



2350 W Marland Blvd Hobbs, NM 88240

Remediation Plan

February 8, 2019

Re: A State 40 Battery
API# 30-015-41130
Case # 2RP-5045

To: Mike Bratcher
District Supervisor-New Mexico Oil Conservation Division Energy, Minerals and Natural Resources Department 811 S. 1st Street Artesia, NM 88210

Background:

On 11/07/2019 a release occurred due to a failure on a poly pipe transition. An initial C-141 was sent to NMOCD and approved on 11/13/2019. The release (GPS 32.80258 -104.14958) is located east of Artesia New Mexico in unit letter K section 26 township 17S range 28E. A groundwater survey of 2000 meters for wells in the area was conducted utilizing the NMOSE and USGS web sites. The only well in that radius shows groundwater to be a depth of 257 feet below ground surface. There is a significant water course noted on the topographic map located 630 feet north of the release location. According to the BLM Karst Map shows that the release is not in an area of Karst. To date the site has been sampled to a depth of 1 foot which could not be extended vertically due to the hardness of the soil below 1 foot. This indicates that the root zone in the area is 1 foot deep. All samples that were collected were submitted to a commercial laboratory for analysis of chlorides, total hydrocarbons, and BTEX. Laboratory results were below table one standards for sites above 100 feet to groundwater.

Remediation Plan:

Apache Corporation purposes that since the release area is under multiple poly flow lines and is below the table one standards that no action be required and reclamation be performed to restore the vegetation at a time when the poly lines are removed from service.

Enclosed: Initial C-141, groundwater data, Maps, and Laboratory Results, Field Notes

Submitted by;

Bruce Baker

Environmental Technician
larry.baker@apachecorp.com
Cell# 432-631-6982
Off# 575-393-7106

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	NAB1831736353
District RP	2RP-5045
Facility ID	
Application ID	pAB1831735840

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 32.80258 Longitude -104.14958
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	A State 40 Battery	Site Type	Poly water transfer line
Date Release Discovered	11/07/2018	API# (if applicable)	30-015-41130 nearest well

Unit Letter	Section	Township	Range	County
K	26	17S	28E	EDDY

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 18 barrels	Volume Recovered (bbls) 8 barrels
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input 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 Poly pipe transition failed resulting in the loss of fluid.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1831736353
District RP	2RP-5045
Facility ID	
Application ID	pAB1831735840

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? 	

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: Bruce Baker

Title: Environmental Technician SR

Signature: Bruce Baker

Date: 11/12/18

email: larry.baker@apachecorp.com

Telephone: 432-631-6982

OCD Only

Received by: Ana P. Bontamonte

Date: 11/13/2018

Volume Calculation

$30 \times 30 \times .2 = 180$ cubic feet $\times 7.48$ gallon per cubic foot = 1,346 gallons / 42 gallons to barrel = 32 barrels $\times .33$ soil porosity = 10 barrels + 8 barrels recovered = 18 barrels lost.

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?

257 (ft bgs)

Did this release impact groundwater or surface water?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?

☐ Yes ☒ 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)?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?

☐ Yes ☒ 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?

☐ Yes ☒ No

Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?

☐ Yes ☒ No

Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a wetland?

☐ Yes ☒ No

Are the lateral extents of the release overlying a subsurface mine?

☐ Yes ☒ No

Are the lateral extents of the release overlying an unstable area such as karst geology?

☐ Yes ☒ No

Are the lateral extents of the release within a 100-year floodplain?

☐ Yes ☒ No

Did the release impact areas not on an exploration, development, production, or storage site?

