

### 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;

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 Apache Corporation				OGRID	OGRID 873	
Contact Name Bruce Baker			Contact '	Contact Telephone 432-631-6982		
Contact ema	il la	rry.baker@apacl	hecorp.com	Incident	# (assigned by OCD)	
Contact mail	ing address	2350 W. Marla	nd BLVD Hobbs	, NM 88240		
				of Release S	Source	
atitude	32	2.80258		Longitude	-104.14958	
			(NAD 83 in dec	imal degrees to 5 dec		
Site Name	A State	40 Battery		Site Type	Poly water transfer line	
Date Release	Discovered	11/07/2018		API# (if a	applicable) 30-015-41130 nearest well	
P1 - 2- P						
Unit Letter	Section	Township	Range		unty	
K	26	17S	28E	EI	DDY	
urtace Owne	it: IIM State	Federal Tr	ibal Private (A  Nature and		Release	
	Materia	al(s) Released (Select all	Nature and	Volume of	fic justification for the volumes provided below)	
Crude Oi	<u>Materia</u>		Nature and	Volume of		
	<u>Materia</u>	al(s) Released (Select all	Nature and that apply and attached (bbls)	Volume of	fic justification for the volumes provided below)	
Crude Oi	<u>Materia</u>	N(5) Released (Select all Volume Released Volume Released	Nature and that apply and attach of (bbls)  d (bbls)  18 barrion of dissolved ch	Volume of	Volume Recovered (bbls)	
Crude Oi	Materia     Water	Volume Released  Is the concentrat	Nature and that apply and attach of (bbls)  d (bbls)  d (bbls)  18 barrion of dissolved cl >10,000 mg/l?	Volume of	fic justification for the volumes provided below)  Volume Recovered (bbls)  Volume Recovered (bbls)  8 barrels	
Crude Oi	Materia     Water	Volume Released  Is the concentrate produced water	Nature and that apply and attached (bbls) d (bbls) 18 barr ion of dissolved ch >10,000 mg/l? d (bbls)	Volume of	Volume Recovered (bbls)   Volume Recovered (bbls)   S barrels   Yes   No	
Crude Oi Produced Condense	Materia I Water	Volume Released  Is the concentrate produced water:  Volume Released  Volume Released	Nature and that apply and attached (bbls) d (bbls) 18 barr ion of dissolved ch >10,000 mg/l? d (bbls)	Volume of special coloride in the	fic justification for the volumes provided below)  Volume Recovered (bbls)  Volume Recovered (bbls)  Per No  Volume Recovered (bbls)	
Crude Oi Produced Condense Natural C	Materia I Water ate Gas scribe)	Volume Released Volume Released Is the concentrate produced water a Volume Released Volume Released Volume Released Volume Released	Nature and that apply and attach of (bbls)  d (bbls)  18 barrion of dissolved chelo,000 mg/l? d (bbls) d (Mef)  Released (provide	volume of realculations or special rels natural in the units)	fic justification for the volumes provided below)  Volume Recovered (bbls)  Volume Recovered (bbls)  Yes No  Volume Recovered (bbls)  Volume Recovered (bbls)  Volume Recovered (Mcf)  Volume/Weight Recovered (provide unit	
Crude Oi Produced Condense Natural C	Materia I Water ate Gas scribe)	Volume Released  Is the concentrate produced water:  Volume Released  Volume Released	Nature and that apply and attach of (bbls)  d (bbls)  18 barrion of dissolved chelo,000 mg/l? d (bbls) d (Mef)  Released (provide	volume of realculations or special rels natural in the units)	fic justification for the volumes provided below)  Volume Recovered (bbls)  Volume Recovered (bbls)  Yes No  Volume Recovered (bbls)  Volume Recovered (bbls)  Volume Recovered (Mcf)  Volume/Weight Recovered (provide unit	
Crude Oi Produced Condense Natural C	Materia I Water ate Gas scribe)	Volume Released Volume Released Is the concentrate produced water a Volume Released Volume Released Volume Released Volume Released	Nature and that apply and attach of (bbls)  d (bbls)  18 barrion of dissolved chelo,000 mg/l? d (bbls) d (Mef)  Released (provide	volume of realculations or special rels natural in the units)	fic justification for the volumes provided below)  Volume Recovered (bbls)  Volume Recovered (bbls)  Yes No  Volume Recovered (bbls)  Volume Recovered (bbls)  Volume Recovered (Mcf)  Volume/Weight Recovered (provide unit	
Crude Oi Produced Condense Natural C	Materia I Water ate Gas scribe)	Volume Released Volume Released Is the concentrate produced water a Volume Released Volume Released Volume Released Volume Released	Nature and that apply and attach of (bbls)  d (bbls)  18 barrion of dissolved chelo,000 mg/l? d (bbls) d (Mef)  Released (provide	volume of realculations or special rels natural in the units)	fic justification for the volumes provided below)  Volume Recovered (bbls)  Volume Recovered (bbls)  Yes No  Volume Recovered (bbls)  Volume Recovered (bbls)  Volume Recovered (Mcf)  Volume/Weight Recovered (provide unit	
Crude Oi Produced Condense Natural C	Materia I Water ate Gas scribe)	Volume Released Volume Released Is the concentrate produced water a Volume Released Volume Released Volume Released Volume Released	Nature and that apply and attach of (bbls)  d (bbls)  18 barrion of dissolved chelo,000 mg/l? d (bbls) d (Mef)  Released (provide	volume of realculations or special rels natural in the units)	fic justification for the volumes provided below)  Volume Recovered (bbls)  Volume Recovered (bbls)  Yes No  Volume Recovered (bbls)  Volume Recovered (bbls)  Volume Recovered (Mcf)  Volume/Weight Recovered (provide unit	

