



Bruce Baker
NEDU Sat 2A
Remediation Plan

API NO. 30-025-34651
1RP-5591
Release Date: 6/26/2019
U/L E, Section 3, Township 21S, Range 37E
Lea County, NM

10/25/19

Prepared By:

Hungry Horse, LLC
4024 Plains Hwy
Lovington, NM 88260

October 25, 2019

**New Mexico Energy, Minerals & Natural Resources
Oil Conservation Division, Environmental Bureau – District I
C/O Dylan Rose-Coss
1625 South French Drive
Hobbs, NM 88240**

**RE: Remediation Plan
Apache Corporation
NEDU Sat 2A (Northeast Drinkard Unit Satellite 2A)
U/L E, Section 3, Township 21S, Range 37E
API No. 30-025-34651**

To Whom it May Concern:

Apache Corporation has retained Hungry Horse, LLC., to address the potential environmental impact for the site detailed herein.

Background

The site is located in Lea County, New Mexico, 5.7 miles north of Eunice, New Mexico on the west side of the North Loop.

On June 26 of 2019 at approximately 0900 hours, Apache Corporation turned in a C-141 (Release Notification) for the above-mentioned location. Approximately 10bbls of crude oil and 148 bbls of produced water was released. Approximately 5 bbls of crude oil and 70 bbls of produced water was recovered via vacuum truck. The cause of the release was due to an automation failure caused by weather, which did not allow the shut-off valve to work properly, allowing the holding tank to run over. The fluid ran from the tank out into the pasture area.

Groundwater Information

Hungry-Horse, LLC has conducted an extended groundwater study of the area and it has been determined that according to the New Mexico Office of the State Engineer, the three closest wells to the NEDU Sat 2A range from 45'bgs to 90'bgs within 1166' to 3040' from the site listed herein:

**CP00552 – 75'dgw with a distance of 1166' from the site
CP00553 – 75'dgw with a distance of 1166' from the site
CP01741 POD1 - no GW found with a distance of 1324' from the site
CP01486 POD1 – 52'dgw with a distance of 3040' from the site**

Using Table I, Closure Criteria for Soils Impacted by a Release Dated after August 14, 2018, this site falls under the ranking of 51' to 100'bgs. This site rankings are as follows:

| W | Constituent | Method | Limit |
|----------|-----------------------|----------------------------------|--------------|
| 51'-100' | Chloride | EPA 300.0 OR SM4500 CLB | 10,000 mg/kg |
| | TPH (GRO + DRO + MRO) | EPA SW-846 METHOD 8015M | 2,500 mg/kg |
| | GRO + DRO | EPA SW-846 METHOD 8015M | 1,000 mg/kg |
| | BTEX | EPA SW-846 METHOD 8021B OR 8260B | 50 mg/kg |
| | Benzene | EPA SW-846 METHOD 8021B OR 8260B | 10 mg/kg |

Karst Information

According to the Karst Map, the NEDU Satellite 2A is located in the low risk area. Therefore, no concerns are found.

Delineation

On October 2, 2019 Hungry-Horse, LLC personnel began delineation of the site. The area of the release in the pasture is surrounded by flowlines that go into the header at the NEDU Sat 2A. Therefore, the sampling was completed by use of hand-auger. Backhoes and hydro-vacs could not be used due to the surface flowlines. Please see the site map attached to provide the view of the flowlines in the release area.

Due to the impervious nature of the soil during delineation, it was determined that only surface and 1' samples could be obtained. The samples were not field tested but yet taken immediately into Cardinal Laboratories and were tested for Chlorides, BTEX, TPH and Extended Diesel Range Organics (EXT-DRO).

Below you will find the lab analysis for the delineation of the Apache NEDU Sat 2A:

| Sample ID | Depth | BTEX | Chloride | TPH | Ext DRO | Description |
|-----------|---------|--------|----------|-------|---------|-------------|
| SP1 | Surface | <0.300 | 2960 | 18900 | 4690 | |
| SP1 | 1' | <0.300 | 1340 | 237 | 44.9 | |
| | | | | | | |
| SP2 | Surface | <0.300 | 736 | 426 | 161 | |
| SP2 | 1' | <0.300 | 576 | 33.3 | <10 | |
| | | | | | | |
| SP3 | Surface | <0.300 | 496 | 7630 | 3090 | Impervious |
| | | | | | | |
| SP4 | Surface | <0.300 | 32 | <10 | <10 | Impervious |
| | | | | | | |
| SP5 | Surface | <0.300 | <16 | <10 | <10 | Impervious |

Attached you will find the Analytical Results for the delineation of the Apache NEDU Sat 2A.

Vertical sampling was not done at this time due to the flowlines and impervious rock encountered in the delineation process.

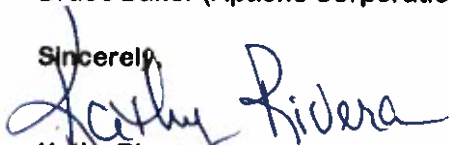
Conclusion

Hungry-Horse, LLC on behalf of Apache Corporation would like to purpose applying Micro-blaze to the surface of release area inside the battery at SP 1, SP 2 and in the pasture area of SP 3. At SP 1 we propose loosening up the soil and applying micro-blaze to the elevated hydrocarbons. At SP 2 the area will need to be left alone except for using micro-blaze to breakdown the volatiles until a prior date because of the flow lines that are in place (please see attached Variance Request). SP 4 and SP 5 are within NMOCD requirements therefore will be left alone. Applying the Micro-blaze would clear the flowlines and surface area of hydrocarbon impacted soil. The application will be used in four different cycles to obtain a strong washing of the soil. With the weather cooling off, four applications will need to be applied now. This process will include water that will enhance the microbial degradation rate of hydro-carbons. The site and pasture area are covered with surface polylines which are prohibiting any type of heavy equipment remediation or other means of remediation in the facility and or pasture area. Once the application of Micro-blaze has had time to dry completely, Hungry-Horse will then take closure samples to ensure that the degradation of the hydro-carbons have taken place.

