



DAVID FEATHER
ENVIRONMENTAL SUPERVISOR
DIRECT (432) 818-1615
E-MAIL: DAVID.FEATHER@APACHECORP.COM

November 7, 2019

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

RE: 1RP-1214 NEDU 704

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 18, 2003. Apache is respectfully submitting the closure report based on studies occurring in 2019 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 432-818-1615 or by e-mail at David.Feather@ApacheCorp.com.

Sincerely,

A handwritten signature in black ink, appearing to read "David Feather".

David Feather
Environmental Supervisor
Apache Corporation - Permian Basin Region

Attachment: Closure Report Dated November 7, 2019

Trinity Oilfield Services & Rentals, LLC

Company: Apache Corporation **Address:** 2530 W Marland St., Hobbs, NM 88240 **Telephone #:** (575) 393 7106
Site Name: Northeast Drinkard Unit 704 (NEDU 704) **NMOCD Reference#:** 1RP-1214
Surface Owner: Millard Deck Estate (rep L.V. "Flap" Sims II) **Mineral Owner:** BLM
Unit Letter: M **Section:** 15 **Township:** T21S **Range:** R37E **County:** Lea
GPS Coordinates: 32.474528 N, -103.152899 W
Date/Time of Release: 9/18/2003 **Type of Release:** Crude Oil Produced Water
Volume(s) Released: 500 bbl **Volume(s) Recovered:** 0.0 bbl
Closure Criteria for Impacted Soil (mg/kg; See Appendix F, "Closure Criteria Justification"):

Benzene: <u>10</u>	BTEX: <u>50</u>	GRO+DRO: <u> </u>	TPH: <input checked="" type="checkbox"/> <u>100</u>	Chloride: <input checked="" type="checkbox"/> <u>600</u>
			<u> </u> <u>2,500</u>	<u> </u> <u>10,000</u>
				<u> </u> <u>20,000</u>

Background Information:

On September 18, 2003, Apache Corporation (Apache) discovered a release at a 2-inch diameter fiberglass water injection line. An estimated 500 barrels (bbls) of produced water was released to a well pad and pasture area. An estimated 102,527 square feet (sq. ft.) of pad and pasture area were impacted by the release. None of the released water was recovered. No information is available regarding the cause of the line that the line failure other than the incident was being investigated. The line was subsequently repaired.

The release was reported to the New Mexico Oil Conservation Division's (NMOCD) Hobbs District Office on September 18, 2003. A "Site Location Map" is provided as Figure 1. The initial NMOCD "Release Notification and Corrective Action" form (C-141) is provided as Appendix A. The final C-141 form is provided in Appendix B.

Environmental Plus, Inc. (EPI) was contracted by Apache to perform an environmental investigation and remedial tasks for the site. Historic documentation provided by Apache shows that EPI submitted the initial C-141 form to NMOCD on September 19, 2003. The letter discussed the estimated depth to groundwater as 63 feet below ground surface (bgs) and that the NMOSE database showed that no water wells existed within ¼ mile of the release. A release site location map with the 3 referenced wells is provided. The EPI letter goes on to say that a remediation plan will be developed and submitted to NMOCD to address issues identified during vertical and horizontal delineation of contaminants of concern (COC's) at the site. Chloride, Total Petroleum Hydrocarbons (TPH), Benzene, and Benzene, Toluene, Ethylbenzene and Xylene (BETX). The initial C-141 form was attached to the letter. No other information from EPI appears to be available in the historic records provided by Apache.

Documentation with an Apache logo in the header was presented with the historic papers. An Apache form with site information and metrics is provided. A line map shows the origin of the release and some relevant site features. On another map, the line map is overlain on aerial photography. The total area affected by the spill is 102,527 square feet (sq. ft.). Photography of the release is provided. Google Earth aerial photography is provided from 2009 and 2019 showing four sample locations. No other historic documentation was provided by Apache. All available historic information for the NEDU 704 site is provided as Appendix C.

No information regarding the historical remedial action (no delineation, no remediation, no photography and no contaminated soil disposition information) is available for this site.

On July 25, 2019, Apache requested that Trinity Oilfield Services and Rentals, LLC (Trinity), assume any remaining remediation and reporting activities for the site.

Summary of Trinity Field Activities:

On August 22, 2019, Trinity mobilized a sampling crew to assess the current conditions at the NEDU 704 site. A stainless-steel spatula was utilized to collect surface samples while a hand auger was utilized to collect soil samples to refusal at a depth of one-foot at locations SP-1 through SP-3. A surface sample and samples at 1-foot intervals to a depth of three feet bgs were collected at SP-4 using the same tools. A total of 10 samples were collected from four sampling locations. The location of the four sample points is shown on Figures 2 and 3. Samples were placed on ice in a cooler following sampling and a chain of custody was written and used to convey the samples to the laboratory. All sample locations appear to be at approximately the same points at the chloride sampling points tested by others in 2008.

All samples were tested for chloride, TPH and BTEX at Cardinal Laboratories of Hobbs, NM, a NMOCD approved analytical laboratory using United States Environmental Protection Agency (USEPA) Methods 4500-Cl B for chloride, SW 846-8015 Mod for TPH [including extended diesel range organics (EX DRO)] and SW 846-8021B for BTEX. Results of analyses for these samples is provided in Table 1. Chloride ranged between values below the method detection level (MDL) to 64 mg/kg in sample SP-1 at 1 foot. TPH results were all below the MDL except for SP-3 at one-foot bgs. Sample SP-3 at one-foot yielded a sample result for diesel range organics (DRO) of 138 mg/kg. The Extended DRO (EXT DRO) analysis yielded a value of 95.9 mg/kg. Total TPH for the sample is 233.9 mg/kg which is above the Table 1 limit of 100 mg/kg where the depth to groundwater is less than 50 feet bgs.

Photography of current site conditions is provided as Appendix D.

Site Closure Request

Soil Samples collected from the inferred impacted area were analyzed by a NMOCD approved laboratory. Concentrations of Chloride, TPH and BTEX from sample points SP-1, SP-2 and SP-4 were below the closure criteria parameters listed in Table 1 of Section 19.15.29.12 of the New Mexico Administrative Code (NMAC) for a site where the depth to groundwater is between 0 and 50 feet bgs. At sample point SP-3 at one-foot bgs, DRO (C10-C28) and EXT DRO (C28-C36) yielded lab analytical values of 138 mg/kg and 95.9 mg/kg respectively. TPH for this sample is 233.9 mg/kg which is over double the allowable value for TPH where the depth to groundwater is less than 50 feet bgs. The depth to groundwater averages 39.8 feet bgs within a one-half mile radius of the site. (See Appendix F, "Closure Criteria Justification" for more information). Lab results for all samples yielded results that were below the MDL for all BTEX constituents. Based on these laboratory analytical results, the initial response and subsequent actions conducted at the site during the period between 2008 and 2019 were largely effective in remediating the release.

Photographic documentation of the site shows that native vegetation has re-established over much of the site even though the surface soil is rather rocky. The dominant vegetation species appear to be mesquite, rabbit brush and sparse assorted grasses.

Due to the rocky nature of the soil in the area, Apache is requesting a variance for the area identified as having elevated TPH at SP-3 at refusal at one-foot bgs due to the fact that native vegetation has re-established or is still re-establishing on the rocky soils in the area. Any excavation disturbance in the area would likely upset a delicate balance for the local vegetative ecosystem. Trinity on behalf of Apache requests that no further delineation of the elevated TPH at SP-3 be performed due to hand auger sampling refusal at one-foot in the subsurface and the potential for upsetting the ecosystem.

