



303 Veterans Airpark Lane Midland, TX 79705

Remediation Plan

September 25, 2020

Re: NEDU Satellite # 1

Case # NRM2019757991

Background:

On 6/25/2020 a release occurred due to a power failure resulting in the tank to overflow. The release (GPS: 32.504981, -103.135724) is located north of Eunice, New Mexico in unit letter K section 2 township 21S range 37E. A groundwater survey was conducted utilizing NMOSE and USGS wells of record and data from a soil bore that Apache Corporation conducted in the area from a previous case. The soil bore is ½ mile north of the NEDU Satellite 1 and was drilled on 7/31/2019 to a depth of 60 feet. The soil bore data indicates that groundwater is greater than 50 feet.

On 9/1/2020 a vertical (SP1) was conducted utilizing a backhoe with samples collected in one foot intervals to a depth of 4 feet. All samples were field titrated for chlorides and representative samples were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Horizontal 5 point surface composite samples were collected and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Laboratory results for TPH were above table one standards at the surface of SP1 for releases 51-100 feet to groundwater.

Remediation Plan:

Apache Corporation proposes that the release area be excavated to a depth of 6 inches to 1 foot. Final 5 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 5 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. If table one standards cannot be achieved due to processing equipment in the battery than those area will be further delineated to below table one standards for releases 51 to 100 feet to groundwater and an deferment request will be submitted. All excavated soil (200 yards) will be hauled to an OCD approved disposal facility. The excavation will be backfilled with clean imported caliche and the pad restored. The remediation will be completed 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

Incident ID	NRM2019757991
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>51-100</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 type="checkbox"/> Yes <input checked="" 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.

Incident ID	NRM2019757991
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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: 9/25/2020
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Cristina Eads Date: 09/25/2020

Incident ID	NRM2019757991
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: 9/25/2020
 email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Cristina Eads Date: 09/25/2020

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: *Cristina Eads* Date: 11/23/2020