☒ Yes ☐ 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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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Printed Name: Bruce Baker Title: Environmental Tech SE
Signature: Bruce Baker Date: 2-8-19
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Bruce Baker Title: Environmental Tech SR
Signature: Bruce Baker Date: 2-8-19
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____



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National Water Information System: Web Interface

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Data Category:

Groundwater ▼

Geographic Area:

New Mexico ▼

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Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 324724104082301

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 324724104082301 17S.28E.35.42233

Available data for this site

Groundwater: Field measurements ▼

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°47'24", Longitude 104°08'23" NAD27

Land-surface elevation 3,659 feet above NGVD29

The depth of the well is 280.00 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

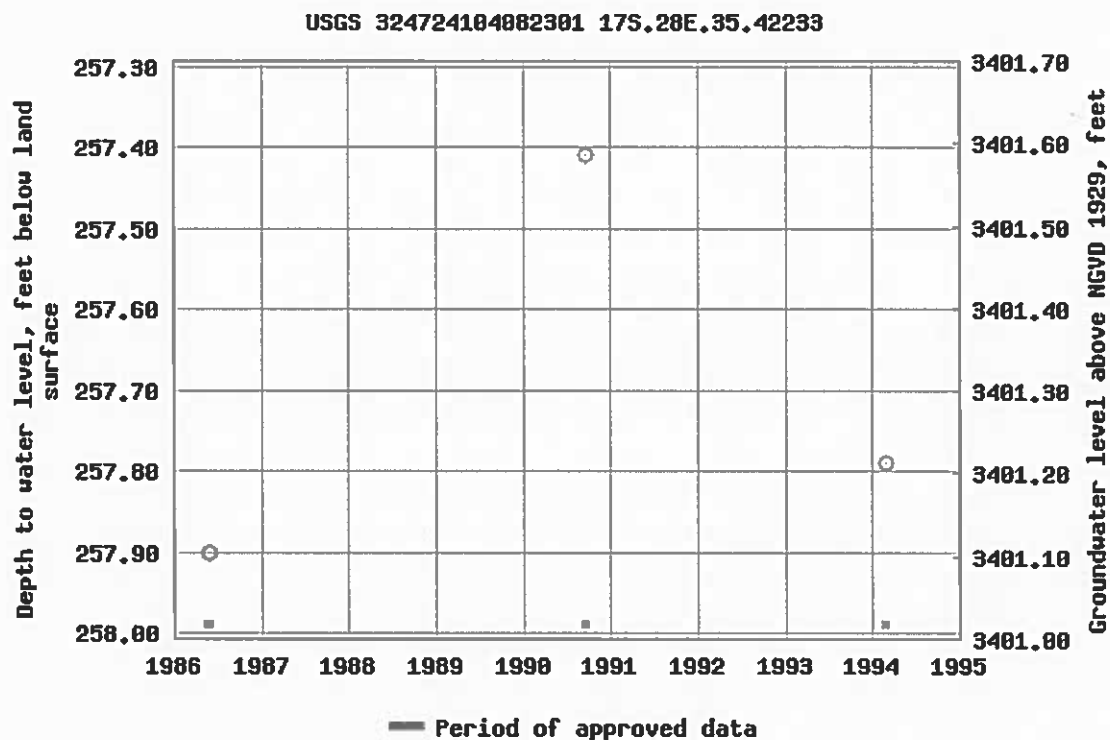
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Breaks in the plot represent a gap of at least one year between field measurements.

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Title: Groundwater for New Mexico: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>



Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2019-02-08 08:52:13 EST

0.98 0.89 nadww01



New Mexico Office of the State Engineer **Water Column/Average Depth to Water**

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

No records found.

UTMNA083 Radius Search (in meters):

Easting (X): 579665

Northing (Y): 3630687

Radius: 2000

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.