Please see the photo page to justify this remediation plan.

Thank you in advance for allowing Hungry-Horse LLC to assist in this matter. Please contact Bruce Baker (Apache Corporation) with any questions and/or concerns.

Sincerely,



Kathy Rivera
Environmental Office Manager
Hungry Horse LLC.
4024 Plains Hwy
Lovington, NM 88260
Email: krivera@hungry-horse.com

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

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

| | |
|----------------|----------------|
| Incident ID | NDHR1917957292 |
| District RP | IRP-5591 |
| Facility ID | |
| Application ID | pDHR1917957067 |

Release Notification

Responsible Party

| | |
|--|-----------------------------------|
| Responsible Party: Apache Corporation | OGRID 873 |
| Contact Name: Bruce Baker | Contact Telephone: (432) 631-6982 |
| Contact email: Larry.Baker@apachecorp.com | Incident # (assigned by OCD) |
| Contact Mailing Address: 2350 W. Marland Blvd. Hobbs, NM 88240 | |

Location of Release Source

Latitude: W 32.51457 Longitude: N -103.15427

(NAD 83 in decimal degrees to 5 decimal places)

| | |
|--|-------------------------------------|
| Site Name: Northeast Drinkard Unit 2A | Site Type: Well |
| Date Release Discovered: June 26, 2019 | API # 3002534651 (Closest Location) |

| Unit Letter | Section | Township | Range | County |
|-------------|---------|----------|-------|--------|
| E | 3 | 21S | 37E | LEA |

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: McCasland)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

| | | |
|--|--|---|
| <input checked="" type="checkbox"/> Crude Oil | Volume Released (10 bbls) | Volume Recovered (5 bbls) |
| <input checked="" type="checkbox"/> Produced Water | Volume Released (148 bbls) | Volume Recovered (70 bbls) |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <input type="checkbox"/> Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| <input type="checkbox"/> Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| <input type="checkbox"/> Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release

Automation failure due to weather did not allow the shut off valve to work correctly allowing the holding tank to run over.

State of New Mexico
Oil Conservation Division

| | |
|----------------|----------------|
| Incident ID | NDHR1917957292 |
| District RP | 1RP-5591 |
| Facility ID | |
| Application ID | pDHR1917957067 |

| | |
|---|--|
| Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | If YES, for what reason(s) does the responsible party consider this a major release? <i>Release is greater than 25 barrels.</i> |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Via email given to NM OCD by Jeff Broom, Environmental Technician, Apache Corporation | |

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B, (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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: Jeff Broom

Title: Environmental Technician

Signature: 

Date: 06/26/2019

Email: Jeffrey.Broom@apachecorp.com

Telephone: (432) 664-4677

OCD Only

Received by: Dylan Rose-Coss

Date: 06/28/2019

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? | <u>75</u> (ft bgs) |
| Did this release impact groundwater or surface water? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a wetland? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying a subsurface mine? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within a 100-year floodplain? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Did the release impact areas not on an exploration, development, production, or storage site? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

| | |
|----------------|--|
| 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: 10-30-19
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|----------------|----------------|
| Incident ID | nDHR1917957292 |
| District RP | 1RP-5591 |
| Facility ID | |
| Application ID | |

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

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

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

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Bruce BAKER Title: Environmental Tech SR.
Signature: Bruce Baker Date: 10-30-19
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Cristina Eads Date: 02/13/2020

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

Signature: **REJECTED** Date: 02/13/2020

Rose-Coss, Dylan H, EMNRD

From: Rose-Coss, Dylan H, EMNRD
Sent: Friday, June 28, 2019 4:04 PM
To: 'Broom, Jeffrey'
Cc: Baker, Larry; Feather, David
Subject: RE: Immediate Notification and C-141 Notification

All,

The NMOCN tracking number for this release is 1RP-5591.

Thanks,

Dylan Rose-Coss

Environmental Scientist
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

(505) 476-3488

From: Broom, Jeffrey <Jeffrey.Broom@apachecorp.com>
Sent: Thursday, June 27, 2019 8:15 AM
To: Rose-Coss, Dylan H, EMNRD <DylanH.Rose-Coss@state.nm.us>; James.Grisworld@state.nm.us
Cc: Baker, Larry <Larry.Baker@apachecorp.com>; Feather, David <David.Feather@apachecorp.com>
Subject: [EXT] Immediate Notification and C-141 Notification

Gentlemen,

This email is to notify you that Apache Corporation did have release at the NEDU 2A on 06/26/2019 at 0900 hours. This release was found to be in excess of 25 barrels. We did retrieve all recoverable fluid and the area did have berm placed around the release to eliminate any further movement of the release. You will also find attached to this email the C-141 Notification for this release. If you have any questions please feel free to contact us.

Thanks,

JEFF BROOM, ENVIRONMENTAL TECHNICIAN

APACHE CORPORATION
2350 W. Marland Blvd.,
Hobbs, NM 88240
Cell: 432.664.4677

ApacheCorp.com | [LinkedIn](#) | [Facebook](#) | [Twitter](#) | [StockTwits](#) | [YouTube](#)

Volume Calculation

1,332 cubic feet of soil contamination X 7.48 gallons per cubic foot = 9,964 gallons/42 gallons to a barrel=237 barrels X .33 soil porosity= 78 barrels fluid in soil + 75 barrels recovered = 153 barrels total loss.