It is likely that the hard-native rock in-situ in the shallow subsurface will preclude the migration of TPH deeper into the subsurface to a level that would affect groundwater. It is also likely that natural attenuation will reduce the TPH values in the soil at the SP-3 over time to background levels. Trinity on behalf of Apache recommends no further action at the site.

Trinity on behalf of Apache, hereby requests that the NMOCD grant closure to the NEDU 704 release site as represented by 1RP-1214.

Attachments

Table 1 Trinity Samples Lab Result Summary

Table 2 Closure Criteria Table

Figure 1: Site Location Map - NEDU 704

Figure 2: Sample Location Map – Trinity

Figure 3: Sample Location Map – Historic Aerial

Figure 4: Vicinity and Wellhead Protection Area Map

Appendices

Appendix A: C-141 Initial NEDU 704

Appendix B: C-141 Final NEU 704

Appendix C: Available Historic Documentation

Appendix D: Site Photos of Current Conditions

Appendix E: Laboratory results

TABLES

TABLE 1
TRINITY LAB RESULT SUMMARY

TABLE 1
APACHE NEDU 704
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	EPA SW-846 Method 8021B					EPA SW-846 Method 8015M			4500-CI B	
				BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	GRO C6-C10 (mg/kg)	DRO C10-C28 (mg/kg)	EXT DRO C28-C36 (mg/kg)	TPH C6-C35 (mg/kg)	CHLORIDE (mg/kg)
NMOCB Closure Limits (mg/kg)				10	NE	NE	NE	50	NE	NE	NE	100	600
SP-1 @ Surface	Surface	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	16.0
SP-1 @ 1'	1'	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	64.0
SP-2 @ Surface	Surface	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	16.0
SP-2 @ 1'	1'	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
SP-3 @ Surface	Surface	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
SP-3 @ 1'	1'	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	138	95.9	233.9	<16.0
SP-4 @ Surface	Surface	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	16.0
SP-4 @ 1'	1'	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
SP-4 @ 2'	2'	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0
SP-4 @ 3'	3'	8/22/19	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<16.0

NE = Not Established

-- = Not Analyzed

Concentrations in **BOLD** exceed the NMOCB Closure Limit

TABLE 2
CLOSURE CRITERIA JUSTIFICATION

**TABLE 2
CLOSURE CRITERIA JUSTIFICATION**

**APACHE CORPORATION
NEDU 704
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE #: 1RP-1214**



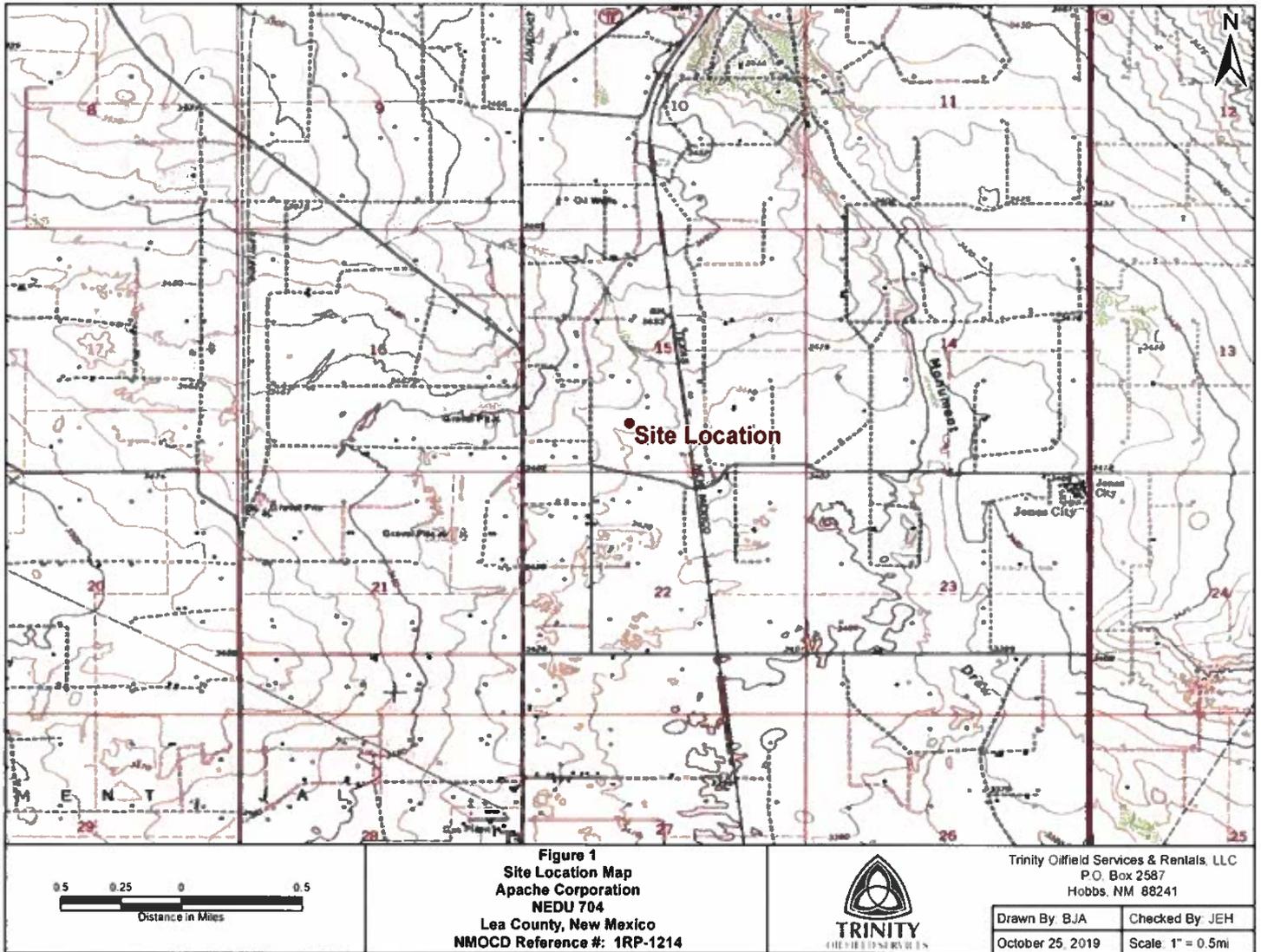
Groundwater, Water Wells & Other Water Sources	
Depth to groundwater (ft)?	39.8 ft.
Horizontal distance (ft) from all water sources within 0.5 miles?	~ 0.17 to 0.29 miles
Within 500' of a spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No
Within 1000' of any fresh water well or spring?	No
Surface Water	
Horizontal distance (ft) to nearest significant watercourse?	>1,000
Within 300' of any continuously flowing watercourse or any other significant watercourse?	No
Within 200' of any lakebed, sinkhole or playa lake?	No
Human-Occupied, Environmental & Other Areas	
Within incorporated municipal boundaries or within a defined municipal fresh water well field?	No
Within 300' of an occupied permanent residence, school, hospital, institution or church?	No
Within 300' of a wetland?	No
Within the area overlying a subsurface mine?	No
Within an unstable area?	No
Within a 100-year floodplain?	No

Closure Criteria (mg/kg)*				
Benzene	BTEX	GRO + DRO	TPH	Chloride
10	50	N/A	100	600

*Numerical limits or natural background level, whichever is greater

FIGURES

FIGURE 1
SITE LOCATION MAP



**FIGURE 2
SAMPLE LOCATIONS – TRINITY**



Legend
● Auger Hole

Figure 2
Sample Location Map
Apache Corporation
NEDU 704
Lea County, New Mexico
NMOCD Reference #: 1RP-1214



