



October 16, 2020

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

RE: 1RP-2988 NEDU Satellite # 1

Mr. Billings,

In compliance with 19.15.29.15(B) NMAC and the agreement submitted by Apache Corporation on November 8, 2018, Apache Corporation is submitting information related to closure for the release occurring September 24, 2013. Apache is respectfully submitting the closure report based on remediation and studies occurring in 2020 that demonstrate the site meeting the requirements of the agency. Unless further information is requested by NMOCD, Apache Corporation considers this release closed.

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

Sincerely,

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

Larry Baker  
Environmental Technician SR.  
Apache Corporation

Attachment: Closure Report Dated October 16, 2020



303 Veterans Airpark Lane Midland, TX 79705

## **Closure Report**

October 16, 2020

Re: NEDU Satellite # 1  
Case # 1RP-2988

On 9/24/2013 a release occurred due the Kimray sent fluid to the vent tank. The release (GPS: 32.505057, -103.136122) is located north of Eunice, New Mexico in unit letter S 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.

According to lab data and the initial C-141 submitted to OCD in 2013 the release area was excavated to a depth of 6 to 8 inches. All excavated material was hauled to an OCD approved disposal facility. The excavation was backfilled with clean imported topsoil.

Due to the lack of remediation documentation Apache Corporation utilizing google images from 2014 went back to the impacted area to confirm the remediation was completed in 2013. On 10/7/2020 4 sample points were advanced to a depth of 1 foot utilizing a hand auger in the release area. Samples were collected in one foot intervals and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Surface 5 point horizontal composite samples were collected not to exceed 200 square feet and were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. All laboratory analysis were below table one standards for releases 51 to 100 feet to groundwater.

Apache Corporation has completed remediation and respectfully request closure of event 1RP-2988.

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

Submitted by;

*Bruce Baker*

**Environmental Technician**  
larry.baker@apachecorp.com  
**Cell# 432-631-6982**

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

HOBBS OCD

OCT 14 2013

RECEIVED

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

Form C-141  
Revised August 8, 2011

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

## Release Notification and Corrective Action

## OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Apache Corporation	Contact Bruce Baker
Address 8 Ellison Lane Eunice, NM 88231	Telephone No. (575) 631-6982
Facility Name NEDU Sat. # 1 (nearest well # 333)	Facility Type Battery
Surface Owner State	Mineral Owner
API No. 30-025-35404	

## LOCATION OF RELEASE

Unit Letter S	Section 2	Township 21S	Range 37E	Feet from the 1209	North/South Line FSL	Feet from the 1463	East/West Line FWL	County Lea
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Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

## NATURE OF RELEASE

Type of Release Oil and Produced Water	Volume of Release 500 BBLS	Volume Recovered 450 BBLS
Source of Release Vent tank overflowed	Date and Hour of Occurrence	Date and Hour of Discovery 9/24/13 at 7:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mr. Leking	
By Whom? Bruce Baker	Date and Hour 9/24/13 at 8:45 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

DTW = 25'

Describe Cause of Problem and Remedial Action Taken.\*

Kimray sent fluid to the vent tank. The Kimray was shut off and a vacuum truck was dispatched and picked up fluid. The site was mapped and surface samples were taken to a commercial laboratory for analysis.

Describe Area Affected and Cleanup Action Taken.\*

The lined area inside the vent tank berm and 10,160 square feet of pasture was affected. The pasture was scraped down 6 to 8 inches and a bottom composite was collected and sent to a commercial laboratory.

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

Signature: <i>Bruce Baker</i>	OIL CONSERVATION DIVISION	
Printed Name: Bruce Baker	Approved by Environmental Specialist: <i>Jeffrey Leking</i> Environmental Specialist	
Title: Environmental Technician	Approval Date: 10/15/13	Expiration Date: 12/16/13
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval: SUBMIT FINAL C-141 BY 12/16/13	Attached <input type="checkbox"/> 1R-11-13-2988
Date: 10-7-2012	Phone: (575) 394-2743	

\* Attach Additional Sheets If Necessary

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>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 <b>not</b> 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: 10/16/2020  
email: larry.baker@apachecorp.com Telephone: 432-631-6982

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	
Facility ID	
Application ID	

## Closure

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

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

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Larry Baker Title: Environmental Tech SR.  
Signature: Larry Baker Date: 10/16/2020  
email: larry.baker@apachecorp.com Telephone: 432-631-6982