New Mexico Office of the State Engineer
Wells with Well Log Information

No wells found

UTM NAD83 Radius Search (in meters):

Easting (X): 673371.14

Northing (Y): 3598975.54

Radius: 1000

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/15/19 3:55 PM

WELLS WITH WELL LOG INFORMATION



New Mexico Office of the State Engineer Wells with Well Log Information

(A CLW#### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right)

(R=POD has
been replaced.
O=orphaned.
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

| POD Number | Code | Subbasin | County | Source | q q q | 6416 4 | Sec | Tws | Rng | X | Y | Distance | Start Date | Finish Date | Log File Date | Depth Well | Depth Water | Driller | License Number |
|--------------|------|----------|--------|---------|----------|--------|-----|-----|-----|--------|----------|----------|------------|-------------|------------------|---------------|----------------|-----------------|-------------------|
| CP00552 | | CP | LE | Shallow | 2 4 04 | 215 | 37E | | | 672700 | 3598022* | 1166 | 07/31/1976 | 07/31/1976 | 01/11/1979 | 90 | 75 | VAN NOY, W L | 208 |
| CP00553 | | CP | LE | Shallow | 2 4 04 | 215 | 37E | | | 672700 | 3598022* | 1166 | 09/30/1976 | 09/30/1976 | 01/10/1979 | 90 | 75 | VAN NOY, W L | 208 |
| CP01741.POD1 | | CP | LE | Shallow | 1 3 4 03 | 215 | 37E | | | 673895 | 3597759 | 1324 | 10/01/2018 | 10/01/2018 | 11/05/2018 | 45 | | MARTIN STRAUB | 1710 |
| L13540.POD1 | | L | LE | Shallow | 4 4 3 34 | 20S | 38E | | | 675011 | 3600037 | 1953 | 06/17/2014 | 06/17/2014 | 10/02/2014 | 88 | | JOHN W WHITE | 1456 |
| CP01480.POD1 | | CP | LE | Shallow | 4 2 1 05 | 21S | 37E | | | 670333 | 3599085 | 3040 | 02/02/2016 | 02/02/2016 | 02/05/2016 | 140 | 52 | ALAN G EADES | 1044 |
| CP00554 | | CP | LE | Shallow | 2 2 16 | 21S | 37E | | | 672744 | 3595610* | 3423 | 06/01/1976 | 06/05/1976 | 04/05/1977 | 80 | 70 | VAN NOY, W L | 208 |
| CP01724.POD2 | | CP | LE | | 3 3 1 14 | 21S | 37E | | | 674594 | 3595204 | 3964 | 07/08/2019 | 07/08/2019 | 08/28/2019 | 198 | | JOHN NORRIS | 1755 |
| CP01724.POD2 | | CP | LE | | 3 3 1 14 | 21S | 37E | | | 674624 | 3595194 | 3983 | 08/08/2019 | 08/08/2019 | 08/28/2019 | 104 | | JOHN NORRIS | 1755 |
| CP01724.POD5 | | CP | LE | Shallow | 3 3 1 14 | 21S | 37E | | | 674606 | 3595176 | 3994 | 08/08/2019 | 08/08/2019 | 08/28/2019 | 30 | 22 | JOHN NORRIS | 1755 |
| CP01724.POD3 | | CP | LE | Shallow | 3 3 1 14 | 21S | 37E | | | 674623 | 3595163 | 4012 | 07/08/2019 | 07/08/2019 | 08/28/2019 | 34 | | JOHN NORRIS | 1755 |
| CP01724.POD1 | | CP | LE | Shallow | 3 3 1 14 | 21S | 37E | | | 674646 | 3595143 | 4038 | 07/09/2019 | 07/09/2019 | 08/28/2019 | 34 | 18 | JOHN NORRIS | 1755 |
| CP01724.POD4 | | CP | LE | Shallow | 3 3 1 14 | 21S | 37E | | | 674662 | 3595126 | 4059 | 07/12/2019 | 07/12/2019 | 08/28/2019 | 28 | 19 | JOHN NORRIS | 1755 |
| L07290 | | L | LE | Shallow | 4 3 26 | 20S | 38E | | | 676412 | 3601687* | 4074 | 06/01/1978 | 06/05/1978 | 09/19/1978 | 130 | 65 | | 208 |
| CP00729.POD1 | | CP | LE | Shallow | 4 1 3 15 | 21S | 37E | | | 673259 | 3594711* | 4266 | 04/28/1989 | 05/11/1989 | 07/17/1989 | 8015 | | J H SMITHERMAN | |
| CP01185.POD1 | | CP | LE | Shallow | 1 3 14 | 21S | 37E | | | 674598 | 3594689 | 4458 | 08/28/2013 | 08/28/2013 | 09/16/2013 | 70 | | BRYAN, EDWARD | 1711 |
| CP01185.POD2 | | CP | LE | Shallow | 1 3 14 | 21S | 37E | | | 674623 | 3594674 | 4479 | 08/28/2013 | 08/28/2013 | 09/16/2013 | 70 | | EDWARD BRYAN | 1711 |
| CP01110.POD1 | | CP | LE | Shallow | 1 3 14 | 21S | 37E | | | 674586 | 3594648 | 4494 | 10/10/2012 | 10/10/2012 | 10/17/2012 | 70 | | | 1478 |
| CP01110.POD2 | | CP | LE | Shallow | 1 3 14 | 21S | 37E | | | 674586 | 3594648 | 4494 | 10/10/2012 | 10/10/2012 | 10/17/2012 | 70 | | | 1478 |
| CP01110.POD3 | | CP | LE | Shallow | 1 3 14 | 21S | 37E | | | 674586 | 3594648 | 4494 | 10/10/2012 | 10/10/2012 | 10/17/2012 | 70 | | | 1478 |
| CP01110.POD4 | | CP | LE | | 1 3 14 | 21S | 37E | | | 674586 | 3594648 | 4494 | 10/10/2012 | 10/10/2012 | 10/17/2012 | 20 | | | 1478 |
| CP01110.POD5 | | CP | LE | | 1 3 14 | 21S | 37E | | | 674586 | 3594648 | 4494 | 10/10/2012 | 10/10/2012 | 10/17/2012 | 20 | | | 1478 |
| CP01185.POD3 | | CP | LE | Shallow | 1 3 14 | 21S | 37E | | | 674592 | 3594620 | 4523 | 08/28/2013 | 08/28/2013 | 09/16/2013 | 70 | | EDWARD BRYAN | 1711 |
| CP00877 | | CP | LE | Shallow | 06 | 21S | 37E | | | 668920 | 3598153* | 4526 | 02/26/1998 | 02/26/1998 | 03/06/1998 | 150 | 73 | EADES, ALAN | 1044 |
| CP00890.POD1 | | CP | LE | Shallow | 4 3 4 06 | 21S | 37E | | | 669110 | 3597437 | 4529 | 09/19/2008 | 09/19/2008 | 10/08/2008 | 154 | | EADES, ALAN | 1044 |
| CP01574.POD1 | | CP | LE | Shallow | 2 4 4 15 | 21S | 37E | | | 674559 | 3594598 | 4535 | 12/14/2015 | 12/15/2015 | 12/30/2015 | 68 | 57 | JOHN W WHITE | 1456 |
| CP01185.POD4 | | CP | LE | Shallow | 1 3 14 | 21S | 37E | | | 674633 | 3594610 | 4543 | 08/29/2013 | 08/29/2013 | 09/16/2013 | 70 | | EDWARD BRYAN | 1711 |
| CP01574.POD2 | | CP | LE | Shallow | 1 3 3 14 | 21S | 37E | | | 674666 | 3594578 | 4583 | 12/14/2015 | 12/15/2015 | 12/30/2015 | 68 | 57 | JOHN W WHITE | 1456 |
| CP01141.POD3 | | CP | LE | Shallow | 15 | 21S | 37E | | | 673520 | 3594272 | 4705 | 05/01/2013 | 05/01/2013 | 05/31/2013 | 40 | | STRAUB, RAYMOND | 1478 |