Trinity Oilfield Services & Rentals, LLC
P O Box 2587
Hobbs, NM 88241

Drawn By: BJA	Checked By: JEH
October 28, 2019	Scale: 1" = 150'

FIGURE 3
SAMPLE LOCATIONS – HISTORIC



Legend
● Auger Hole

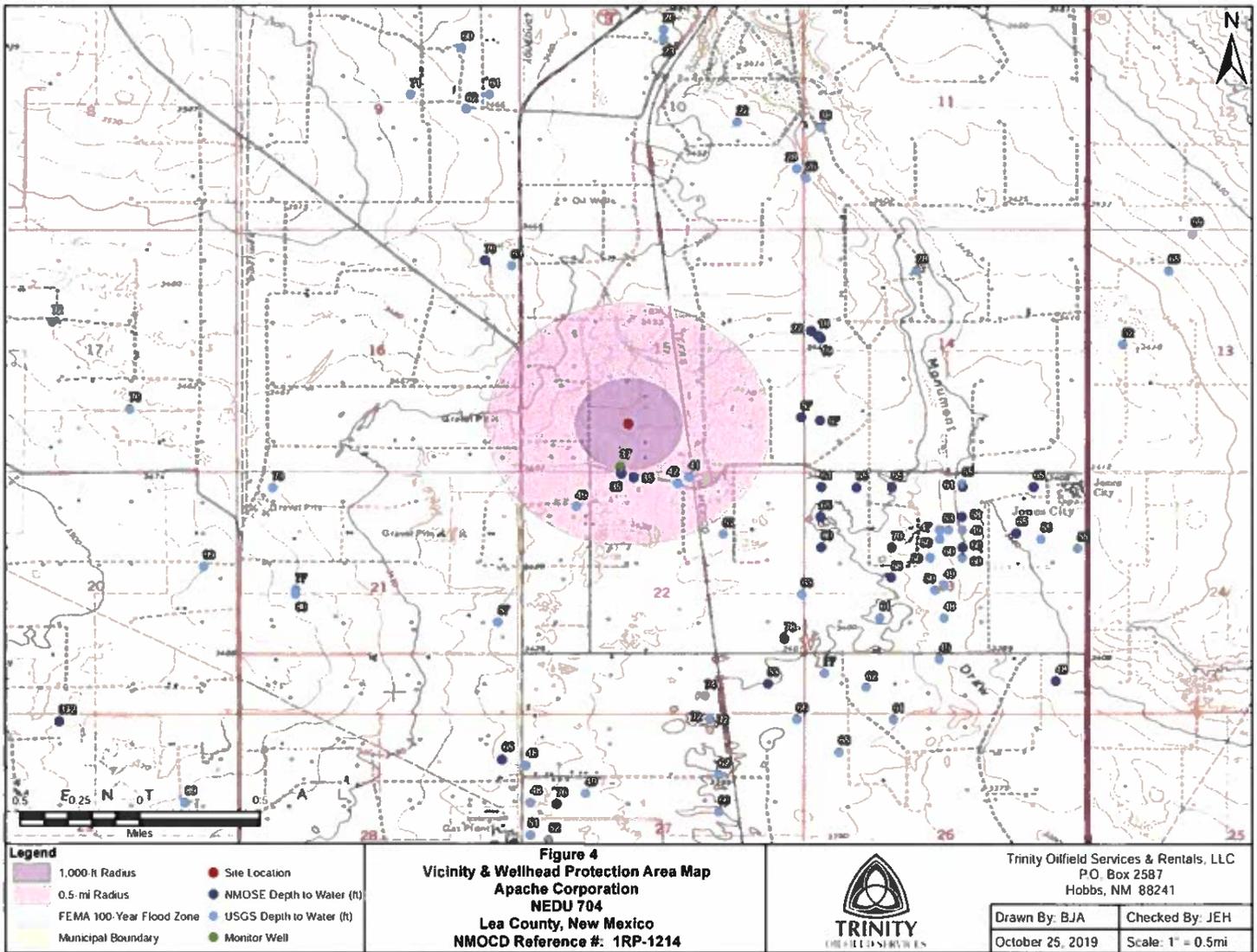
Figure 3
Sample Location Map (Historical Aerial)
Apache Corporation
NEDU 704
Lea County, New Mexico
NMOCD Reference #: 1RP-1214



Trinity Oilfield Services & Rentals, LLC
P.O. Box 2587
Hobbs, NM 88241

Drawn By: BJA	Checked By: JEH
October 28, 2019	Scale: 1" = 200'

FIGURE 4
VICINITY AND WELLHEAD PROTECTION AREA
MAP



APPENDICES

APPENDIX A
C-141 INITIAL

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company Apache Corporation	Contact Mike Warren
Address PO Box 1849 1.5 miles North of Eunice Eunice, New Mexico 88231	Telephone No. 505.394.2743
Facility Name NEDU 704 9-18-03	Facility Type Water injection system 2" fiberglass line

Surface Owner: Millard Deck Estate; representative is L.V. "Flap" Sims II	Mineral Owner	Lease No.
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AP# 30025099170000

LOCATION OF RELEASE

Unit Letter 15	Section 15	Township T21S	Range R37E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat. 32° 28' 28.3"N Lon. 103° 09' 10.4"W
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NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 500 bbls barrels	Volume Recovered 0.0 bbls barrels
Source of Release Water injection system 2" fiberglass line	Date and Hour of Occurrence 9-18-03 @ 3:00 AM	Date and Hour of Discovery 9-18-03 @ 8:20 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Paul Sheeley and Sylvia Dickie	
By Whom? Pat McCasland, EPI	Date and Hour 9-18-03 @ 9:10 AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
The 2" fiberglass injection line failed for unknown reasons and is being investigated.

Describe Area Affected and Cleanup Action Taken.*
The site will be delineated and remediated in accordance with the NMOCD guidelines. Remedial Goals: TPH 8015m = 1000 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg. A site specific chloride residual will be determined utilizing risk assessment.

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:	OIL CONSERVATION DIVISION	
Printed Name: Mike Warren e-mail - mike.warren@apachecorp.com	Approved by District Supervisor: <i>[Signature]</i>	
Title: Area Supervisor	Approval Date: 6-5-07	Expiration Date: 8-5-07
Date: September 19, 2003 Phone: 505.394.2743	Conditions of Approval: Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

FINAL REPORT FILE BY

RP# 1214

APPENDIX B
C-141 FINAL

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

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?	39.8 avg. (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 1/2-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.

Form C-141

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: Bruce BAKER Title: Environmental Tech SR.
 Signature: Bruce Baker Date: 11-7-19
 email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

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: Bruce Baker Title: Environmental Tech SR.
 Signature: Bruce Baker Date: 11-7-19
 email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

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: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX C
AVALABLE HISTORIC DOCUMENTATION



ENVIRONMENTAL PLUS, INC. *Micro-Blaze* *Micro-Blaze*
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

ENVIRONMENTAL PLUS, INC.