**OCD Only**

Received by: OCD Date: 10/16/2020

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

Closure Approved by: Ashley Maxwell Date: 1/25/2023  
Printed Name: Ashley Maxwell Title: Environmental Specialist





**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**

Page 1 of 1

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)
<b>Remediation Level:</b>				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



TEST HOLES • WATER WELLS

LAMESA, TEXAS 79331

Larson

## WELL LOG

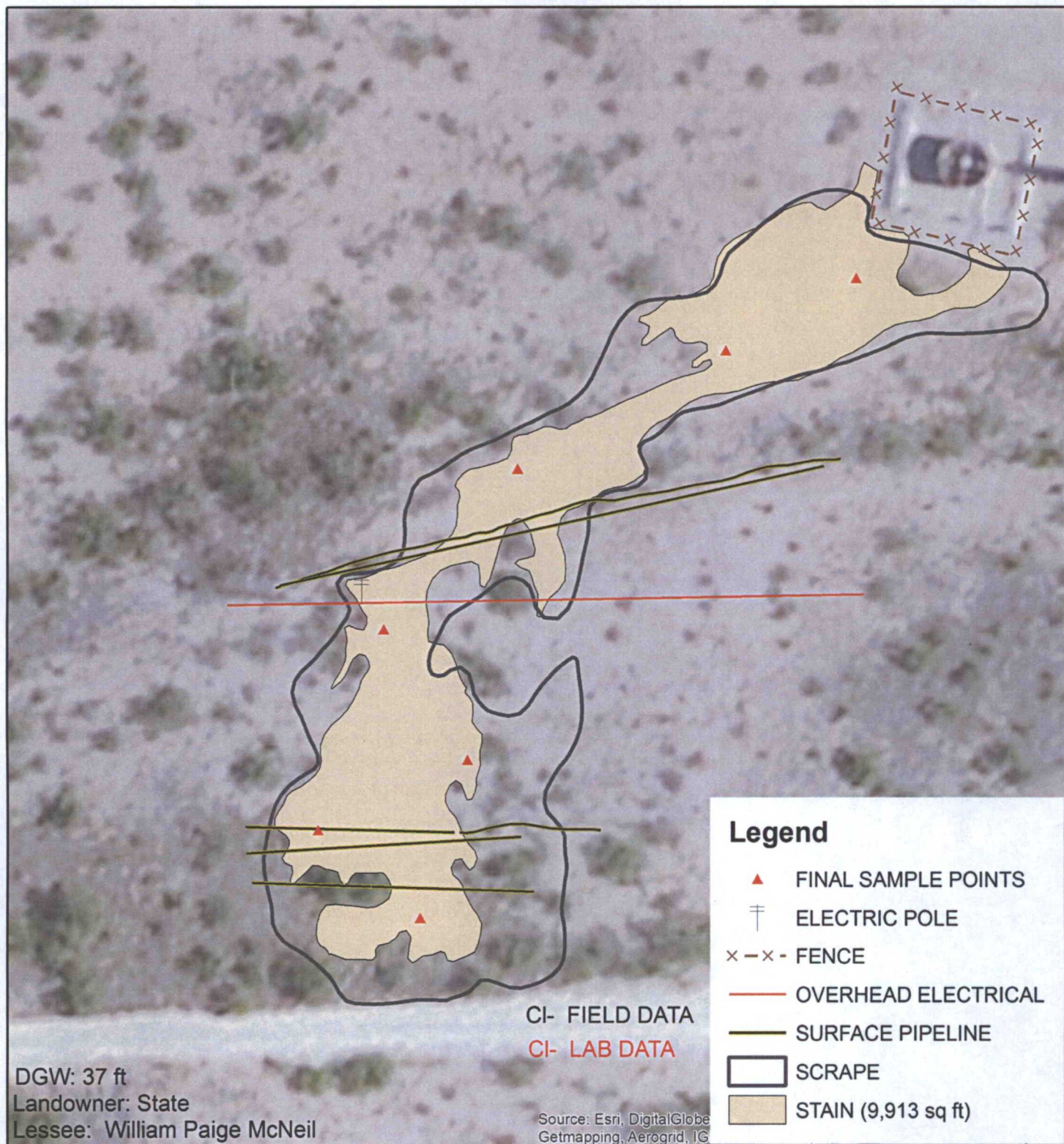
Date 7-31-19 Driller Lone S. S. S. S.







