<0.050	0.050	08/27/2020	ND	2.12	106	2.00	1.76	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	2.09	105	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	6.07	101	6.00	1.51	
Total BTX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 101 % 44.3-144

Surrogate: 1-Chlorooctadecane 108 % 42.2-156

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 8' (H002255-05)

BTX 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	08/27/2020	ND	2.12	106	2.00	1.44	
Toluene*	<0.050	0.050	08/27/2020	ND	2.12	106	2.00	1.76	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	2.09	105	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	6.07	101	6.00	1.51	
Total BTX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 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	320	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 104 % 44.3-144

Surrogate: 1-Chlorooctadecane 111 % 42.2-156

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 10' (H002255-06)

BTX 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	08/27/2020	ND	2.12	106	2.00	1.44	
Toluene*	<0.050	0.050	08/27/2020	ND	2.12	106	2.00	1.76	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	2.09	105	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	6.07	101	6.00	1.51	
Total BTX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 113 % 42.2-156

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 2 @ SURFACE (H002255-07)

BTX 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	08/27/2020	ND	2.12	106	2.00	1.44	
Toluene*	<0.050	0.050	08/27/2020	ND	2.12	106	2.00	1.76	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	2.09	105	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	6.07	101	6.00	1.51	
Total BTX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2520	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 106 % 44.3-144

Surrogate: 1-Chlorooctadecane 112 % 42.2-156

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 2 @ 2' (H002255-08)

BTX 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	08/27/2020	ND	2.12	106	2.00	1.44	
Toluene*	<0.050	0.050	08/27/2020	ND	2.12	106	2.00	1.76	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	2.09	105	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	6.07	101	6.00	1.51	
Total BTX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 104 % 44.3-144

Surrogate: 1-Chlorooctadecane 111 % 42.2-156

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 3 @ SURFACE (H002255-09)

BTX 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	08/27/2020	ND	1.97	98.7	2.00	8.22		
Toluene*	<0.050	0.050	08/27/2020	ND	1.99	99.3	2.00	8.67		
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	1.96	98.2	2.00	8.76		
Total Xylenes*	<0.150	0.150	08/27/2020	ND	5.66	94.3	6.00	8.87		
Total BTX	<0.300	0.300	08/27/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 98.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 108 % 42.2-156

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 4 @ SURFACE (H002255-10)

BTX 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	08/27/2020	ND	1.97	98.7	2.00	8.22	
Toluene*	<0.050	0.050	08/27/2020	ND	1.99	99.3	2.00	8.67	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	1.96	98.2	2.00	8.76	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	5.66	94.3	6.00	8.87	
Total BTX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 103 % 44.3-144

Surrogate: 1-Chlorooctadecane 115 % 42.2-156

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 5 @ SURFACE (H002255-11)

BTX 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	08/27/2020	ND	1.97	98.7	2.00	8.22	
Toluene*	<0.050	0.050	08/27/2020	ND	1.99	99.3	2.00	8.67	
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	1.96	98.2	2.00	8.76	
Total Xylenes*	<0.150	0.150	08/27/2020	ND	5.66	94.3	6.00	8.87	
Total BTX	<0.300	0.300	08/27/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 121 % 44.3-144

Surrogate: 1-Chlorooctadecane 143 % 42.2-156

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

Received: 08/26/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/26/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 6 @ SURFACE (H002255-12)

BTX 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	08/27/2020	ND	1.97	98.7	2.00	8.22		
Toluene*	<0.050	0.050	08/27/2020	ND	1.99	99.3	2.00	8.67		
Ethylbenzene*	<0.050	0.050	08/27/2020	ND	1.96	98.2	2.00	8.76		
Total Xylenes*	<0.150	0.150	08/27/2020	ND	5.66	94.3	6.00	8.87		
Total BTX	<0.300	0.300	08/27/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/27/2020	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	08/27/2020	ND	201	100	200	3.02	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	211	105	200	2.41	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 101 % 44.3-144

Surrogate: 1-Chlorooctadecane 109 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Apache Corporation</u>		P.O. #:		BILL TO		ANALYSIS REQUEST					
Project Manager: <u>Steve Miller</u>		Company:									
Address:		Attn:									
City:		Address:									
Phone #:		City:									
Project #:		State:									
Project Name: <u>EBou 22</u>		Zip:									
Project Location: <u>EBou 22</u>		Phone #:									
Sampler Name: <u>Jeff Brown</u>		Fax #:									
FOR LAB USE ONLY		PRESERV.		SAMPLING							
Lab I.D.		(G)RAB OR (C)OMP.		DATE		TIME					
Sample I.D.		# CONTAINERS		8/26/20		0742		CL-			
<u>H002255</u>		GROUNDWATER				0822		BTX			
1 SP 1 @ Surface		WASTEWATER				0830		EXT. TPH			
2 SP 1 @ 4'		SOIL				0854					
3 SP 1 @ 6'		OIL				0912					
4 SP 1 @ 8'		SLUDGE				1200					
5 SP 1 @ 10'		OTHER :				0744					
6 SP 1 @ Surface		ACID/BASE:				0820					
7 SP 2 @ 2'		ICE / COOL				0746					
8 SP 3 @ Surface		OTHER :				0748					
9 SP 4 @ Surface											

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: <u>Jeff Brown</u>	Date: <u>8/26/20</u>	Received By: <u>Lawrence Chalkley</u>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:
Relinquished By:	Time: <u>12:33</u>	Received By:	All Results are emailed. Please provide Email address:
Date:			
Time:			
Delivered By: (Circle One)	Observed Temp. °C <u>3.1</u>	Sample Condition	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	Turnaround Time: <u>Standard</u> <input type="checkbox"/> Rush <input checked="" type="checkbox"/>
			Bacteria (only) <input type="checkbox"/> Sample Condition
			Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>
			Thermometer ID #113 <input type="checkbox"/> Corrected Temp. °C
			Correction Factor None <input type="checkbox"/>

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

August 28, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: EBDU 22

Enclosed are the results of analyses for samples received by the laboratory on 08/27/20 10:58.