2/8/19 6:44 AM

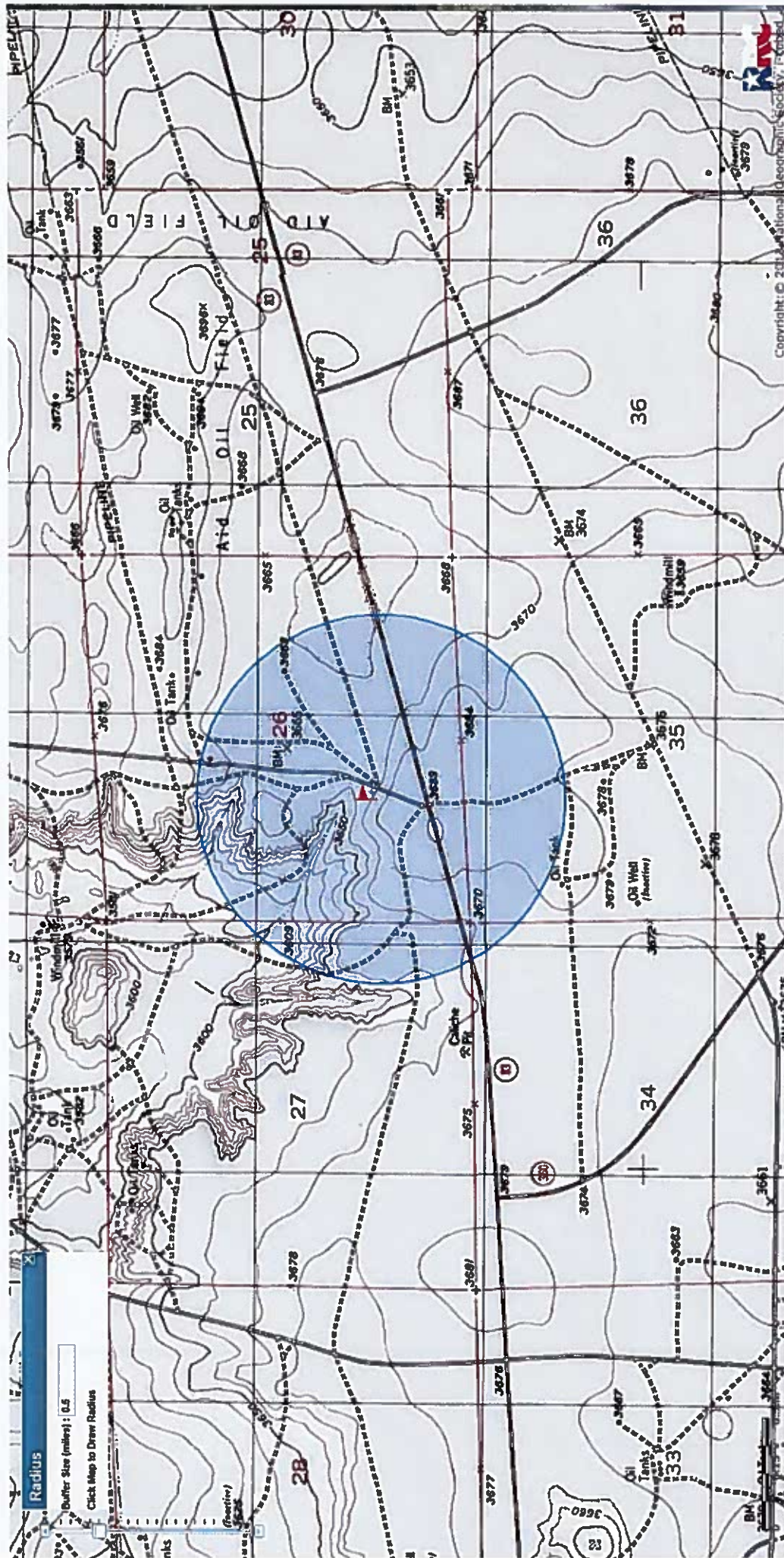
WATER COLUMN/ AVERAGE
DEPTH TO WATER

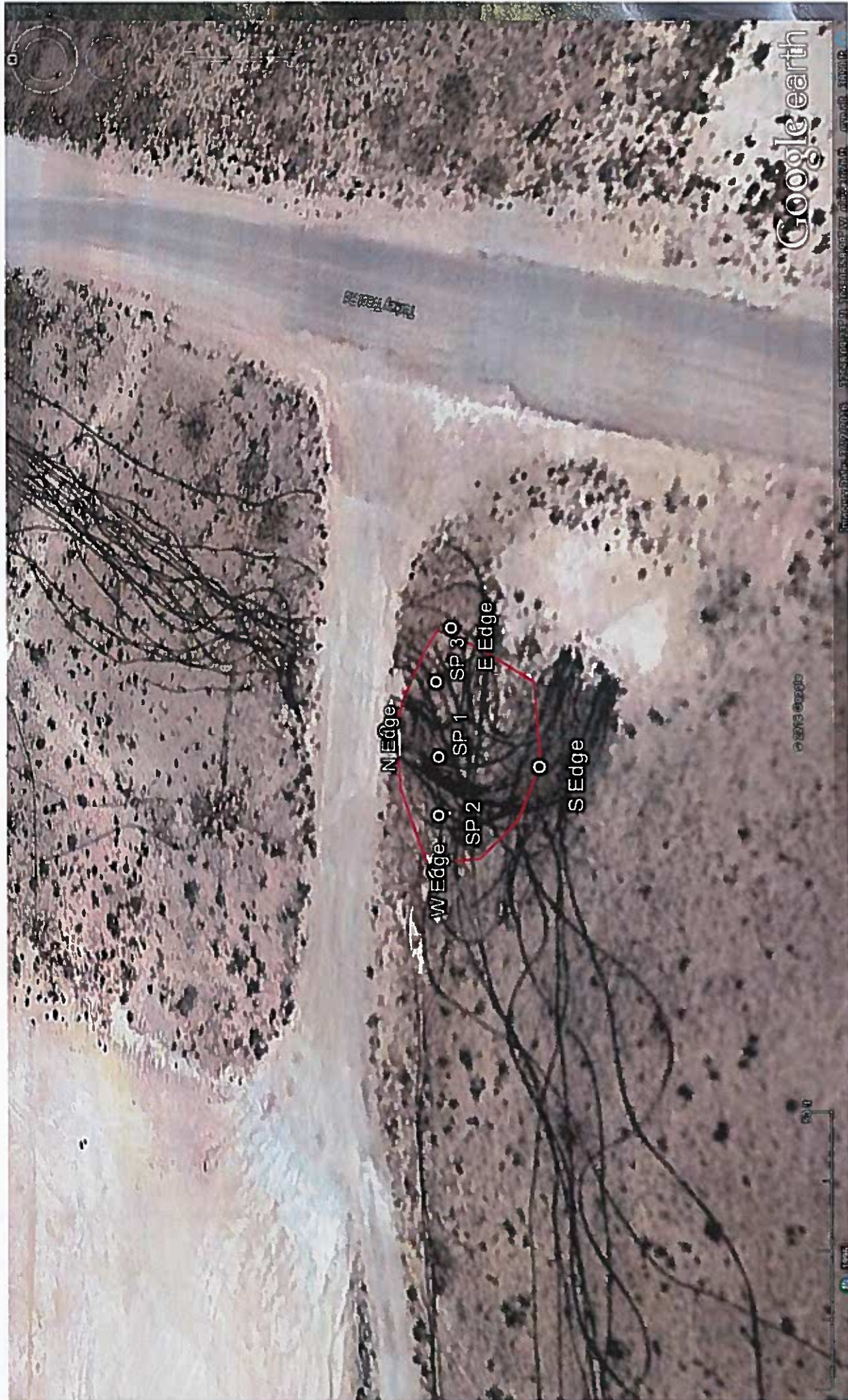


Google earth

Image Date: 3/2/2016 324825.65 N 1045104.97 W elev: 1626.6 exact: 14352.9

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N Edge

W Edge

SP 2

SP 1

SP 3

E Edge

S Edge

A State 40 Battery Release

SP 1										
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	6,272	5840	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	191	52.6
1'	3,884	6240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
SP 2										
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	8,367	13800	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
1'	5752	9400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
SP 3										
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	12,416	16400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
1'	2065	6720	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
N EDGE										
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	272	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
W EDGE										
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	407	6400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
E EDGE										
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	134	<16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
S EDGE										
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	266	<16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0



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

February 07, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: A STATE #40

Enclosed are the results of analyses for samples received by the laboratory on 02/06/19 15:50.