## Excavation Data



## APACHE NEDU SATELLITE #1

LEGALS: UL/S sec. 2  
T-21-S R-37-E  
LEA COUNTY, NM



0 25 50  
Feet

GPS date: 10/3/13 BC  
Drawing date: 10/9/13  
Drafted by: L. Weinheimer



2/2014







© 2020 Google

Google earth



## 2020 Samples

Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
10/7/2020	SP 1	Surface	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.504971, -103.136312
		1'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
10/7/2020	SP 2	Surface	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.504794, -103.136581
		1'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
10/7/2020	SP 3	Surface	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.504507, -103.136693
		1'	16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
10/7/2020	SP 4	Surface	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.504237, -103.136653
		1'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
10/9/2020	HC1	Surface	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.50486, -103.13669
10/9/2020	HC2	Surface	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.50450, -103.13669
10/9/2020	HC3	Surface	16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.50451, -103.13648
10/9/2020	HC4	Surface	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.50483, -103.13648

## 2013 Sample

Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
10/1/2013	Bottom @ 6"	6"	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	34.8	N/A	N/A





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

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October 08, 2020

JEFFREY BROOM

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 10/07/20 15:11.

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](http://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  
 JEFFREY BROOM  
 2350 W. MARLAND BLVD.  
 HOBBS NM, 88240  
 Fax To: (575) 393-2432

Received:	10/07/2020	Sampling Date:	10/07/2020
Reported:	10/08/2020	Sampling Type:	Soil
Project Name:	NEDU SATELLITE 1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: SP 1 @ SURFACE (H002665-01)**

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	10/07/2020	ND	1.95	97.5	2.00	5.26	
Toluene*	<0.050	0.050	10/07/2020	ND	2.01	100	2.00	3.71	
Ethylbenzene*	<0.050	0.050	10/07/2020	ND	1.95	97.5	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/07/2020	ND	5.71	95.1	6.00	2.86	
Total BTEX	<0.300	0.300	10/07/2020	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	32.0	16.0	10/08/2020	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	10/08/2020	ND	206	103	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2020	ND	220	110	200	1.56	
EXT DRO >C28-C36	<10.0	10.0	10/08/2020	ND					

Surrogate: 1-Chlorooctane 117 % 44.3-144

Surrogate: 1-Chlorooctadecane 135 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 10/07/2020  
 Reported: 10/08/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/07/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 1' (H002665-02)**

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	10/07/2020	ND	1.95	97.5	2.00	5.26	
Toluene*	<0.050	0.050	10/07/2020	ND	2.01	100	2.00	3.71	
Ethylbenzene*	<0.050	0.050	10/07/2020	ND	1.95	97.5	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/07/2020	ND	5.71	95.1	6.00	2.86	
Total BTEx	<0.300	0.300	10/07/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 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	10/08/2020	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	10/08/2020	ND	206	103	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2020	ND	220	110	200	1.56	
EXT DRO >C28-C36	<10.0	10.0	10/08/2020	ND					

Surrogate: 1-Chlorooctane 118 % 44.3-144

Surrogate: 1-Chlorooctadecane 138 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

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

Received: 10/07/2020  
 Reported: 10/08/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/07/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 2 @ SURFACE (H002665-03)**

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	10/07/2020	ND	1.95	97.5	2.00	5.26	
Toluene*	<0.050	0.050	10/07/2020	ND	2.01	100	2.00	3.71	
Ethylbenzene*	<0.050	0.050	10/07/2020	ND	1.95	97.5	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/07/2020	ND	5.71	95.1	6.00	2.86	
Total BTX	<0.300	0.300	10/07/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 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	10/08/2020	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	10/08/2020	ND	206	103	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2020	ND	220	110	200	1.56	
EXT DRO >C28-C36	<10.0	10.0	10/08/2020	ND					

Surrogate: 1-Chlorooctane 119 % 44.3-144

Surrogate: 1-Chlorooctadecane 137 % 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  
 JEFFREY BROOM  
 2350 W. MARLAND BLVD.  
 HOBBS NM, 88240  
 Fax To: (575) 393-2432

Received: 10/07/2020  
 Reported: 10/08/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/07/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 1' (H002665-04)**