# State of New Mexico Oil Conservation Division

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

release as defined by	If YES, for what reason(s) do	es the responsible party consider this a major release?
19.15.29.7(A) NMAC?		
☐ Yes V No		
If YES, was immediate n	otice given to the OCD? By wi	nom? To whom? When and by what means (phone, email, etc)?
		to many the
	J	Initial Response
The responsible	party must undertake the following acti	ions immediately unless they could create a safety hazard that would result in injury
The source of the rele	h h	
	ease nas ocen stopped. as been secured to protect huma	n health and the environment
		of berms or dikes, absorbent pads, or other containment devices.
		removed and managed appropriately.
	d above have not been undertak	
	_	
		commence remediation immediately after discovery of a release. If remediation If remedial efforts have been successfully completed or if the release occurred
within a lined containmen	a narrative of actions to date. nt area (see 19.15.29.11(A)(5)(a	If remedial efforts have been successfully completed of it the release occurred i
		a) NMAC), please attach all information needed for closure evaluation.
	ormation given above is true and co	a) NMAC), please attach all information needed for closure evaluation.  mplete to the best of my knowledge and understand that pursuant to OCD rules and
regulations all operators are	ormation given above is true and co required to report and/or file certai	n) NMAC), please attach all information needed for closure evaluation.  mplete to the best of my knowledge and understand that pursuant to OCD rules and in release notifications and perform corrective actions for releases which may endanger
regulations all operators are public health or the environ failed to adequately investig	ormation given above is true and co required to report and/or file certai ment. The acceptance of a C-141 regate and remediate contamination the	mplete to the best of my knowledge and understand that pursuant to OCD rules and in release notifications and perform corrective actions for releases which may endanger eport by the OCD does not relieve the operator of liability should their operations have not pose a threat to groundwater, surface water, human health or the environment. In
regulations all operators are public health or the environ failed to adequately investig	ormation given above is true and co required to report and/or file certai ment. The acceptance of a C-141 regate and remediate contamination the	mplete to the best of my knowledge and understand that pursuant to OCD rules and in release notifications and perform corrective actions for releases which may endanger eport by the OCD does not relieve the operator of liability should their operations have
regulations all operators are public health or the environ failed to adequately investig addition. OCD acceptance of	primation given above is true and co required to report and/or file certai ment. The acceptance of a C-141 regate and remediate contamination the of a C-141 report does not relieve the	mplete to the best of my knowledge and understand that pursuant to OCD rules and in release notifications and perform corrective actions for releases which may endanger eport by the OCD does not relieve the operator of liability should their operations have not pose a threat to groundwater, surface water, human health or the environment. In
regulations all operators are public health or the environ failed to adequately investig addition. OCD acceptance of and/or regulations.  Printed Name: Bruce I	primation given above is true and co required to report and/or file certainment. The acceptance of a C-141 regate and remediate contamination the fa C-141 report does not relieve the	mplete to the best of my knowledge and understand that pursuant to OCD rules and in release notifications and perform corrective actions for releases which may endanger eport by the OCD does not relieve the operator of liability should their operations have not pose a threat to groundwater, surface water, human health or the environment. In the operator of responsibility for compliance with any other federal, state, or local taws  Title: Environmental Technician SR