Soil Bore

18

NEDU Sat. 1

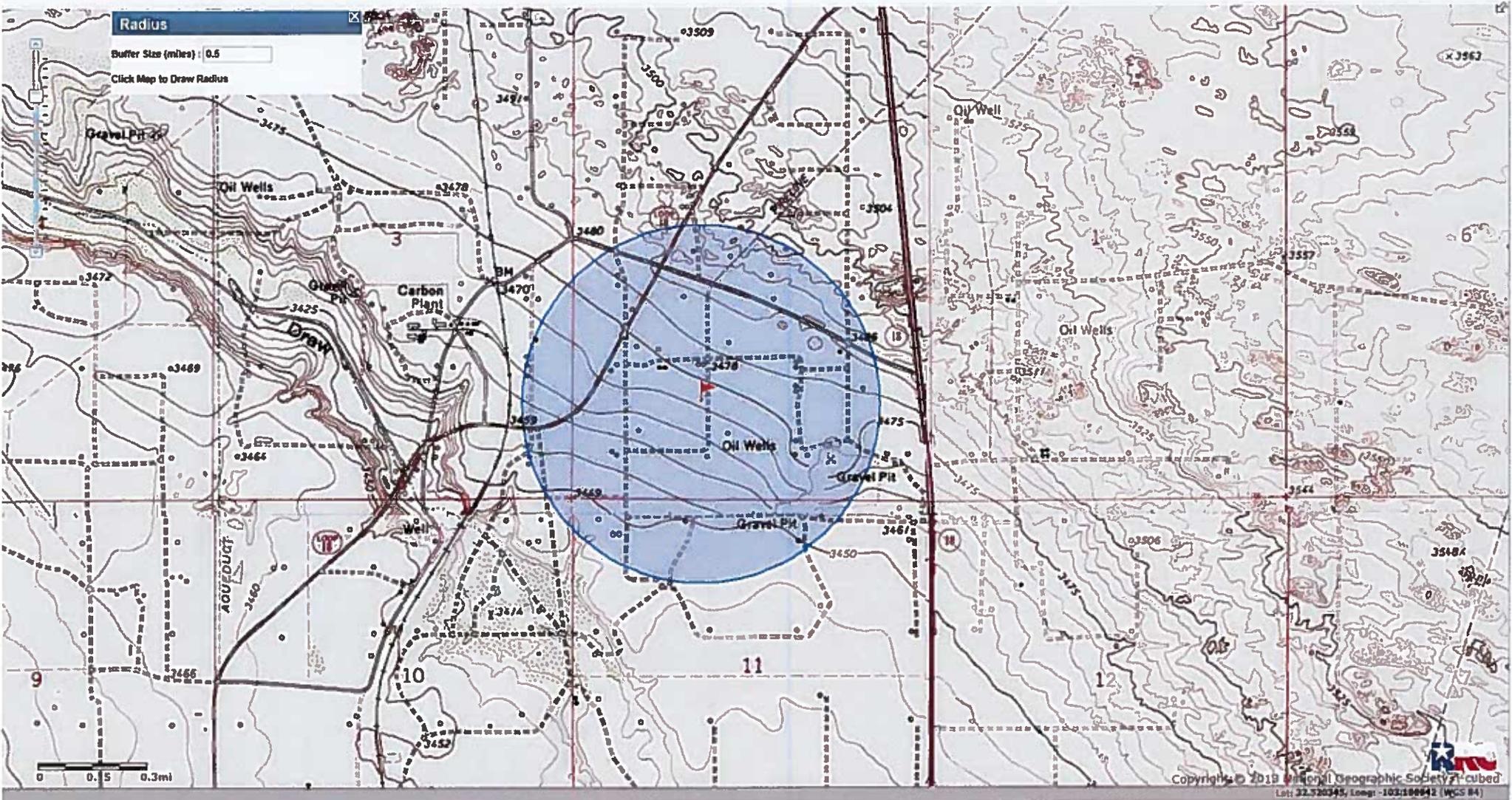
Google earth

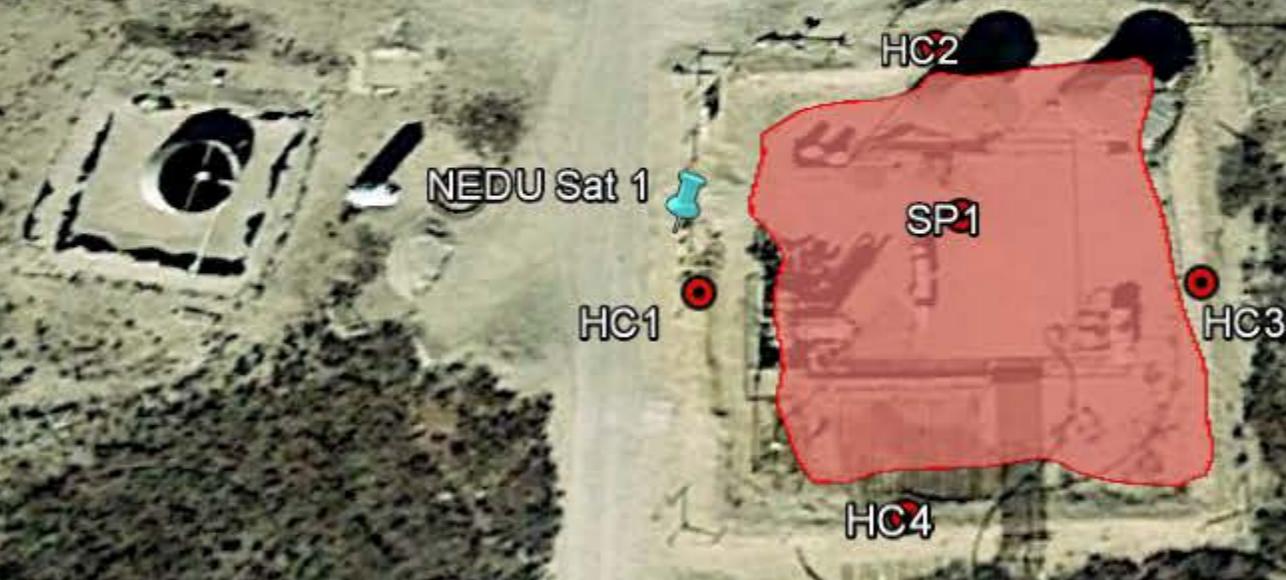
Imagery Date: 2/20/2019 lat: 37.510548 lon: -103.145076 elev: 3482 ft eye alt: 7777 ft