September 19, 2003

Mr. Paul Sheeley
Environmental Engineer
New Mexico Oil Conservation Division
1625 North French
Hobbs, New Mexico 88240

Subject: Apache Corporation Initial C-141 and support documentation

Re: NEDU #704 9-18-03,
UL- N, SE¼ of the SW¼ of Section 15 T21S R37E
Latitude 32° 28' 28.3"N and Longitude 103° 09' 10.4"W
Millard Deck Estate; representative is L.V. "Flap" Sims II

Dear Mr. Paul Sheeley,

Environmental Plus, Inc. (EPI), on behalf of Mr. Mike Warren, Apache Corporation, submits the attached New Mexico Oil Conservation Division (NMOCD) form C-141 for the above referenced injection water line leak site located on land owned by the Millard Deck Estate, representative is L.V. "Flap" Sims II, located approximately 2 miles north of Eunice, New Mexico. This submittal follows the initial verbal notification made on September 18, 2003. The New Mexico Office of the State Engineer database does not record any water wells within 0.25 miles of the site. The proximities of the nearest recorded water wells are illustrated on the topographical map below. The estimated ground water depth at this site is -63 feet below ground surface and is the average of the nearest three recorded wells. The attached site information and metrics form ranks the site in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993).

A remediation plan will be developed and submitted for NMOCD approval and will address issues identified during delineation of the vertical and horizontal extents of contamination of the Constituents of Concern (CoCs), i.e., Chloride, Total Petroleum Hydrocarbon EPA method 8015m (TPH^{8015m}), Benzene, and BTEX, i.e., the mass sum of Benzene, Toluene, Ethyl Benzene, and Xylenes. The contaminated soil is exempted from RCRA 40 CFR Part 261. Site maps and photographs are attached.

If there are any questions please call Mr. Ben Miller or myself at the office or at 505.390.0288 and 505.390.7864, respectively or Mr. Mike Warren at 505.394.2743. All official communication should be addressed to:

P.O. BOX 1558 *** 2100 WEST AVE. 0 *** EUNICE, NEW MEXICO 88231
TELEPHONE 505.394.3481 FAX 505.394.2681



ENVIRONMENTAL PLUS, INC. *Micro-Blaze* ~~Micro-Blaze~~
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

Mr. Mike Warren
Apache Corporation
P.O. Box 1849
Eunice, New Mexico 88231

Sincerely,

Pat McCasland
EPI Technical Services Manager

cc Mike Warren, Apache Corporation, w/enclosure
David Urbanski, Apache Corporation, w/enclosure
Ben Miller, EPI Vice President and General Manager
Sherry Miller, EPI President
file

ENVIRONMENTAL PLUS, INC.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1361 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company Apache Corporation	Contact Mike Warren
Address PO Box 1849 1.5 miles North of Eunice Eunice, New Mexico 88231	Telephone No. 505.394.2743
Facility Name NEDU 704 9-18-03	Facility Type Water injection system 2" fiberglass line

Surface Owner: Millard Deck Estate; representative is L.V. "Flap" Sims II	Mineral Owner	Lease No.
--	---------------	-----------

LOCATION OF RELEASE

Unit Letter 15	Section 15	Township T21S	Range R37E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat. 32° 28' 28.3"N Lon. 103° 09' 10.4"W
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NATURE OF RELEASE

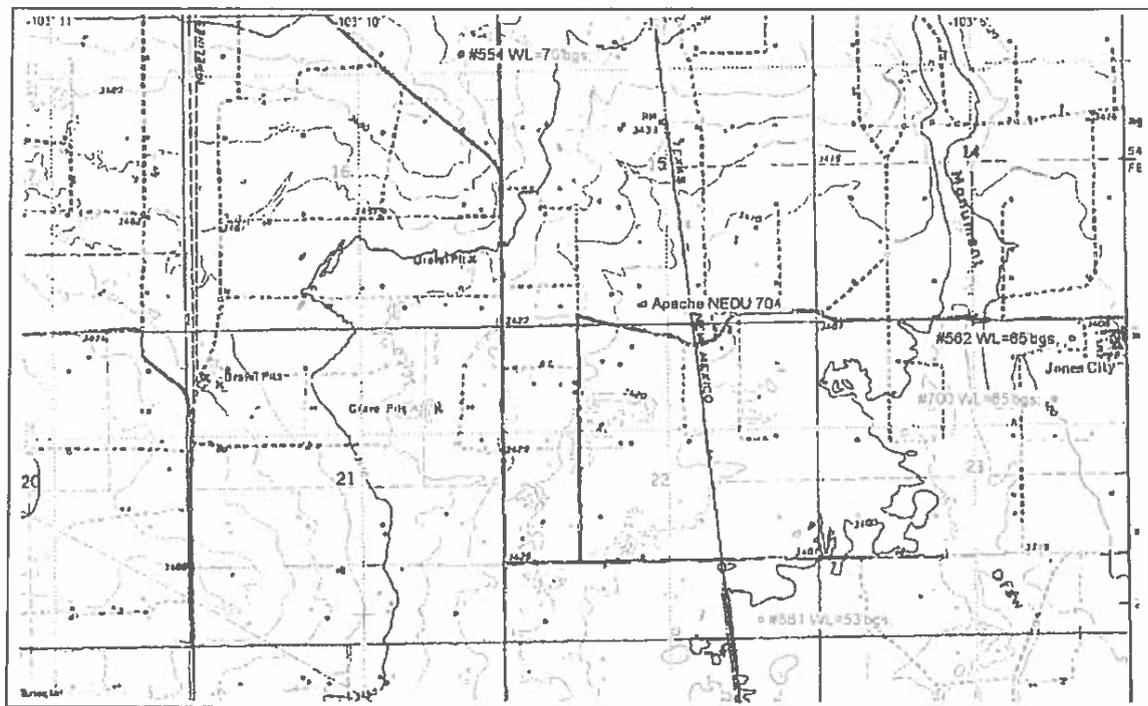
Type of Release Produced Water	Volume of Release 500 bbls barrels	Volume Recovered 0.0 bbls barrels
Source of Release Water injection system 2" fiberglass line	Date and Hour of Occurrence 9-18-03 @ 3:00 AM	Date and Hour of Discovery 9-18-03 @ 8:20 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Paul Sheeley and Sylvia Dickie	
By Whom? Pat McCasland, EPI	Date and Hour 9-18-03 @ 9:10 AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	
If a Watercourse was Impacted, Describe Fully.* NA		
Describe Cause of Problem and Remedial Action Taken.* The 2" fiberglass injection line failed for unknown reasons and is being investigated.		
Describe Area Affected and Cleanup Action Taken.* The site will be delineated and remediated in accordance with the NMOCDC guidelines. Remedial Goals: TPH 8015m = 1000 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg. A site specific chloride residual will be determined utilizing risk assessment.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCDC 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 NMOCDC 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, NMOCDC 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:	OIL CONSERVATION DIVISION	
Printed Name: Mike Warren e-mail - mike.warren@apachecorp.com	Approved by District Supervisor:	
Title: Area Supervisor	Approval Date:	Expiration Date:
Date: September 19, 2003 Phone: 505.394.2743	Conditions of Approval:	Attached <input type="checkbox"/>