regulations all operators are public health or the environ failed to adequately investig addition, OCD acceptance of and/or regulations.	primation given above is true and control required to report and/or file certainment. The acceptance of a C-141 regate and remediate contamination that a C-141 report does not relieve the Baker	mplete to the best of my knowledge and understand that pursuant to OCD rules and in release notifications and perform corrective actions for releases which may endanger eport by the OCD does not relieve the operator of liability should their operations have not pose a threat to groundwater, surface water, human health or the environment. In the operator of responsibility for compliance with any other federal, state, or local laws
regulations all operators are public health or the environ failed to adequately investig addition. OCD acceptance of and/or regulations.  Printed Name: Bruce I Signature:	primation given above is true and control required to report and/or file certainment. The acceptance of a C-141 regate and remediate contamination that a C-141 report does not relieve the Baker	mplete to the best of my knowledge and understand that pursuant to OCD rules and in release notifications and perform corrective actions for releases which may endanger eport by the OCD does not relieve the operator of liability should their operations have not pose a threat to groundwater, surface water, human health or the environment. In ne operator of responsibility for compliance with any other federal, state, or local laws  Title: Environmental Technician SR  Date: 11/12/18
regulations all operators are public health or the environ failed to adequately investig addition. OCD acceptance of and/or regulations.  Printed Name: Bruce I Signature: Bruce I arry.baker	primation given above is true and control required to report and/or file certainment. The acceptance of a C-141 regate and remediate contamination that a C-141 report does not relieve the Baker	mplete to the best of my knowledge and understand that pursuant to OCD rules and in release notifications and perform corrective actions for releases which may endanger eport by the OCD does not relieve the operator of liability should their operations have not pose a threat to groundwater, surface water, human health or the environment. In ne operator of responsibility for compliance with any other federal, state, or local laws  Title: Environmental Technician SR  Date: 11/12/18
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### **Volume Calculation**

30X30X.2=180 cubic feet X 7.48 gallon per cubic foot= 1,346 gallons/42 gallons to barrel=32 barrels X .33 soil porosity= 10 barrels + 8 barrels recovered = 18 barrels lost.

# State of New Mexico Oil Conservation Division

What is the shallowest depth to groundwater beneath the area affected by the release?

Incident ID	
District RP	
Facility ID	
Application ID	

257 (ft bgs)

### Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date,

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 ver contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	rtical extents of soil		
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 well. Field data	ls.		
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	

public health or the environment. The acceptance of a C-141 report by the failed to adequately investigate and remediate contamination that pose a tl	otifications and perform corrective actions for releases which may endanger e OCD does not relieve the operator of liability should their operations have breat to groundwater, surface water, human health or the environment. In of responsibility for compliance with any other federal, state, or local laws
Printed Name: Bruce Baker	Title: Environmental Tech SR
Signature: Bruce Baher	Date: 2-8-19
email: larry. baker @apachecorp.com	Telephone: 432-631-6982
OCD Only	
Received by:	Date:

# State of New Mexico Oil Conservation Division

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 Proposed schedule for remediation (note if remediation plan times	P(C)(4) NMAC
Deferral Requests Only: Each of the following items must be conj	irmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around prodeconstruction.	duction equipment where remediation could cause a major facility
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 rules and regulations all operators are required to report and/or file complete which may endanger public health or the environment. The acceptant liability should their operations have failed to adequately investigate surface water, human health or the environment. In addition, OCD a responsibility for compliance with any other federal, state, or local later.	ertain release notifications and perform corrective actions for releases ce of a C-141 report by the OCD does not relieve the operator of and remediate contamination that pose a threat to groundwater, ecceptance of a C-141 report does not relieve the operator of ws and/or regulations.
Printed Name: Bruce Baker	Title: Environmental Tech SR
Signature: Bruce Bahy	Date: 2-8-19
email: larry, baker@apache sorp.com	Telephone: 432 - 681 - 6982
OCD Only	
Received by:	Date:
Approved Approved with Attached Conditions of A	Approval
Signature:	Date:



USGS Home Contact USGS Search USGS

### **National Water Information System: Web Interface**

n	ICCC	38/	D	
ι	JOUS	Water	Kesou	rces

Data Category:	Geographic Area:	
Groundwater ~	New Mexico	∨ GO

### Click to hideNews Bulletins

- Please see news on new formats
- Full News 🔊

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

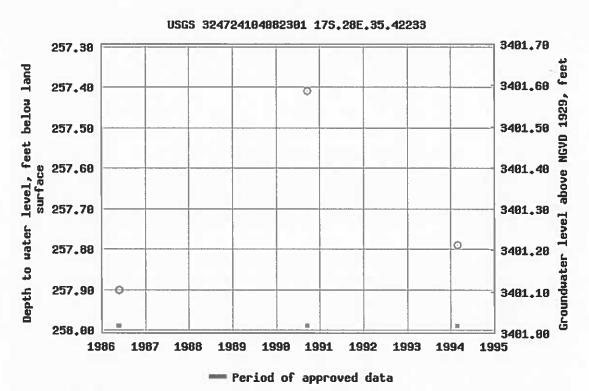
Land-surface elevation 3,659 feet above NGVD29

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

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

### **Output formats**

Table of data	
Tab-separated data	
Graph of data	
Reselect period	



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

Download a presentation-quality graph

Questions about sites/data?
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U.S. Department of the Interior | U.S. Geological Survey

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.