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 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 style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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: 08/27/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: HC 1 (H002264-01)

BTX 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	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 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	144	16.0	08/28/2020	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	08/27/2020	ND	202	101	200	2.63	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	205	103	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 115 % 44.3-144

Surrogate: 1-Chlorooctadecane 124 % 42.2-156

Cardinal Laboratories

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

Received: 08/27/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: HC 2 (H002264-02)

BTX 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	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	08/28/2020	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	08/27/2020	ND	202	101	200	2.63	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	205	103	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 121 % 44.3-144

Surrogate: 1-Chlorooctadecane 135 % 42.2-156

Cardinal Laboratories

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

Received: 08/27/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: HC 3 (H002264-03)

BTX 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	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/28/2020	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	08/27/2020	ND	202	101	200	2.63	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	205	103	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 129 % 44.3-144

Surrogate: 1-Chlorooctadecane 145 % 42.2-156

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

Received: 08/27/2020
 Reported: 08/28/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/27/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: HC 4 (H002264-04)

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	08/28/2020	ND	2.07	104	2.00	2.83	
Toluene*	<0.050	0.050	08/28/2020	ND	2.06	103	2.00	3.51	
Ethylbenzene*	<0.050	0.050	08/28/2020	ND	2.04	102	2.00	3.11	
Total Xylenes*	<0.150	0.150	08/28/2020	ND	5.90	98.4	6.00	3.16	
Total BTEX	<0.300	0.300	08/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 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	528	16.0	08/28/2020	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	08/27/2020	ND	202	101	200	2.63	
DRO >C10-C28*	<10.0	10.0	08/27/2020	ND	205	103	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	08/27/2020	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 114 % 42.2-156

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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

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 cursive script, appearing to read "Celey D. Keene", written in black ink.

Celey D. Keene, Lab Director/Quality Manager

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

September 01, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: EBDU 22

Enclosed are the results of analyses for samples received by the laboratory on 08/31/20 13:34.

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

Received: 08/31/2020
 Reported: 09/01/2020
 Project Name: EBDU 22
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/31/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: HC 2 (H002294-01)**Chloride, SM4500Cl-B****mg/kg****Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/31/2020	ND	416	104	400	3.92	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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

EBDu 22 Horizontals 8/27/20

Caliche HC 1 - 32.48803, -103.12621

$$10.1 / 30.0 = 3.01 = .10 = 300 \text{ CL-}$$

Caliche HC 2 - 32.48778, -103.12691

$$10.2 / 30.2 = 2.96 = .10 = 295 \text{ CL-}$$

Caliche HC 3 - 32.48782, -103.12708

$$10.3 / 30.3 = 2.94 = .03 = 88 \text{ CL-}$$

Caliche HC 4 - 32.48784, -103.12686

$$10.2 / 30.2 = 2.96 = .06 = 177 \text{ CL-}$$

Standard in CL Test = 1.05

EBOW 22 8/26/20

HC2 - Completed on 8/27/20

HC2 -

HC3 -

HC4 -

caliche SP1 @ S - 32.48799, -103.12636 0742

$$10.1/30.1 = 2.98 = 3.90 = 11,618 \times$$

caliche SP2 @ S - 32.48792, -103.12650 0744

$$10.3/30.0 = 2.91 = 2.43 = 7,069 \times$$

caliche SP3 @ S - 32.48786, -103.12661 0746

$$10.3/30.0 = 2.91 = .13 = 378 \checkmark$$

caliche SP4 @ S - 32.48782, -103.12674 0748

$$10.0/30.0 = 3 = .10 = 299 \checkmark$$

caliche SP5 @ S - 32.48782, -103.12689 0750

$$10.2/30.0 = 2.94 = .06 = 176 \checkmark$$

caliche SP6 @ S - 32.48782, -103.12704 0752

$$10.4/30.3 = 2.91 = .03 = 87 \checkmark$$

caliche SP1 @ 1' 0808

$$10.3/30.3 = 2.94 = .80 = 2,351 \times$$

caliche SP2 @ 1'

$$10.1/30.0 = 2.97 = .30 = 890 \times$$

caliche SP3 @ 2'

$$10.2/30.1 = 2.95 = .75 = 2,211 \times$$

0822

Caliche SP2 @ 2' 0820
 $10.1/30.3 = 3 = .15 = 449 \checkmark$

Caliche SP1 @ 3' 0830
 $10.3/30.3 = 2.94 = .55 = 1,616 \times$

Caliche SP1 @ 4' 0854
 $10.0/30.3 = 3.03 = .60 = 1,817 \times$

Caliche SP1 @ 5' 0912
 $10.2/30.1 = 2.95 = .53 = 1,563 \times$

Caliche SP2 @ 6' 0912
 $10.0/30.1 = 3.01 = .55 = 1,654 \times$

Caliche SP1 @ 7' 0912
 $10.0/30.0 = 3 = .48 = 1,439 \times$

Caliche SP1 @ 8' 0912
 $10.3/30.1 = 2.92 = .42 = 1,226 \times$

Caliche SP2 @ 9' 0912
 $10.1/30.0 = 2.97 = .15 = 3,414 \times$

Caliche SP1 @ 10' 0912
 $10.1/30.0 = 2.99 = .10 = 298 \checkmark$

~~SP1 @ 11'~~

~~SP1 @ 12'~~