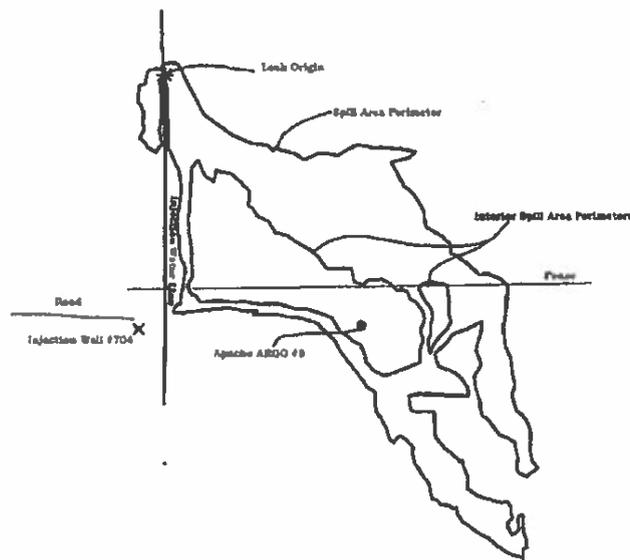
* Attach Additional Sheets If Necessary



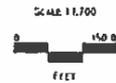
Apache Corporation Site Information and Metrics		Incident Date: 9-18-03 @ 3:00 AM	NMOCD Notified: 9-18-03 @ 9:10 AM by Pat McCasland (EPI)
SITE: NEDU 704 9-18-03		Assigned Site Reference #:	
Company: Apache Corporation			
Street Address: 1.5 miles North of Eunice			
Mailing Address: PO Box 1849			
City, State, Zip: Eunice, New Mexico 88231			
Representative: Mike Warren, Area Supervisor			
Representative Telephone: 505.394.2743			
Telephone:			
Fluid volume released (bbls): 500 bbls		Recovered (bbls): 0.0 bbls	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcg Natural Gas)			
3-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcg Natural Gas)			
Leak, Spill, or Pit (LSP) Name: NEDU 704 9-18-03			
Source of contamination: Water injection system line			
Land Owner, i.e., BLM, ST, Fee, Other: Millard Deek Estate; representative is L.V. "Flap" Sims II			
LSP Dimensions: 900' NWtoSE x 430' NWtoSW			
LSP Area: 102,527 sqft ft ²			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 28' 28.3"N			
Longitude: 103° 09' 10.4"W			
Elevation above mean sea level: 3,415' amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or 1/4: SE 1/4 of the SW 1/4		Unit Letter: N	
Location- Section: 15			
Location- Township: T21S			
Location- Range: R37E			
Surface water body within 1000' radius of site: none			
Surface water body within 1000' radius of site:			
Domestic water wells within 1000' radius of site: none			
Domestic water wells within 1000' radius of site:			
Agricultural water wells within 1000' radius of site: none			
Agricultural water wells within 1000' radius of site:			
Public water supply wells within 1000' radius of site: none			
Public water supply wells within 1000' radius of site:			
Depth from land surface to ground water (DG): ~62' bgs			
Depth of contamination (DC): ?			
Depth to ground water (DG - DC = D1GW): -			
1. Ground Water		2. Wellhead Protection Area	
If Depth to GW < 50 feet: 20 points		If < 1000' from water source, or, < 200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 feet: 10 points		If > 1000' from water source, or, > 200' from private domestic water source: 0 points	
If Depth to GW > 100 feet: 0 points			
Ground water Score = 10		Wellhead Protection Area Score = 0	
Site Rank (1+2+3) = 10		Surface Water Score = 0	
Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19	10-19	0-9
Benzene ¹	10 ppm	10 ppm	10 ppm
BTEX ¹	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm

¹100 ppm field VOC headspace measurement may be substituted for lab analysis



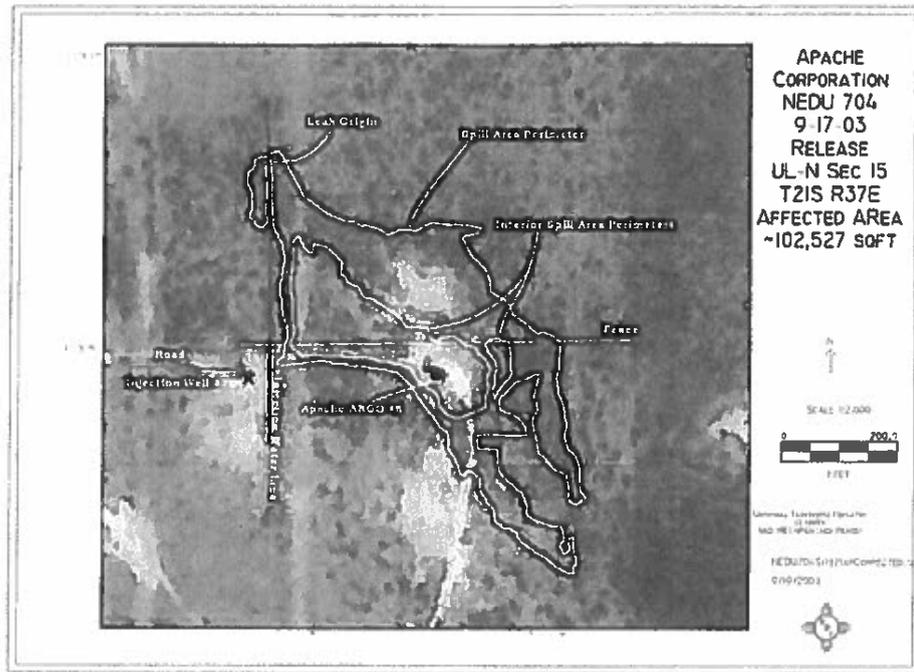


APACHE
CORPORATION
NEDU 704
9-18-03
UL-N SEC 15
T21S R37E
AFFECTED AREA
~102,527 SQFT

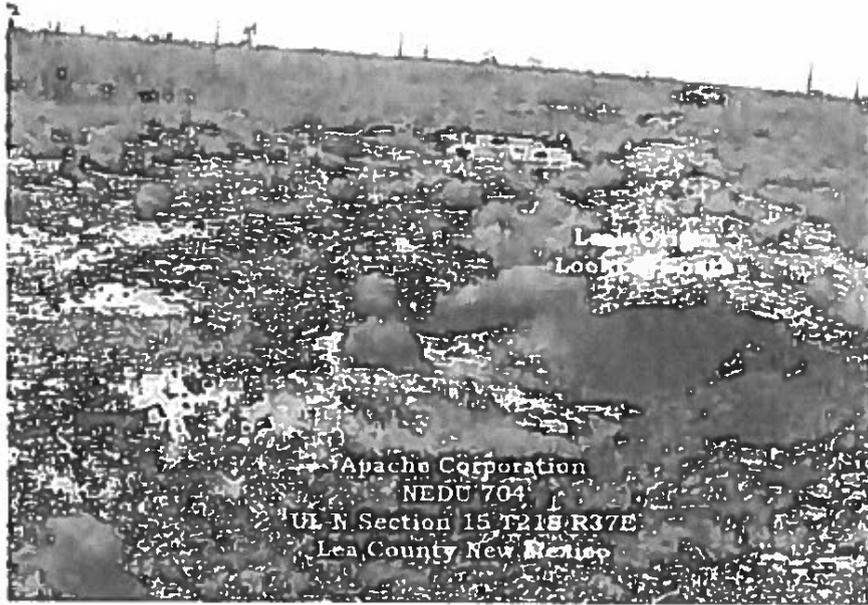


APACHE CORPORATION
11100 N. 15th Street
Tulsa, Oklahoma 74116
NEDU 704 SHEET 4 OF 12
9-18-03