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/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,

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: 02/06/2019
Reported: 02/07/2019
Project Name: A STATE #40
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 02/06/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S #1 @ SURFACE (H900465-01)

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	02/07/2019	ND	2.10	105	2.00	2.55	
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65	
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28	
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28	
Total BTEX	<0.300	0.300	02/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 104 % 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	5840	16.0	02/07/2019	ND	432	108	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	02/07/2019	ND	191	95.7	200	3.04	
DRO >C10-C28*	191	10.0	02/07/2019	ND	201	100	200	1.84	
EXT DRO >C28-C36	52.6	10.0	02/07/2019	ND					

Surrogate: 1-Chlorooctane 84.5 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 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: 02/06/2019
 Reported: 02/07/2019
 Project Name: A STATE #40
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 02/06/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S #1 @ 1' (H900465-02)

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	02/07/2019	ND	2.10	105	2.00	2.55	
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65	
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28	
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28	
Total BTEX	<0.300	0.300	02/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 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	6240	16.0	02/07/2019	ND	432	108	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	02/07/2019	ND	191	95.7	200	3.04	
DRO >C10-C28*	<10.0	10.0	02/07/2019	ND	201	100	200	1.84	
EXT DRO >C28-C36	<10.0	10.0	02/07/2019	ND					

Surrogate: 1-Chlorooctane 90.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 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: 02/06/2019
Reported: 02/07/2019
Project Name: A STATE #40
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 02/06/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S #2 @ SURFACE (H900465-03)

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	02/07/2019	ND	2.10	105	2.00	2.55	
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65	
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28	
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28	
Total BTEX	<0.300	0.300	02/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 96.5 % 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	13800	16.0	02/07/2019	ND	432	108	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	02/07/2019	ND	191	95.7	200	3.04	
DRO >C10-C28*	<10.0	10.0	02/07/2019	ND	201	100	200	1.84	
EXT DRO >C28-C36	<10.0	10.0	02/07/2019	ND					

Surrogate: 1-Chlorooctane 90.3 % 41-142

Surrogate: 1-Chlorooctadecane 97.7 % 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: 02/06/2019
Reported: 02/07/2019
Project Name: A STATE #40
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 02/06/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S #2 @ 1' (H900465-04)

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	02/07/2019	ND	2.10	105	2.00	2.55	
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65	
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28	
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28	
Total BTEX	<0.300	0.300	02/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 98.0 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9400	16.0	02/07/2019	ND	432	108	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	02/07/2019	ND	191	95.7	200	3.04	
DRO >C10-C28*	<10.0	10.0	02/07/2019	ND	201	100	200	1.84	
EXT DRO >C28-C36	<10.0	10.0	02/07/2019	ND					

Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 98.1 % 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: 02/06/2019
Reported: 02/07/2019
Project Name: A STATE #40
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 02/06/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S #3 @ SURFACE (H900465-05)

BTEX 80218			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/07/2019	ND	2.10	105	2.00	2.55		
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65		
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28		
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28		
Total BTEX	<0.300	0.300	02/07/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 104 % 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	16400	16.0	02/07/2019	ND	432	108	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	02/07/2019	ND	191	95.7	200	3.04		
DRO >C10-C28*	<10.0	10.0	02/07/2019	ND	201	100	200	1.84		
EXT DRO >C28-C36	<10.0	10.0	02/07/2019	ND						

Surrogate: 1-Chlorooctane 85.0 % 41-142

Surrogate: 1-Chlorooctadecane 89.7 % 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: 02/06/2019
Reported: 02/07/2019
Project Name: A STATE #40
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 02/06/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S #3 @ 1' (H900465-06)

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	02/07/2019	ND	2.10	105	2.00	2.55	
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65	
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28	
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28	
Total BTEX	<0.300	0.300	02/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 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	6720	16.0	02/07/2019	ND	432	108	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	02/07/2019	ND	191	95.7	200	3.04	
DRO >C10-C28*	<10.0	10.0	02/07/2019	ND	201	100	200	1.84	
EXT DRO >C28-C36	<10.0	10.0	02/07/2019	ND					

Surrogate: 1-Chlorooctane 86.6 % 41-142

Surrogate: 1-Chlorooctadecane 92.2 % 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: 02/06/2019
Reported: 02/07/2019
Project Name: A STATE #40
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 02/06/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: N EDGE @ SURFACE (H900465-07)