Table 1
Confirmation Soil Sample Analytical Data Summary
Apache Corporation, NEDU 218
Lea County, New Mexico
32° 30' 44.10 North 103° 08' 11.80 West

Sample	Depth (Feet)	Collection Date	Status	Benzene (mg/Kg)	BTEX (mg/Kg)	C6 - C12 (mg/Kg)	C12 - C28 (mg/Kg)	C28 - C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
Remediation Level:				10	50				100	600
BH-1	15	02/28/2019	In-Situ							678
	20	02/28/2019	In-Situ							848
	25	02/28/2019	In-Situ							1170
	30	02/28/2019	In-Situ							1120
	31	02/28/2019	In-Situ							1250
	40	7/31/2019	In-Situ							1670
	45	7/31/2019	In-Situ							1120
	50	7/31/2019	In-Situ							1810
	55	7/31/2019	In-Situ							1350
	60	7/31/2019	In-Situ							272

Notes: analysis performed by Permian Basin Environmental Lab, Midland, Texas by EPA 300 (chloride)
 Depth in feet below ground surface (bgs)
 mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)
 < denotes concentration less than analytical method reporting limit





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Google earth



Delineation Samples

Sample Date	Sample ID	Depth	Chloride Field	Chloride Lab	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
9/1/2020	SP 1	S	1,544	2200	0.404	15.5	33.6	86.3	136	2820	23400	4090	32.505037, - 103.135652
9/1/2020		1'	298										
9/1/2020		2'	452	64.0	<0.050	0.494	1.37	3.36	5.23	31.2	640	140	
9/1/2020		3'	148										
9/1/2020		4'	117	16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
9/1/2020	HC1	S	300	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.504993, - 103.135809
9/1/2020	HC2	S	150	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.505142, - 103.135669
9/1/2020	HC3	S	148	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.504997, - 103.135509
9/1/2020	HC4	S	116	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.504871, - 103.135683



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

September 04, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU SATELLITE 1

Enclosed are the results of analyses for samples received by the laboratory on 09/01/20 14:23.

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".

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:	09/01/2020	Sampling Date:	09/01/2020
Reported:	09/04/2020	Sampling Type:	Soil
Project Name:	NEDU SATELLITE 1	Sampling Condition:	Cool & Intact
Project Number:	NEDU SAT. 1	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 1 @ SURFACE (H002323-01)

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.404	0.250	09/02/2020	ND	2.09	105	2.00	4.21	
Toluene*	15.5	0.500	09/02/2020	ND	2.11	106	2.00	4.33	
Ethylbenzene*	33.6	0.500	09/02/2020	ND	2.10	105	2.00	4.48	
Total Xylenes*	86.3	1.50	09/02/2020	ND	6.05	101	6.00	4.43	
Total BTEX	136	2.75	09/02/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 196 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	09/02/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	2820	50.0	09/03/2020	ND	207	104	200	4.22	
DRO >C10-C28*	23400	50.0	09/03/2020	ND	218	109	200	7.80	
EXT DRO >C28-C36	4090	50.0	09/03/2020	ND					

Surrogate: 1-Chlorooctane 1020 % 44.3-144

Surrogate: 1-Chlorooctadecane 809 % 42.2-156

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* = 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:	09/01/2020	Sampling Date:	09/01/2020
Reported:	09/04/2020	Sampling Type:	Soil
Project Name:	NEDU SATELLITE 1	Sampling Condition:	Cool & Intact
Project Number:	NEDU SAT. 1	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 1 @ 2' (H002323-02)

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/02/2020	ND	2.09	105	2.00	4.21	
Toluene*	0.494	0.050	09/02/2020	ND	2.11	106	2.00	4.33	
Ethylbenzene*	1.37	0.050	09/02/2020	ND	2.10	105	2.00	4.48	
Total Xylenes*	3.36	0.150	09/02/2020	ND	6.05	101	6.00	4.43	
Total BTEX	5.23	0.300	09/02/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 149 % 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	64.0	16.0	09/02/2020	ND	400	100	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*	31.2	10.0	09/03/2020	ND	207	104	200	4.22	
DRO >C10-C28*	640	10.0	09/03/2020	ND	218	109	200	7.80	
EXT DRO >C28-C36	140	10.0	09/03/2020	ND					