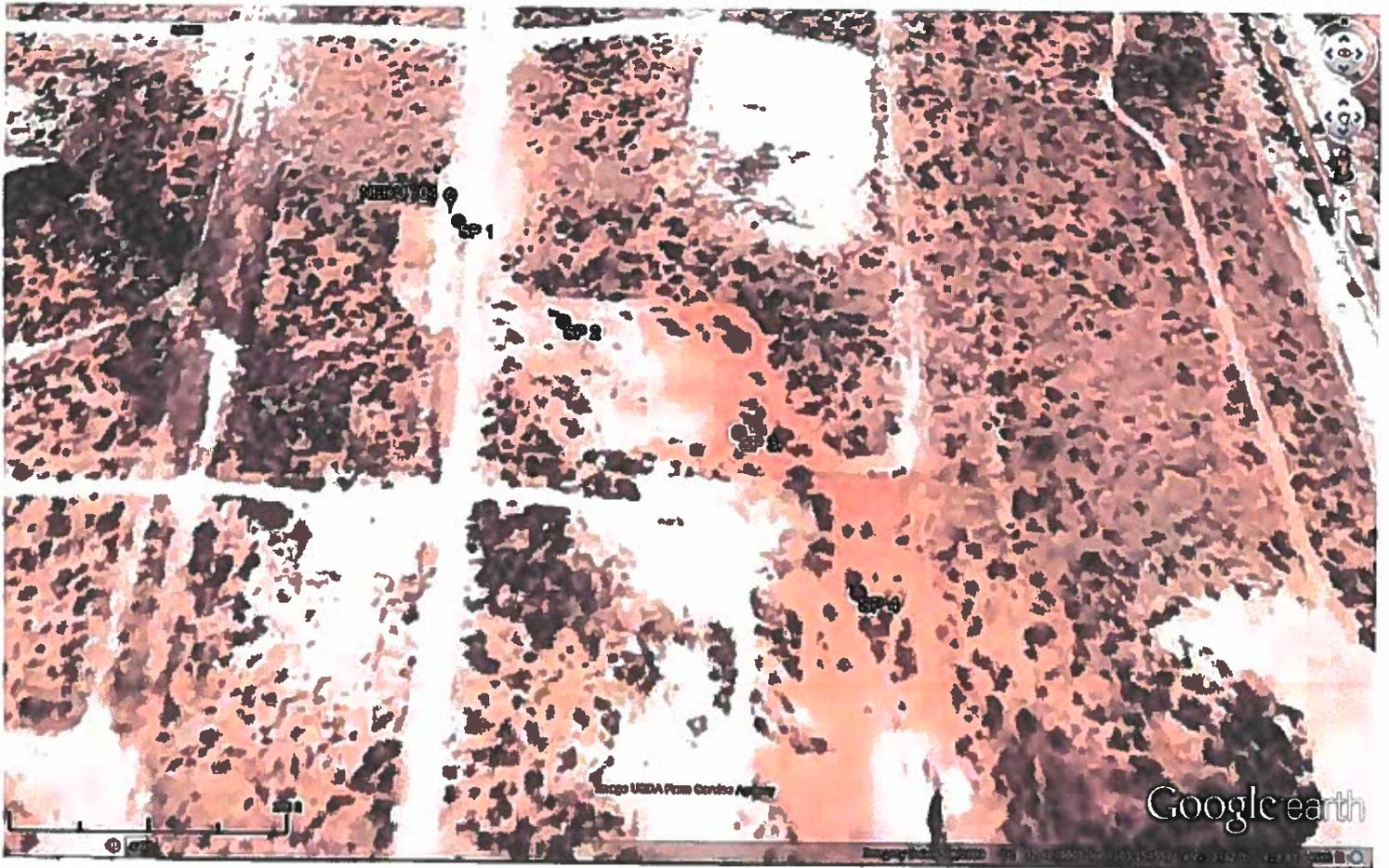


Apache





2009



2019



APPENDIX D
CURRENT SITE PHOTOGRAPHY

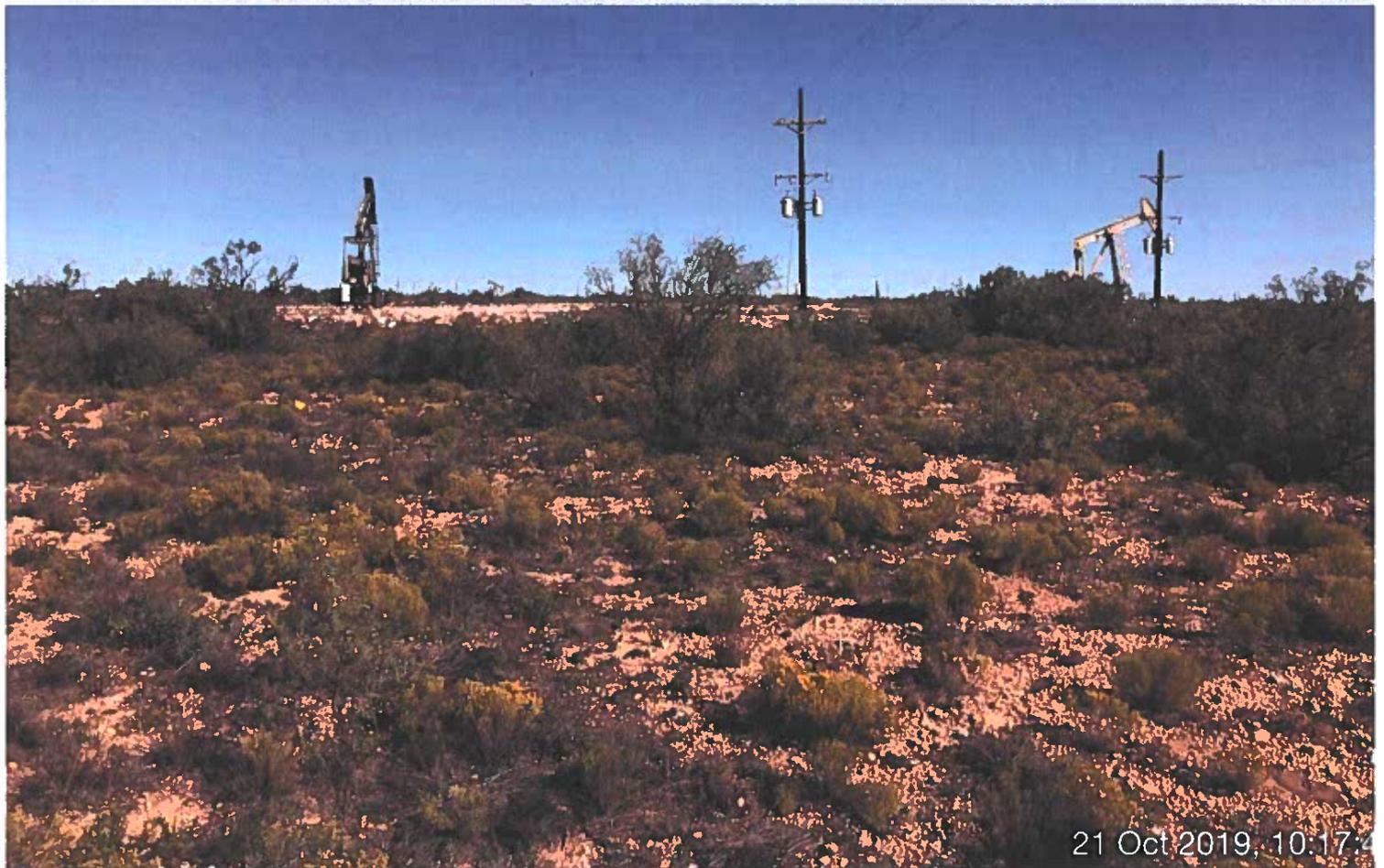


☉ 318°NW (T) ☉ 32.474201°, -103.152525° ±19ft ▲ 3429ft





☉ 359°N (T) ☉ 32.474029°, -103.152234° ±19ft ▲ 3429ft





☉ 107°E (T) ● 32.474032°, -103.152239° ±19ft ▲ 3429ft



21 Oct 2019, 10:17:2





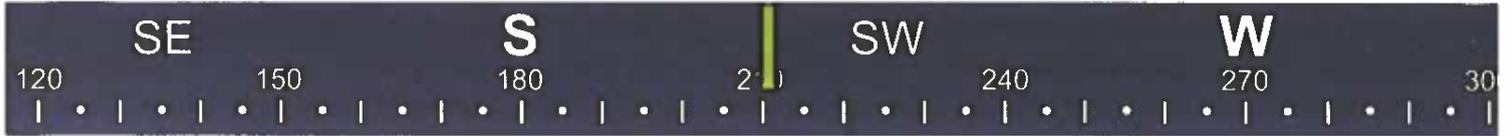
☉ 284°W (T) ☉ 32.474363°, -103.152634° ±19ft ▲ 3432ft