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	10/07/2020	ND	1.95	97.5	2.00	5.26	
Toluene*	<0.050	0.050	10/07/2020	ND	2.01	100	2.00	3.71	
Ethylbenzene*	<0.050	0.050	10/07/2020	ND	1.95	97.5	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/07/2020	ND	5.71	95.1	6.00	2.86	
Total BTEx	<0.300	0.300	10/07/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 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	10/08/2020	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	10/08/2020	ND	206	103	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2020	ND	220	110	200	1.56	
EXT DRO >C28-C36	<10.0	10.0	10/08/2020	ND					

Surrogate: 1-Chlorooctane 116 % 44.3-144

Surrogate: 1-Chlorooctadecane 116 % 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  
 JEFFREY BROOM  
 2350 W. MARLAND BLVD.  
 HOBBS NM, 88240  
 Fax To: (575) 393-2432

Received: 10/07/2020  
 Reported: 10/08/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/07/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 3 @ SURFACE (H002665-05)**

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	10/07/2020	ND	1.95	97.5	2.00	5.26	
Toluene*	<0.050	0.050	10/07/2020	ND	2.01	100	2.00	3.71	
Ethylbenzene*	<0.050	0.050	10/07/2020	ND	1.95	97.5	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/07/2020	ND	5.71	95.1	6.00	2.86	
Total BTX	<0.300	0.300	10/07/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	10/08/2020	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	10/08/2020	ND	206	103	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2020	ND	220	110	200	1.56	
EXT DRO >C28-C36	<10.0	10.0	10/08/2020	ND					

Surrogate: 1-Chlorooctane 118 % 44.3-144

Surrogate: 1-Chlorooctadecane 138 % 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  
 JEFFREY BROOM  
 2350 W. MARLAND BLVD.  
 HOBBS NM, 88240  
 Fax To: (575) 393-2432

Received: 10/07/2020  
 Reported: 10/08/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/07/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 3 @ 1' (H002665-06)**

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	10/07/2020	ND	1.95	97.5	2.00	5.26	
Toluene*	<0.050	0.050	10/07/2020	ND	2.01	100	2.00	3.71	
Ethylbenzene*	<0.050	0.050	10/07/2020	ND	1.95	97.5	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/07/2020	ND	5.71	95.1	6.00	2.86	
Total BTEx	<0.300	0.300	10/07/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 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	10/08/2020	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	10/08/2020	ND	206	103	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2020	ND	220	110	200	1.56	
EXT DRO >C28-C36	<10.0	10.0	10/08/2020	ND					

Surrogate: 1-Chlorooctane 111 % 44.3-144

Surrogate: 1-Chlorooctadecane 128 % 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  
 JEFFREY BROOM  
 2350 W. MARLAND BLVD.  
 HOBBS NM, 88240  
 Fax To: (575) 393-2432

Received: 10/07/2020  
 Reported: 10/08/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/07/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 4 @ SURFACE (H002665-07)**

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	10/07/2020	ND	1.95	97.5	2.00	5.26	
Toluene*	<0.050	0.050	10/07/2020	ND	2.01	100	2.00	3.71	
Ethylbenzene*	<0.050	0.050	10/07/2020	ND	1.95	97.5	2.00	3.56	
Total Xylenes*	<0.150	0.150	10/07/2020	ND	5.71	95.1	6.00	2.86	
Total BTX	<0.300	0.300	10/07/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 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	10/08/2020	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	10/08/2020	ND	206	103	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2020	ND	220	110	200	1.56	
EXT DRO >C28-C36	<10.0	10.0	10/08/2020	ND					

Surrogate: 1-Chlorooctane 111 % 44.3-144

Surrogate: 1-Chlorooctadecane 127 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 10/07/2020  
 Reported: 10/08/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/07/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 4 @ 1' (H002665-08)**

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	10/07/2020	ND	1.95	97.5	2.00	5.26		
Toluene*	<0.050	0.050	10/07/2020	ND	2.01	100	2.00	3.71		
Ethylbenzene*	<0.050	0.050	10/07/2020	ND	1.95	97.5	2.00	3.56		
Total Xylenes*	<0.150	0.150	10/07/2020	ND	5.71	95.1	6.00	2.86		
Total BTX	<0.300	0.300	10/07/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 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	10/08/2020	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	10/08/2020	ND	206	103	200	2.20	
DRO >C10-C28*	<10.0	10.0	10/08/2020	ND	220	110	200	1.56	
EXT DRO >C28-C36	<10.0	10.0	10/08/2020	ND					

Surrogate: 1-Chlorooctane 114 % 44.3-144

Surrogate: 1-Chlorooctadecane 131 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

Celey D. Keene, Lab Director/Quality Manager





Journal Pre-proof

Bush!