Surrogate: 1-Chlorooctane 84.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 102 % 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

Analytical Results For:

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

Received:	09/01/2020	Sampling Date:	09/01/2020
Reported:	09/04/2020	Sampling Type:	Soil
Project Name:	NEDU SATELLITE 1	Sampling Condition:	Cool & Intact
Project Number:	NEDU SAT. 1	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 1 @ 4' (H002323-03)

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	09/02/2020	ND	2.09	105	2.00	4.21	
Toluene*	<0.050	0.050	09/02/2020	ND	2.11	106	2.00	4.33	
Ethylbenzene*	<0.050	0.050	09/02/2020	ND	2.10	105	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/02/2020	ND	6.05	101	6.00	4.43	
Total BTEX	<0.300	0.300	09/02/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	16.0	16.0	09/02/2020	ND	400	100	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	09/03/2020	ND	207	104	200	4.22	
DRO >C10-C28*	<10.0	10.0	09/03/2020	ND	218	109	200	7.80	
EXT DRO >C28-C36	<10.0	10.0	09/03/2020	ND					

Surrogate: 1-Chlorooctane 82.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 84.0 % 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:	09/01/2020	Sampling Date:	09/01/2020
Reported:	09/04/2020	Sampling Type:	Soil
Project Name:	NEDU SATELLITE 1	Sampling Condition:	Cool & Intact
Project Number:	NEDU SAT. 1	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: HC 1 (H002323-04)

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	09/02/2020	ND	2.09	105	2.00	4.21	
Toluene*	<0.050	0.050	09/02/2020	ND	2.11	106	2.00	4.33	
Ethylbenzene*	<0.050	0.050	09/02/2020	ND	2.10	105	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/02/2020	ND	6.05	101	6.00	4.43	
Total BTEX	<0.300	0.300	09/02/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	32.0	16.0	09/02/2020	ND	400	100	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	09/03/2020	ND	207	104	200	4.22	
DRO >C10-C28*	<10.0	10.0	09/03/2020	ND	218	109	200	7.80	
EXT DRO >C28-C36	<10.0	10.0	09/03/2020	ND					

Surrogate: 1-Chlorooctane 86.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 89.0 % 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:	09/01/2020	Sampling Date:	09/01/2020
Reported:	09/04/2020	Sampling Type:	Soil
Project Name:	NEDU SATELLITE 1	Sampling Condition:	Cool & Intact
Project Number:	NEDU SAT. 1	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: HC 2 (H002323-05)

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	09/02/2020	ND	2.09	105	2.00	4.21	
Toluene*	<0.050	0.050	09/02/2020	ND	2.11	106	2.00	4.33	
Ethylbenzene*	<0.050	0.050	09/02/2020	ND	2.10	105	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/02/2020	ND	6.05	101	6.00	4.43	
Total BTEX	<0.300	0.300	09/02/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	32.0	16.0	09/02/2020	ND	400	100	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	09/03/2020	ND	207	104	200	4.22	
DRO >C10-C28*	<10.0	10.0	09/03/2020	ND	218	109	200	7.80	
EXT DRO >C28-C36	<10.0	10.0	09/03/2020	ND					

Surrogate: 1-Chlorooctane 86.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 88.0 % 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

Analytical Results For:

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

Received:	09/01/2020	Sampling Date:	09/01/2020
Reported:	09/04/2020	Sampling Type:	Soil
Project Name:	NEDU SATELLITE 1	Sampling Condition:	Cool & Intact
Project Number:	NEDU SAT. 1	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: HC 3 (H002323-06)

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	09/02/2020	ND	2.09	105	2.00	4.21		
Toluene*	<0.050	0.050	09/02/2020	ND	2.11	106	2.00	4.33		
Ethylbenzene*	<0.050	0.050	09/02/2020	ND	2.10	105	2.00	4.48		
Total Xylenes*	<0.150	0.150	09/02/2020	ND	6.05	101	6.00	4.43		
Total BTEX	<0.300	0.300	09/02/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	<16.0	16.0	09/02/2020	ND	400	100	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	09/03/2020	ND	207	104	200	4.22		
DRO >C10-C28*	<10.0	10.0	09/03/2020	ND	218	109	200	7.80		
EXT DRO >C28-C36	<10.0	10.0	09/03/2020	ND						