BTX 80218		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/07/2019	ND	2.10	105	2.00	2.55	
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65	
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28	
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28	
Total BTX	<0.300	0.300	02/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 100 % 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	02/07/2019	ND	432	108	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	02/07/2019	ND	191	95.7	200	3.04	
DRO >C10-C28*	<10.0	10.0	02/07/2019	ND	201	100	200	1.84	
EXT DRO >C28-C36	<10.0	10.0	02/07/2019	ND					

Surrogate: 1-Chlorooctane 87.0 % 41-142

Surrogate: 1-Chlorooctadecane 91.2 % 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: 02/06/2019
Reported: 02/07/2019
Project Name: A STATE #40
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 02/06/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: W EDGE @ SURFACE (H900465-08)

BTEX 80218		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/07/2019	ND	2.10	105	2.00	2.55	
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65	
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28	
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28	
Total BTEX	<0.300	0.300	02/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 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	6400	16.0	02/07/2019	ND	416	104	400	0.00	QM-07

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	02/07/2019	ND	191	95.7	200	3.04	
DRO >C10-C28*	<10.0	10.0	02/07/2019	ND	201	100	200	1.84	
EXT DRO >C28-C36	<10.0	10.0	02/07/2019	ND					

Surrogate: 1-Chlorooctane 85.7 % 41-142

Surrogate: 1-Chlorooctadecane 91.6 % 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:	02/06/2019	Sampling Date:	02/06/2019
Reported:	02/07/2019	Sampling Type:	Soil
Project Name:	A STATE #40	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: E EDGE @ SURFACE (H900465-09)

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/07/2019	ND	2.10	105	2.00	2.55	
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65	
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28	
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28	
Total BTEX	<0.300	0.300	02/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 100 % 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	02/07/2019	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	02/07/2019	ND	191	95.7	200	3.04	
DRO >C10-C28*	<10.0	10.0	02/07/2019	ND	201	100	200	1.84	
EXT DRO >C28-C36	<10.0	10.0	02/07/2019	ND					

Surrogate: 1-Chlorooctane 84.8 % 41-142

Surrogate: 1-Chlorodecane 88.4 % 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: 02/06/2019
 Reported: 02/07/2019
 Project Name: A STATE #40
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 02/06/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S EDGE @ SURFACE (H900465-10)

BTEX 80218		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/07/2019	ND	2.10	105	2.00	2.55	
Toluene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.65	
Ethylbenzene*	<0.050	0.050	02/07/2019	ND	2.12	106	2.00	2.28	
Total Xylenes*	<0.150	0.150	02/07/2019	ND	6.07	101	6.00	3.28	
Total BTEX	<0.300	0.300	02/07/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 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	02/07/2019	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	02/07/2019	ND	191	95.7	200	3.04	
DRO >C10-C28*	<10.0	10.0	02/07/2019	ND	201	100	200	1.84	
EXT DRO >C28-C36	<10.0	10.0	02/07/2019	ND					

Surrogate: 1-Chlorooctane 83.2 % 41-142

Surrogate: 1-Chlorooctadecane 88.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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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Celey D. Keene, Lab Director/Quality Manager

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

32, 8026-1041, 1495

Cardinal cannot accept verbal changes. Please for written changes in 15751 202-2225

Turkey Track Rd.

Middle of affected Area Surface.

1-14-19

11.0/30.1

1.70

2.73 = 4,639

GPS 82.8026-104.1495

(2-6-19)

S.#1 Surface = 11.2/30.0

2.35

2.67 = 6,272

S.#2 Surface = 11.2/30.3

3.10

2.70 = 8,367

S.#3 Sur. = 11.1/30.0

4.60

2.70 = 12,416

S.#3 at 1' = 11.2/30.1

1.45

2.68 = 3,884

S.#1 at 1' = 11.0/30.2

1.20

2.74 = 3,289

S.#2 at 1' = 11.0/30.2

2.10

2.74 = 5,752

S. Edge Sur 11.2/30.0

0.10

2.67 = 2,66

W. Edge Sur. 11.1/30.2

0.15

2.72 = 4,67

E. Edge Sur. 11.1/30.2

0.05

2.74 = 1,34

N. Edge Sur. 11.0/30.3

0.10

2.73 = 2,72