file:///server/userdocs5/Natalieg/Desktop/Clients/Apache/NEDU%20Sat%202A%20(NEDU%20%23128)%206-26-19:Water%20Column%205000.htm[10/16/2019 6:10:09 AM]

| | | | | | | | | | | | | | | | | | | |
|-------------------------------|----|----|---------|----|-----|-----|--------|---------|--------|------------|------------|------------|------------|-----------------|------------|----------|------------------|------|
| CP01141.POD2 | CP | LE | Shallow | 15 | 21S | 37E | 673543 | 3594250 | 4728 | 05/01/2013 | 05/01/2013 | 05/31/2013 | 40 | STRAUB, RAYMOND | 1478 | | | |
| CP01141.POD1 | CP | LE | Shallow | 15 | 21S | 37E | 673556 | 3594239 | 4739 | 05/01/2013 | 05/01/2013 | 05/31/2013 | 45 | STRAUB, RAYMOND | 1478 | | | |
| CP01575.POD1 | CP | LE | Shallow | 1 | 2 | 1 | 22 | 21S | 37E | 673544 | 3594204 | 4773 | 12/15/2015 | 12/16/2015 | 12/30/2015 | 40 | 35 WHITE, JOHN W | 1456 |
| CP01575.POD2 | CP | LE | Shallow | 2 | 2 | 1 | 22 | 21S | 37E | 673615 | 3594181 | 4800 | 12/15/2015 | 12/16/2015 | 12/30/2015 | 35 | 35 WHITE, JOHN W | 1456 |
| CP010731.POD1 | CP | LE | Shallow | 2 | 1 | 22 | 21S | 37E | 673577 | 3594015* | 4964 | 05/10/1988 | 05/18/1988 | 11/03/1988 | 8130 | A J FORE | | |

Record Count: 33

UTM NAD83 Radius Search (in meters):

Easting (N): 673371.14

Northing (N): 3598975.54

Radius: 5000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/15/19 3:55 PM


WELLS WITH WELL LOG INFORMATION



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

| | | | | |
|-----------------|-------------------|-------------------------------|----------|--|
| Well Tag | POD Number | Q64 Q16 Q4 Sec Tws Rng | X | Y |
| | CP 00552 | 2 4 04 21S 37E | 672700 | 3598022*  |

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

Driller Name: VAN NOY, W.L.