Surrogate: 1-Chlorooctane 88.4 % 44.3-144

Surrogate: 1-Chlorooctadecane 88.9 % 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

Analytical Results For:

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

Received:	09/01/2020	Sampling Date:	09/01/2020
Reported:	09/04/2020	Sampling Type:	Soil
Project Name:	NEDU SATELLITE 1	Sampling Condition:	Cool & Intact
Project Number:	NEDU SAT. 1	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: HC 4 (H002323-07)

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	09/02/2020	ND	2.09	105	2.00	4.21	
Toluene*	<0.050	0.050	09/02/2020	ND	2.11	106	2.00	4.33	
Ethylbenzene*	<0.050	0.050	09/02/2020	ND	2.10	105	2.00	4.48	
Total Xylenes*	<0.150	0.150	09/02/2020	ND	6.05	101	6.00	4.43	
Total BTEX	<0.300	0.300	09/02/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	<16.0	16.0	09/02/2020	ND	400	100	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	09/03/2020	ND	207	104	200	4.22	
DRO >C10-C28*	<10.0	10.0	09/03/2020	ND	218	109	200	7.80	
EXT DRO >C28-C36	<10.0	10.0	09/03/2020	ND					

Surrogate: 1-Chlorooctane 85.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 86.1 % 42.2-156

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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 of 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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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: <i>Apache Corporation</i>		P.O. #:		BILL TO		ANALYSIS REQUEST							
Project Manager: <i>Bruce Baker</i>		Company:											
Address:		City:		State:		Zip:		Attn:		Address:			
Phone #:		Fax #:		Project Owner:		City:		State:		Zip:			
Project Name: <i>NEOU SAT. 1</i>		Project Location: <i>NEOU SAT. 1</i>		Sampler Name: <i>Jeff Brown</i>		FOR LAB USE ONLY		Matrix		PRESERV.		SAMPLING	
Lab I.D.:		Sample I.D.:		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL	
<i>H003323</i>		<i>SP1 @ Surface</i>											
<i>1</i>		<i>SP1 @ 2'</i>											
<i>2</i>		<i>SP1 @ 4'</i>											
<i>3</i>		<i>HC 1</i>											
<i>4</i>		<i>HC 2</i>											
<i>5</i>		<i>HC 3</i>											
<i>6</i>		<i>HC 4</i>											
<i>7</i>													

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Relinquished By: <i>Jeff Brown</i>	Date: <i>9/1/20</i>	Received By: <i>Jessica Chavez</i>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Add'l Phone #:
Relinquished By: <i>Jeff Brown</i>	Date: <i>1/23</i>	Received By: <i>Jessica Chavez</i>	All Results are emailed. Please provide Email address:
Delivered By: (Circle One) <input checked="" type="checkbox"/> UPS - Bus - Other:	Observed Temp. °C: <i>33</i>	Sample Condition: Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush
Corrected Temp. °C:	Checked BY: <i>J.P.</i>	Bacteria (only) Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Condition: Observed Temp. °C
Corrected Temp. °C:	REMARKS:	Thermometer ID #113	Corrected Temp. °C:

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

NEDM SAT. 1 9/1/20

SP 1 @ Surface - 32.505037, -103.135652

$$10.0/30.3 = 3.03 = .51 = 1,544 \times$$

SP 1 @ 1'

$$10.1/30.2 = 2.99 = .10 = 298 \checkmark$$

SP 1 @ 2'

$$10.0/30.2 = 3.02 = .10 = 452 \checkmark$$

SP 1 @ 3'

$$10.1/30.1 = 2.98 = .05 = 148 \checkmark$$

SP 1 @ 4'

$$10.2/30.1 = 2.95 = .04 = 117 \checkmark$$

HC 1 - 32.504993, -103.135809

$$10.0/30.1 = 3.01 = .10 = 300 \checkmark$$

HC 2 - 32.505142, -103.135669

$$10.1/30.2 = 3.02 = .05 = 150 \checkmark$$

HC 3 - 32.504997, -103.135509

$$10.2/30.3 = 2.97 = .05 = 140 \checkmark$$

HC 4 - 32.504871, -103.135683

$$10.3/30.1 = 2.92 = .04 = 116 \checkmark$$