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

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October 12, 2020

JEFFREY BROOM

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 10/09/20 12:32.

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](http://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  
 JEFFREY BROOM  
 2350 W. MARLAND BLVD.  
 HOBBS NM, 88240  
 Fax To: (575) 393-2432

Received:	10/09/2020	Sampling Date:	10/09/2020
Reported:	10/12/2020	Sampling Type:	Soil
Project Name:	NEDU SATELLITE 1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: HC 1 (H002694-01)**

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	10/09/2020	ND	2.16	108	2.00	7.60	
Toluene*	<0.050	0.050	10/09/2020	ND	2.15	108	2.00	7.16	
Ethylbenzene*	<0.050	0.050	10/09/2020	ND	2.12	106	2.00	7.79	
Total Xylenes*	<0.150	0.150	10/09/2020	ND	6.08	101	6.00	7.87	
Total BTEX	<0.300	0.300	10/09/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 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	32.0	16.0	10/09/2020	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	10/09/2020	ND	227	113	200	2.09	
DRO >C10-C28*	<10.0	10.0	10/09/2020	ND	231	115	200	4.23	
EXT DRO >C28-C36	<10.0	10.0	10/09/2020	ND					

Surrogate: 1-Chlorooctane 110 % 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  
 JEFFREY BROOM  
 2350 W. MARLAND BLVD.  
 HOBBS NM, 88240  
 Fax To: (575) 393-2432

Received: 10/09/2020  
 Reported: 10/12/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/09/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: HC 2 (H002694-02)**

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	10/09/2020	ND	2.16	108	2.00	7.60		
Toluene*	<0.050	0.050	10/09/2020	ND	2.15	108	2.00	7.16		
Ethylbenzene*	<0.050	0.050	10/09/2020	ND	2.12	106	2.00	7.79		
Total Xylenes*	<0.150	0.150	10/09/2020	ND	6.08	101	6.00	7.87		
Total BTEx	<0.300	0.300	10/09/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 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	32.0	16.0	10/09/2020	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	10/09/2020	ND	227	113	200	2.09	
DRO >C10-C28*	<10.0	10.0	10/09/2020	ND	231	115	200	4.23	
EXT DRO >C28-C36	<10.0	10.0	10/09/2020	ND					

Surrogate: 1-Chlorooctane 114 % 44.3-144

Surrogate: 1-Chlorooctadecane 116 % 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  
 JEFFREY BROOM  
 2350 W. MARLAND BLVD.  
 HOBBS NM, 88240  
 Fax To: (575) 393-2432

Received: 10/09/2020  
 Reported: 10/12/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/09/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: HC 3 (H002694-03)**

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	10/09/2020	ND	2.16	108	2.00	7.60		
Toluene*	<0.050	0.050	10/09/2020	ND	2.15	108	2.00	7.16		
Ethylbenzene*	<0.050	0.050	10/09/2020	ND	2.12	106	2.00	7.79		
Total Xylenes*	<0.150	0.150	10/09/2020	ND	6.08	101	6.00	7.87		
Total BTEx	<0.300	0.300	10/09/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 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	10/09/2020	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	10/09/2020	ND	227	113	200	2.09	
DRO >C10-C28*	<10.0	10.0	10/09/2020	ND	231	115	200	4.23	
EXT DRO >C28-C36	<10.0	10.0	10/09/2020	ND					

Surrogate: 1-Chlorooctane 115 % 44.3-144

Surrogate: 1-Chlorooctadecane 116 % 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  
 JEFFREY BROOM  
 2350 W. MARLAND BLVD.  
 HOBBS NM, 88240  
 Fax To: (575) 393-2432

Received: 10/09/2020  
 Reported: 10/12/2020  
 Project Name: NEDU SATELLITE 1  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 10/09/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: HC 4 (H002694-04)**