Drill Start Date: 07/31/1976

Drill Finish Date: 07/31/1976

Plug Date:

Log File Date: 01/11/1979

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 6.63

Depth Well: 90 feet

Depth Water: 75 feet

| | | | |
|---------------------------------------|------------|---------------|-------------------------------|
| Water Bearing Stratifications: | Top | Bottom | Description |
| | 75 | 88 | Sandstone/Gravel/Conglomerate |

| | | |
|-----------------------------|------------|---------------|
| Casing Perforations: | Top | Bottom |
| | 75 | 89 |

*UTM location was derived from PLSS - see Help


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New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

| | | | | | | | |
|-----------------|-------------------|-------------------|------------|------------|------------|----------|---|
| Well Tag | POD Number | Q64 Q16 Q4 | Sec | Tws | Rng | X | Y |
| NA | CP 01741 POD1 | 1 3 4 | 03 | 21S | 37E | 673895 | 3597759  |

Driller License: 1710

Driller Company: STRAUB CORPORATION

Driller Name: MARTIN STRAUB

Drill Start Date: 10/01/2018

Drill Finish Date: 10/01/2018

Plug Date:

Log File Date: 11/05/2018

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 4.00

Depth Well: 45 feet

Depth Water:

Water Bearing Stratifications:

Top Bottom Description

39 45 Other/Unknown

Casing Perforations:

Top Bottom

25 45

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New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

| | | | | |
|-----------------|-------------------|-------------------------------|----------|----------|
| Well Tag | POD Number | Q64 Q16 Q4 Sec Tws Rng | X | Y |
| | CP 00553 | 2 4 04 21S 37E | 672700 | 3598022* |

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

Driller Name: VAN NOY, W.L.

Drill Start Date: 09/30/1976

Drill Finish Date: 09/30/1976

Plug Date:

Log File Date: 01/10/1979

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 6.63

Depth Well: 90 feet

Depth Water: 75 feet

| Water Bearing Stratifications: | Top | Bottom | Description |
|---------------------------------------|------------|---------------|-------------------------------|
| | 75 | 85 | Sandstone/Gravel/Conglomerate |

| Casing Perforations: | Top | Bottom |
|-----------------------------|------------|---------------|
| | 75 | 89 |

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/16/19 6:26 AM

Page 1 of 1

POD SUMMARY - CP 00553



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

| | | | | | | | | | |
|----------|---------------|-----|-----|----|-----|-----|-----|--------|---------|
| Well Tag | POD Number | Q64 | Q16 | Q4 | Sec | Tws | Rng | X | Y |
| | CP 01486 POD1 | 4 | 2 | 1 | 05 | 21S | 37E | 670333 | 3599085 |

| | | | | | |
|-------------------|--------------|----------------------|------------------------------------|------------------|---------|
| Driller License: | 1044 | Driller Company: | EADES WELL DRILLING & PUMP SERVICE | | |
| Driller Name: | ALAN G EADES | | | | |
| Drill Start Date: | 02/02/2016 | Drill Finish Date: | 02/02/2016 | Plug Date: | |
| Log File Date: | 02/05/2016 | PCW Rcv Date: | | Source: | Shallow |
| Pump Type: | | Pipe Discharge Size: | | Estimated Yield: | |
| Casing Size: | 5.14 | Depth Well: | 140 feet | Depth Water: | 52 feet |

| | | | |
|--------------------------------|-----|--------|-------------------------------|
| Water Bearing Stratifications: | Top | Bottom | Description |
| | 52 | 105 | Sandstone/Gravel/Conglomerate |
| | 105 | 135 | Sandstone/Gravel/Conglomerate |

| | | |
|----------------------|-----|--------|
| Casing Perforations: | Top | Bottom |
| | 100 | 140 |

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APACHE

NEDU SAT 2A

Legend

 NEDU SAT 2A

NEDU SAT 2A

Google Earth


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N

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APACHE

NEDU SAT 2A

Legend

 NEDU SAT 2A

Roswell

Artesia

Carlsbad

NEDU SAT 2A

Google Earth

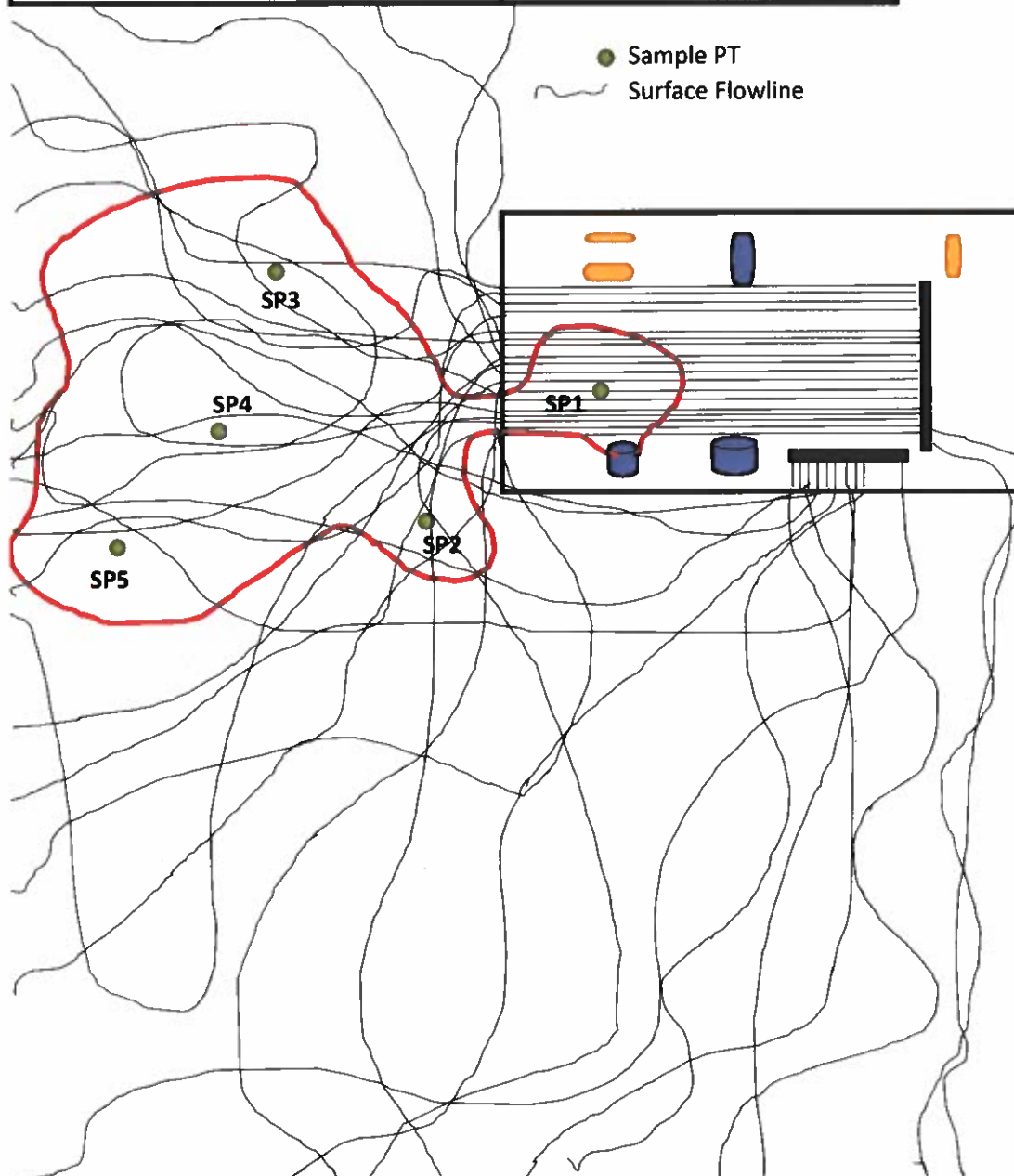
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Images provided by Google