### UTMNAD83 Radius Search (in meters):

Easting (X): 579665

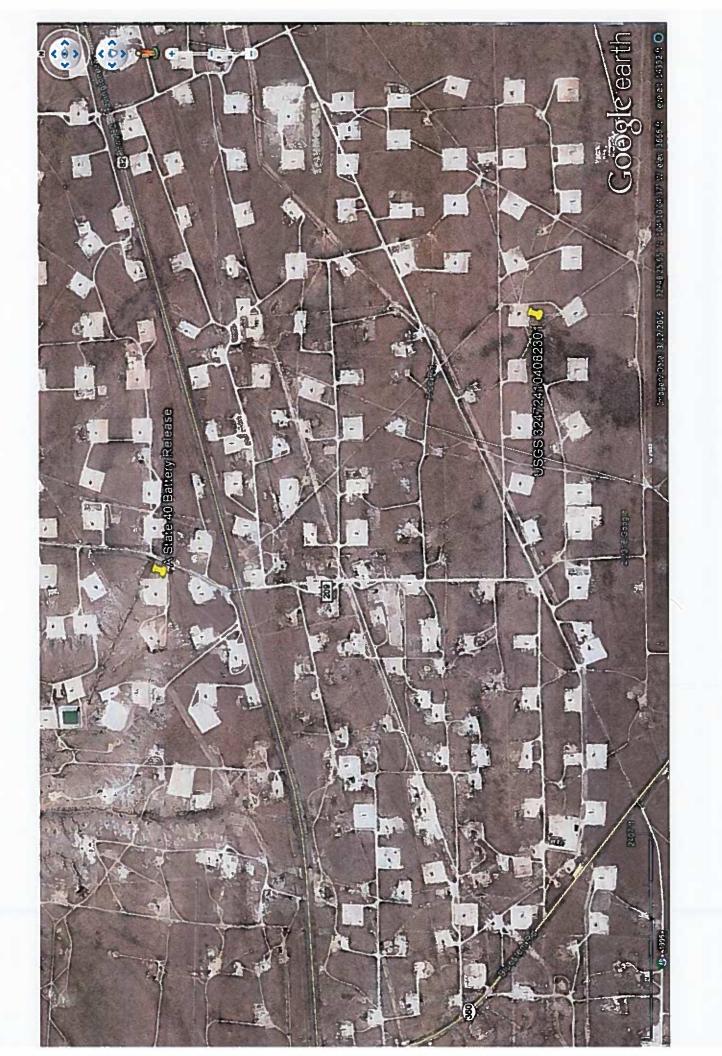
Northing (Y): 3630687

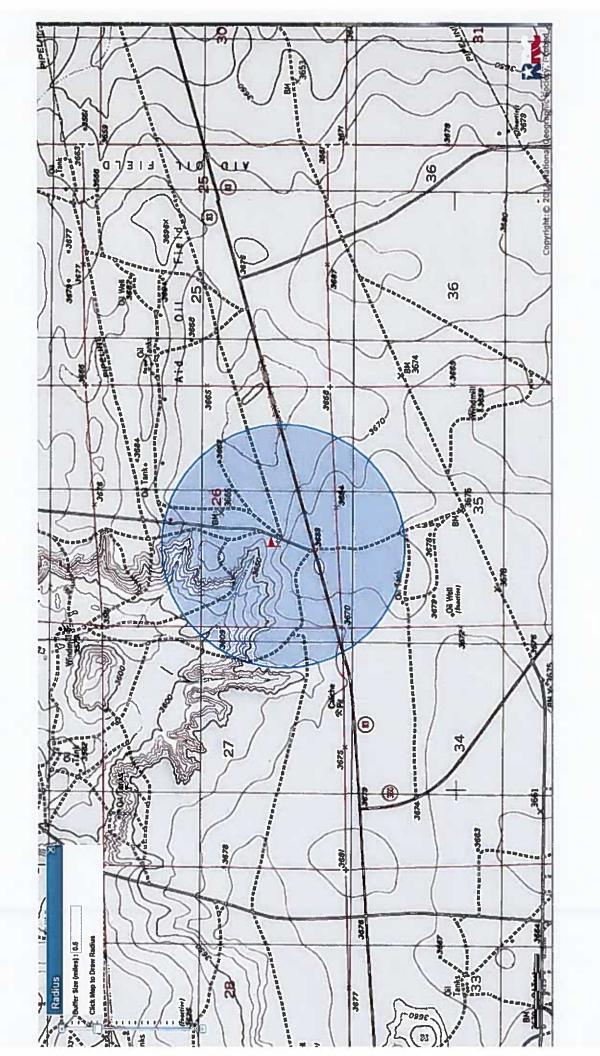
Radius: 2000

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** 







# 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	iE				
Depth	Field CI-	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

										i
epth	Field CI-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
ırface	407	6400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0

					E EDGE	يد				
Depth	Field CI-	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	E				
Depth	Field Cl-	Lab CI-	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



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 <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accredited certif.html.

Cardinal Laboratories is accreditated 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.