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	10/09/2020	ND	2.16	108	2.00	7.60		
Toluene*	<0.050	0.050	10/09/2020	ND	2.15	108	2.00	7.16		
Ethylbenzene*	<0.050	0.050	10/09/2020	ND	2.12	106	2.00	7.79		
Total Xylenes*	<0.150	0.150	10/09/2020	ND	6.08	101	6.00	7.87		
Total BTEx	<0.300	0.300	10/09/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 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	10/09/2020	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	10/09/2020	ND	227	113	200	2.09	
DRO >C10-C28*	<10.0	10.0	10/09/2020	ND	231	115	200	4.23	
EXT DRO >C28-C36	<10.0	10.0	10/09/2020	ND					

Surrogate: 1-Chlorooctane 112 % 44.3-144

Surrogate: 1-Chlorooctadecane 113 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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**Notes and Definitions**

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

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

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Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

## BILL TO

## ANALYSIS REQUEST

P.O. #:

Company:

Attn:

Address:

City:

State:

Zip:

Phone #:

Fax #:

PRESERV.

SAMPLING

Company Name:

Project Manager:

Address:

City:

State:

Zip:

Phone #:

Fax #:

Project Owner:

Project #:

Project Name:

Project Location:

Sampler Name:

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H002044

1 HC1

2 HC2

3 HC3

4 HC4

Relinquished By:

Date:

Time:

Received By:

Date:

Time:

Remarks:

Turnaround Time:

Standard:

Bacteria (only) Sample Condition:

Cool Intact:

Observed Temp. °C:

Corrected Temp. °C:

Thermometer ID #97 #113 TP

Correction Factor +0.4 10/19/20

Cool Intact:

Observed Temp. °C:

Corrected Temp. °C:

Cool Intact:

Observed Temp. °C:

Corrected Temp. °C:

Cool Intact:

Observed Temp. °C:

Corrected Temp. °C:

Cool Intact:

Observed Temp. °C:

Corrected Temp. °C:

Cool Intact:

Observed Temp. °C:

Corrected Temp. °C:

Cool Intact:

Observed Temp. °C:

Corrected Temp. °C:

Cool Intact:

Observed Temp. °C:

Corrected Temp. °C:

Cool Intact:

Observed Temp. °C:

Corrected Temp. °C:

Cool Intact:

Observed Temp. °C:



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

---

October 02, 2013

Allen Hodge

Phoenix Environmental, LLC

P.O. Box 1856

Hobbs, NM 88240

RE: NEDU SAT #1

Enclosed are the results of analyses for samples received by the laboratory on 10/01/13 9:55.

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

Phoenix Environmental, LLC  
 Allen Hodge  
 P.O. Box 1856  
 Hobbs NM, 88240  
 Fax To: (575) 391-9687

Received: 10/01/2013  
 Reported: 10/02/2013  
 Project Name: NEDU SAT #1  
 Project Number: NONE GIVEN  
 Project Location: EUNICE, NM

Sampling Date: 10/01/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BOTTOM @ 6" (H302374-01)**

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	10/01/2013	ND	1.99	99.3	2.00	0.254	
Toluene*	<0.050	0.050	10/01/2013	ND	2.02	101	2.00	0.364	
Ethylbenzene*	<0.050	0.050	10/01/2013	ND	2.04	102	2.00	0.293	
Total Xylenes*	<0.150	0.150	10/01/2013	ND	6.27	105	6.00	0.651	
Total BTX	<0.300	0.300	10/01/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/02/2013	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/01/2013	ND	186	93.2	200	4.28	
DRO >C10-C28	34.8	10.0	10/01/2013	ND	185	92.5	200	0.113	

Surrogate: 1-Chlorooctane 98.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 106 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

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

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Cardinal Laboratories

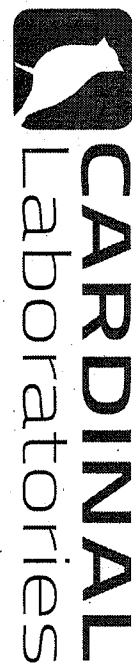
\*=Accredited Analyte

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

---

Celey D. Keene, Lab Director/Quality Manager



# **CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**101 East Marland, Hobbs, NM 88240**

**(575) 393-2326 FAX (575) 393-2476**

[illegible]







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

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

CONDITIONS  
  
Action 10701

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 10701
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	1/25/2023