40 mi



Apache Corporation: NEDU Sat 2A
Release Date: June 26, 2019

RP No. 1RP-5591
API No. 30-025-34651



| Sample ID | Depth | BTEX | Chloride | TPH | Ext DRO | Description |
|-----------|---------|--------|----------|-------|---------|-------------|
| SP1 | Surface | <0.300 | 2960 | 18900 | 4690 | |
| SP1 | 1' | <0.300 | 1340 | 237 | 44.9 | |
| SP2 | Surface | <0.300 | 736 | 426 | 161 | |
| SP2 | 1' | <0.300 | 576 | 33.3 | <10 | |
| SP3 | Surface | <0.300 | 496 | 7680 | 3090 | Impervious |
| SP4 | Surface | <0.300 | 32 | <10 | <10 | Impervious |
| SP5 | Surface | <0.300 | <16 | <10 | <10 | Impervious |



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

October 04, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU SATELLITE 2A

Enclosed are the results of analyses for samples received by the laboratory on 10/02/19 14:45.

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/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 "Coley D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received: 10/02/2019
Reported: 10/04/2019
Project Name: NEDU SATELLITE 2A
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 10/01/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 1 - SURFACE (H903366-01)

| BTEX 8021B | | | mg/kg | | Analyzed By: BF | | | | | |
|----------------|--------|-----------------|------------|--------------|-----------------|------------|---------------|------|-----------|--|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier | |
| Benzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.97 | 98.5 | 2.00 | 3.87 | | |
| Toluene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.90 | 94.8 | 2.00 | 3.15 | | |
| Ethylbenzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.89 | 94.7 | 2.00 | 3.75 | | |
| Total Xylenes* | <0.150 | 0.150 | 10/03/2019 | ND | 5.82 | 97.0 | 6.00 | 4.29 | | |
| Total BTEX | <0.300 | 0.300 | 10/03/2019 | ND | | | | | | |

Surrogate: 4-Bromofluorobenzene (PIT) 91.9 % 73.3-129

| Chloride, SM4500Cl-B | | mg/kg | | Analyzed By: AC | | | | | | |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier | |
| Chloride | 2960 | 16.0 | 10/03/2019 | ND | 416 | 104 | 400 | 3.77 | | |
| TPH 8015M | | mg/kg | | Analyzed By: MS | | | | | | |
| | | | | S-06 | | | | | | |

Surrogate: 1-Chlorooctane 126 % 41-142

Surrogate: 1-Chlorooctadecane 721 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 10/02/2019
 Reported: 10/04/2019
 Project Name: NEDU SATELLITE 2A
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

 Sampling Date: 10/01/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 - 1' (H903366-02)

| BTEX 8021B | | mg/kg | Analyzed By: BF | | | | S-04 | | |
|----------------|--------|-----------------|-----------------|--------------|------|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Benzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.97 | 98.5 | 2.00 | 3.87 | |
| Toluene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.90 | 94.8 | 2.00 | 3.15 | |
| Ethylbenzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.89 | 94.7 | 2.00 | 3.75 | |
| Total Xylenes* | <0.150 | 0.150 | 10/03/2019 | ND | 5.82 | 97.0 | 6.00 | 4.29 | |
| Total BTEX | <0.300 | 0.300 | 10/03/2019 | ND | | | | | |

Surrogate: 4-Bromofluorobenzene (PIL) 73.0 % 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 | 1340 | 16.0 | 10/03/2019 | ND | 416 | 104 | 400 | 3.77 | |

| 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 | 10/02/2019 | ND | 163 | 81.4 | 200 | 5.24 | |
| DRO >C10-C28* | 237 | 10.0 | 10/02/2019 | ND | 154 | 77.2 | 200 | 5.01 | |
| EXT DRO >C28-C36 | 44.9 | 10.0 | 10/02/2019 | ND | | | | | |