☉ 124°SE (T) ☉ 32.474503°, -103.152669° ±26ft ▲ 3433ft





☉ 194°S (T) ☉ 32.474457°, -103.152714° ±52ft ▲ 3433ft

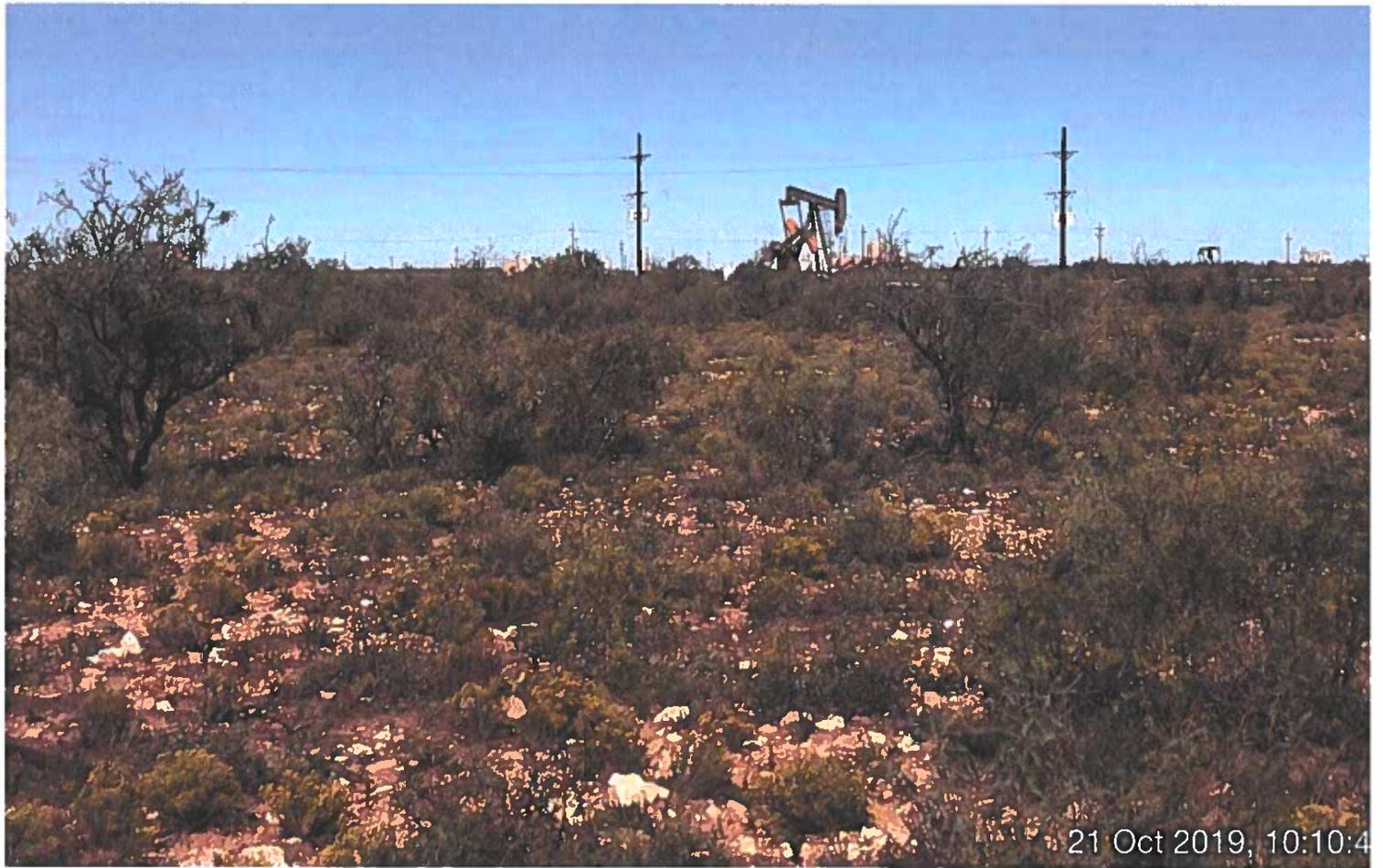




21 Oct 2019, 10:14:4



☉ 301°NW (T) ☉ 32.473631°, -103.150895° ±13ft ▲ 3426ft





☉ 27°NE (T) ☉ 32.473472°, -103.151504° ±19ft ▲ 3425ft





⊙ 8°N (T) ⊙ 32°28'25"N, 103°9'6"W ±13ft ▲ 3427ft



04 Nov 2019, 14:44:2



☉ 301°NW (T) ☉ 32°28'25"N, 103°9'6"W ±9ft ▲ 3427ft

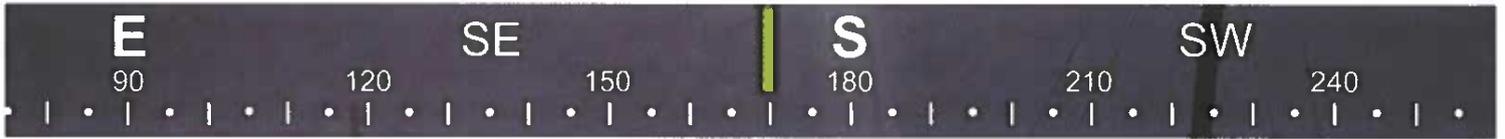


04 Nov 2019, 14:44:3



☉ 274°W (T) ☉ 32°28'25"N, 103°9'6"W ±9ft ▲ 3427ft





⊗ 153°SE (T) ● 32.474039°, -103.152247° ±19ft ▲ 3429ft



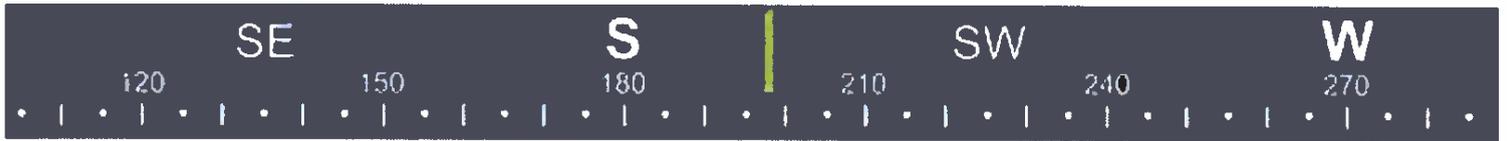
21 Oct 2019, 10:17:2



⊙ 192°S (T) ● 32°28'25"N, 103°9'6"W ±13ft ▲ 3427ft

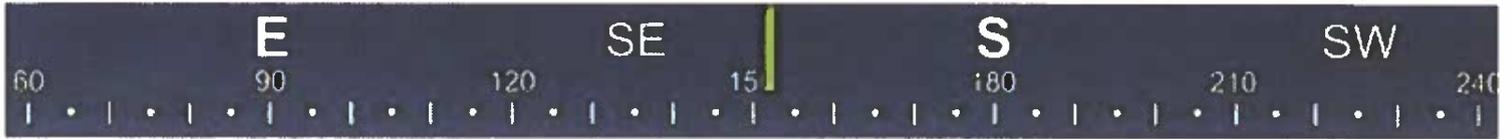


04 Nov 2019, 14:44:4



☉ 151°SE (T) ☉ 32°28'25"N, 103°9'6"W ±9ft ▲ 3427ft





⊙ 105°E (T) ● 32°28'25"N, 103°9'6"W ±9ft ▲ 3427ft



04 Nov 2019 14:44:5



⊙ 50°NE (T) ● 32°28'25"N, 103°9'6"W ±13ft ▲ 3427ft





⊙ 342°N (T) ● 32°28'25"N, 103°9'6"W ±13ft ▲ 3426ft



APPENDIX E
LABORATORY RESULTS FOR SAMPLES



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

August 27, 2019

BRUCE BAKER
APACHE CORP - HOBBS
2350 W. MARLAND BLVD.
HOBBS, NM 88240

RE: NEDU #704

Enclosed are the results of analyses for samples received by the laboratory on 08/22/19 16:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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/ga/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:	08/22/2019	Sampling Date:	08/22/2019
Reported:	08/27/2019	Sampling Type:	Soil
Project Name:	NEDU #704	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 1 @ SURFACE 32.474503 (H902894-01)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 93.2% 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	08/26/2019	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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	<10.0	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	<10.0	10.0	08/26/2019	ND					

Surrogate: 1-Chlorooctane 86.4% 41-142

Surrogate: 1-Chlorooctadecane 93.4% 37.6-147

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: 08/22/2019
 Reported: 08/27/2019
 Project Name: NEDU #704
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/22/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 1 -103.152866 (H902894-02)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 93.0 % 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	64.0	16.0	08/26/2019	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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	<10.0	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	<10.0	10.0	08/26/2019	ND					

Surrogate: 1-Chlorooctane 82.4 % 41-142

Surrogate: 1-Chlorooctadecane 90.2 % 37.6-147

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: 08/22/2019
 Reported: 08/27/2019
 Project Name: NEDU #704
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/22/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 2 @ SURFACE 32.474143 (H902894-03)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 93.3% 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	16.0	16.0	08/26/2019	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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	<10.0	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	<10.0	10.0	08/26/2019	ND					

Surrogate: 1-Chlorooctane 82.7% 41-142

Surrogate: 1-Chlorooctadecane 90.3% 37.6-147

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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:	08/22/2019	Sampling Date:	08/22/2019
Reported:	08/27/2019	Sampling Type:	Soil
Project Name:	NEDU #704	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 2 @ 1 -103.152441 (H902894-04)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 91.4% 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	48.0	16.0	08/26/2019	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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	<10.0	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	<10.0	10.0	08/26/2019	ND					

Surrogate: 1-Chlorooctane 75.6% 41-142

Surrogate: 1-Chlorooctadecane 81.5% 37.6-147

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: 08/22/2019
 Reported: 08/27/2019
 Project Name: NEDU #704
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/22/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 3 @ SURFACE 32.47377 (H902894-05)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 91.7% 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	08/26/2019	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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	<10.0	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	<10.0	10.0	08/26/2019	ND					

Surrogate 1-Chlorooctane 80.7% 41-142

Surrogate 1-Chlorooctadecane 88.5% 37.6-147

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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:	08/22/2019	Sampling Date:	08/22/2019
Reported:	08/27/2019	Sampling Type:	Soil
Project Name:	NEDU #704	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 3 @ 1 -103.151807 (H902894-06)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate 4-Bromofluorobenzene (PIC) 92.8 % 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	08/26/2019	ND	416	104	400	0.00	