Surrogate: 1-Chlorooctane 77.7 % 41-142

Surrogate: 1-Chlorooctadecane 88.3 % 37.6-147

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 10/02/2019
Reported: 10/04/2019
Project Name: NEDU SATELLITE 2A
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 10/01/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 2 - SURFACE (H903366-03)

| BTEX 8021B | | mg/kg | Analyzed By: BF | | | | | S-04 | |
|----------------|--------|-----------------|-----------------|--------------|------|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Benzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.97 | 98.5 | 2.00 | 3.87 | |
| Toluene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.90 | 94.8 | 2.00 | 3.15 | |
| Ethylbenzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.89 | 94.7 | 2.00 | 3.75 | |
| Total Xylenes* | <0.150 | 0.150 | 10/03/2019 | ND | 5.82 | 97.0 | 6.00 | 4.29 | |
| Total BTEX | <0.300 | 0.300 | 10/03/2019 | ND | | | | | |

Surrogate: 4-Bromofluorobenzene (PIC) 72.6 % 73.3-129

| Chloride, SM4500Cl-B | | mg/kg | Analyzed By: AC | | | | | | |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 736 | 16.0 | 10/03/2019 | ND | 416 | 104 | 400 | 3.77 | |

| 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 | 10/02/2019 | ND | 163 | 81.4 | 200 | 5.24 | |
| DRO >C10-C28* | 426 | 10.0 | 10/02/2019 | ND | 154 | 77.2 | 200 | 5.01 | |
| EXT DRO >C28-C36 | 161 | 10.0 | 10/02/2019 | ND | | | | | |

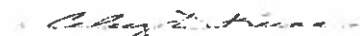
Surrogate: 1-Chlorooctane 73.0 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 10/02/2019
Reported: 10/04/2019
Project Name: NEDU SATELLITE 2A
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 10/01/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 2 - 1' (H903366-04)

| BTEX 8021B | | | mg/kg | | Analyzed By: BF | | | | |
|----------------|--------|-----------------|------------|--------------|-----------------|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Benzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.97 | 98.5 | 2.00 | 3.87 | |
| Toluene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.90 | 94.8 | 2.00 | 3.15 | |
| Ethylbenzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.89 | 94.7 | 2.00 | 3.75 | |
| Total Xylenes* | <0.150 | 0.150 | 10/03/2019 | ND | 5.82 | 97.0 | 6.00 | 4.29 | |
| Total BTEX | <0.300 | 0.300 | 10/03/2019 | ND | | | | | |

Surrogate: 4-Bromofluorobenzene (PIL) 73.8 % 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 | 576 | 16.0 | 10/03/2019 | ND | 416 | 104 | 400 | 3.77 | |

| 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 | 10/02/2019 | ND | 163 | 81.4 | 200 | 5.24 | |
| DRO >C10-C28* | 33.3 | 10.0 | 10/02/2019 | ND | 154 | 77.2 | 200 | 5.01 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 10/02/2019 | ND | | | | | |

Surrogate: 1-Chlorooctane 70.5 % 41-142

Surrogate: 1-Chlorodecane 74.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 10/02/2019
Reported: 10/04/2019
Project Name: NEDU SATELLITE 2A
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 10/01/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 3 - SURFACE (H903366-05)

| BTEX 80218 | | mg/kg | | Analyzed By: BF | | | | | |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Benzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.97 | 98.5 | 2.00 | 3.87 | |
| Toluene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.90 | 94.8 | 2.00 | 3.15 | |
| Ethylbenzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.89 | 94.7 | 2.00 | 3.75 | |
| Total Xylenes* | <0.150 | 0.150 | 10/03/2019 | ND | 5.82 | 97.0 | 6.00 | 4.29 | |
| Total BTEX | <0.300 | 0.300 | 10/03/2019 | ND | | | | | |

Surrogate: 4-Bromofluorobenzene (PII) 75.2 % 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 | 496 | 16.0 | 10/03/2019 | ND | 416 | 104 | 400 | 3.77 | |

| TPH 8015M | | mg/kg | | Analyzed By: MS | | | | | S-06 | |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier | |
| GRO C6-C10* | <50.0 | 50.0 | 10/02/2019 | ND | 163 | 81.4 | 200 | 5.24 | | |
| DRO >C10-C28* | 7630 | 50.0 | 10/02/2019 | ND | 154 | 77.2 | 200 | 5.01 | | |
| EXT DRO >C28-C36 | 3090 | 50.0 | 10/02/2019 | ND | | | | | | |

Surrogate: 1-Chlorooctane 78.9 % 41-142

Surrogate: 1-Chlorooctadecane 428 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 10/02/2019
Reported: 10/04/2019
Project Name: NEDU SATELLITE 2A
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 10/01/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 4 - SURFACE (H903366-06)

| BTEX 8021B | | mg/kg | | Analyzed By: BF | | | | | |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Benzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.97 | 98.5 | 2.00 | 3.87 | |
| Toluene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.90 | 94.8 | 2.00 | 3.15 | |
| Ethylbenzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.89 | 94.7 | 2.00 | 3.75 | |
| Total Xylenes* | <0.150 | 0.150 | 10/03/2019 | ND | 5.82 | 97.0 | 6.00 | 4.29 | |
| Total BTEX | <0.300 | 0.300 | 10/03/2019 | ND | | | | | |

Surrogate: 4-Bromofluorobenzene (PIE) 77.0 % 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 | 10/03/2019 | ND | 416 | 104 | 400 | 3.77 | |
| TPH 8015M | | mg/kg | | Analyzed By: MS | | | | | |

| 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 | 10/02/2019 | ND | 163 | 81.4 | 200 | 5.24 | |
| DRO >C10-C28* | <10.0 | 10.0 | 10/02/2019 | ND | 154 | 77.2 | 200 | 5.01 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 10/02/2019 | ND | | | | | |