TPH 8015M

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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	138	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	95.9	10.0	08/26/2019	ND					

Surrogate 1-Chlorooctane 100 % 41-142
 Surrogate 1-Chlorooctadecane 115 % 37.6-147

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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:	08/22/2019	Sampling Date:	08/22/2019
Reported:	08/27/2019	Sampling Type:	Soil
Project Name:	NEDU #704	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 4 @ SURFACE 32.473295 (H902894-07)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 93.7% 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	08/26/2019	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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	<10.0	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	<10.0	10.0	08/26/2019	ND					

Surrogate: 1-Chlorooctane 75.8% 41-142

Surrogate: 1-Chlorooctadecane 83.7% 37.6-147

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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: 08/22/2019
 Reported: 08/27/2019
 Project Name: NEDU #704
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/22/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 4 @ 1 -103.151425 (H902894-08)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate 4-Bromofluorobenzene (PIC) 93.0 % 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	<16.0	16.0	08/26/2019	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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	<10.0	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	<10.0	10.0	08/26/2019	ND					

Surrogate 1-Chlorooctane 78.3 % 41-142

Surrogate 1-Chlorooctadecane 86.1 % 37.6-147

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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: 08/22/2019
 Reported: 08/27/2019
 Project Name: NEDU #704
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/22/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 4 @ 2 (H902894-09)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 91.9 % 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	08/26/2019	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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	<10.0	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	<10.0	10.0	08/26/2019	ND					

Surrogate: 1-Chlorooctane 92.6 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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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: 08/22/2019
 Reported: 08/27/2019
 Project Name: NEDU #704
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

Sampling Date: 08/22/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 4 @ 3 (H902894-10)

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	08/24/2019	ND	1.68	83.8	2.00	3.40	
Toluene*	<0.050	0.050	08/24/2019	ND	1.84	92.2	2.00	1.47	
Ethylbenzene*	<0.050	0.050	08/24/2019	ND	1.98	98.8	2.00	1.53	
Total Xylenes*	<0.150	0.150	08/24/2019	ND	5.90	98.3	6.00	1.11	
Total BTEX	<0.300	0.300	08/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 93.4% 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	08/26/2019	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	08/26/2019	ND	192	95.8	200	0.189	
DRO >C10-C28*	<10.0	10.0	08/26/2019	ND	190	95.0	200	4.12	
EXT DRO >C28-C36	<10.0	10.0	08/26/2019	ND					

Surrogate: 1-Chlorooctane 91.9% 41-142

Surrogate: 1-Chlorooctadecane 101% 37.6-147

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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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Colleen 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

BILL TO

ANALYSIS REQUEST

Company Name: <u>Aradco Corporation</u>		P.O. #:														
Project Manager: <u>Bruce Baker</u>		Company:														
Address:		Attn:														
City:	State: Zip:	Address:														
Phone #:	Fax #:	City:														
Project #:	Project Owner:	State: Zip:														
Project Name: <u>NEBU 704</u>		Phone #:														
Project Location: <u>NEBU 704</u>		Fax #:														
Sampler Name: <u>David Rasker</u>																
FOR LAB USE ONLY																
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	CL	EXT. TPH	BTEX	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:						ICE / COOL
	1	SP-1 surface 3A.479 503										8/22/19				
	2	SP-1@1 -103.152986														
	3	SP-2 surface 3A.47443														
	4	SP-2@1 -103.152941														
	5	SP-3 surface 3A.47377														
	6	SP-3@1 -103.151807														
	7	SP-4 surface 3A.473295														
	8	SP-4@1 -103.151425														
	9	SP-4@2														
	10	SP-4@3										9/23/19				

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Relinquished By: [Signature] Date: 8-22-19 Received By: [Signature] Date: 16:50
 Relinquished By: [Signature] Date: _____ Received By: [Signature] Date: _____

Delivered By: (Circle One) UPS 1.92 # 997 Sample Condition: Cool Intact
 Sampler - UPS - Bus - Other: Converted 2.32 Yes No Yes No

REMARKS: Email to Bruce and SEF

Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____

CHECKED BY: _____ (Initials)