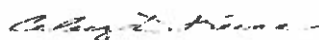
Surrogate: 1-Chlorooctane 74.7 % 41-142

Surrogate: 1-Chloroheptadecane 76.3 % 37.6-147

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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: 10/02/2019
Reported: 10/04/2019
Project Name: NEDU SATELLITE 2A
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 10/01/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 5 - SURFACE (H903366-07)

| BTEX 8021B | | mg/kg | | Analyzed By: BF | | | | | |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Benzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.97 | 98.5 | 2.00 | 3.87 | |
| Toluene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.90 | 94.8 | 2.00 | 3.15 | |
| Ethylbenzene* | <0.050 | 0.050 | 10/03/2019 | ND | 1.89 | 94.7 | 2.00 | 3.75 | |
| Total Xylenes* | <0.150 | 0.150 | 10/03/2019 | ND | 5.82 | 97.0 | 6.00 | 4.29 | |
| Total BTEX | <0.300 | 0.300 | 10/03/2019 | ND | | | | | |

Surrogate: 4-Bromofluorobenzene (PID) 76.7 % 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 | 10/03/2019 | ND | 416 | 104 | 400 | 3.77 | |

| 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 | 10/03/2019 | ND | 169 | 84.3 | 200 | 5.12 | | |
| DRO >C10-C28* | <10.0 | 10.0 | 10/03/2019 | ND | 158 | 78.9 | 200 | 5.34 | | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 10/03/2019 | ND | | | | | | |

Surrogate: 1-Chlorooctane 83.9 % 41-142

Surrogate: 1-Chlorooctadecane 85.8 % 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

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Celestine D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

HUNGRY HORSE, LLC

4024 Plains Highway
Lovington, NM 88240
Office (575) 393-3386

Apache – NEDU Satellite 2A Photo Page



DIRTWORK (PAD, FACILITY AND ROAD CONSTRUCTION)
ON SITE REMEDIATION, RECLAMATION, SUBSURFACE & SURFACE DELINEATION
MONITORING WELL INSTALLATION & GROUND WATER REMEDIATION
ELECTRICAL SERVICES

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ELECTRICAL SERVICES



October 25, 2019

New Mexico Energy, Minerals and Natural Resources
Oil Conservation Division, Environmental Bureau – District I
C/O Dylan Ross-Coss
1625 South French Drive
Hobbs, NM 88240

RE: Variance Request
Apache Corporation
NEDU Sat 2A (Northeast Drinkard Unit Satellite 2A)
U/L E, Section 3, Township 21S, Range 37E
API No. 30-025-34651

To Whom it May Concern:

Hungry Horse, LLC on behalf of Apache Corporation, would like to request a variance for the environmental impacted area for the NEDU Satellite 2A in conjunction with the Remediation Plan. The Remediation Plan in question is for the release date of 6/6/2019 which has been assigned 1RP-5591.

This facility as notated in the Remediation Plan dated October 25, 2019 is limited in remediation processes due to the considerable number of flowlines in and around the facility. Below you will find the confirmed lab analysis for the delineation at the NEDU Sat 2A:

| Sample ID | Depth | BTEX | Chloride | TPH | Ext DRO | Description |
|-----------|---------|--------|----------|-------|---------|-------------|
| SP1 | Surface | <0.300 | 2960 | 18900 | 4690 | |
| SP1 | 1' | <0.300 | 1340 | 237 | 44.9 | |
| | | | | | | |
| SP2 | Surface | <0.300 | 736 | 426 | 161 | |
| SP2 | 1' | <0.300 | 576 | 33.3 | <10 | |
| | | | | | | |
| SP3 | Surface | <0.300 | 496 | 7630 | 3090 | Impervious |
| | | | | | | |
| SP4 | Surface | <0.300 | 32 | <10 | <10 | Impervious |
| | | | | | | |
| SP5 | Surface | <0.300 | <16 | <10 | <10 | Impervious |

As indicated in the above data the following areas need to be considered for a variance request:

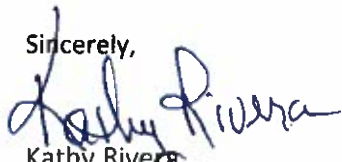
SP2 was delineated to 1'bgs, indicating that the surface sample is above the acceptable levels for this site criteria due to the flowlines in the area. We can only utilize micro-blaze in this area. We are unable to excavate or use other means of remediation.

SP3 thru SP5 samples were only obtained on the surface only. Impervious rock was found past the surface sample. Unfortunately, we are unable to delineate further due the flowlines positioning inside the impacted area. No other equipment can penetrate the impervious rock without damaging the surface flowlines in the pasture. Each of these sample points are under the chloride concentration used for closing this site but the area of SP3 had high concentrations of TPH. There-fore on SP3, only micro-blaze can be used to breakdown the volatiles.

Please see the remediation plan submitted in concurrence with this variance request to obtain site specific data concerning the environmental impacted area due to the release at this site.

Thank you in advance for allowing Hungry-Horse LLC to assist in this matter. Please contact Bruce Baker with any questions and/or concerns.

Sincerely,

A handwritten signature in blue ink that reads "Kathy Rivera". The signature is fluid and cursive, with the first name "Kathy" being more prominent than the last name "Rivera".

Kathy Rivera
Environmental Office Manager
Hungry Horse LLC.
4024 Plains Hwy
Lovington, NM 88260
Email: krivera@hungry-horse.com