Celey D. Keine

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



**APACHE CORP - HOBBS** 

**BRUCE BAKER** 

2350 W. MARLAND BLVD.

HOBBS NM, 88240

Fax To:

(575) 393-2432

Received:

02/06/2019

02/07/2019

Reported: Project Name:

A STATE #40 **NONE GIVEN** 

Project Number: Project Location:

**NOT GIVEN** 

Sampling Date:

02/06/2019

Soil

Sampling Type: Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

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

BTEX 8021B	mg/	/kg	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d 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	Analyze	ed 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	?		50.874			- 447-6270	
Surrogate: I-Chlorooctadecane	101	% 37.6-14	17						

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02/07/2019

Project Name:

A STATE #40 NONE GIVEN

Project Number: 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	Analyze	d 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-Bromosluorobenzene (PIC	103	% 73,3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d 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	Analyze	d 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	% 37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager



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Sampling Date:

02/06/2019

Reported:

02/07/2019

Soil

Project Name:

A STATE #40

Sampling Type: Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

**NOT GIVEN** 

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

BTEX 8021B	mg/	kg	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d 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	Analyze	d 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	% 37.6-14	7						

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02/07/2019 A STATE #40

Project Number: Project Location:

Project Name:

NONE GIVEN

Sampling Date:

02/06/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

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

BTEX 8021B

mo/ko

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					

Chloride, SM4500CI-B	mg,	/kg	Analyze	d 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	Analyze	d 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



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Project Name:

Sampling Type:

Soil

Project Number:

**A STATE #40** NONE GIVEN

Sampling Condition:

Sampling Date:

Cool & Intact

Project Location:

**NOT GIVEN** 

Sample Received By:

Jodi Henson

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

BTEX 80218	mg,	kg	Analyze	d 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	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d 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	Analyze	d 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	% 37.6-14	7						

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Sampling Type:

Soil

Project Name:

A STATE #40 NONE GIVEN Sampling Condition:

Cool & Intact

Project Number: Project Location:

NONE GIVEN

Sample Received By:

Jodi Henson

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

ED.	-	-	100	~~~	89
8	44	w	•	(EX	DІ

ma/k

Analyzed By: M!

BIEX 8021B	mg/	kg	Anaiyze	а ву: м5					
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 %	6 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					

Chloride, SM4500Ci-B	mg	/kg	Analyze	d 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	Analyze	d 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	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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Sampling Date:

02/06/2019

Reported:

02/07/2019

Sampling Type:

Soil

Project Name:

A STATE #40 NONE GIVEN Sampling Condition:

Cool & Intact

Project Number: Project Location:

NONE GIVEN

Sample Received By:

Jodi Henson

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

BTEX 80218	mg/	kg	Analyze	d 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	100	% 73.3-12	9										
Chloride, SM4500Cl-B	mg/	rkg	Analyze	d 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	Analyze	d 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: I-Chlorooctadecane	91.2	% 37.6-14	17										

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Sampling Date: 02/06/2019 Sampling Type: Soil

Reported: Project Name: Project Number: 02/07/2019 A STATE #40 NONE GIVEN

Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Location:

NOT GIVEN

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

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% 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	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d 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	Analyze	d 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	% 37.6-14	7						

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Project Name:

A STATE #40 Project Number: NONE GIVEN Project Location: **NOT GIVEN** 

Sampling Date:

02/06/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

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

BTEX 80218	mg/	/kg	Analyze	d 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	2.00 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	100	% 73.3-12	9							
Chloride, SM4500CI-B	mg,	/kg	Analyze	d 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	Analyze	d 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-Chlorooctadecane	88.4	% 37.6-14	7							

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Celey D. Keene, Lab Director/Quality Manager



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Received:

02/06/2019 02/07/2019

Reported: Project Name:

A STATE #40 NONE GIVEN

Project Number: Project Location:

**NOT GIVEN** 

Sampling Date:

02/06/2019

Soil

Sampling Type: Sampling Condition: Sample Received By:

Cool & Intact

Jodi Henson

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

BTEX 8021B	mg/	kg	Analyze	d 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 :	% 73.3-12	9			1999			1000
Chloride, SM4500CI-B	mg/	'kg	Analyze	d 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	Analyze	d 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	?				- 100		
Surrogate: I-Chlorooctadecane	88.0	% 37.6-14	7						

### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liablishy and Damages. Cardinal's liablishy and client's exclusive remaily for any claim arising, whether belief in contract or tork, shall be limited to the amount paid by client for enalyses. All claims, including those for negligence and any other clause whitecovers shall be deemed veried unless made in verting and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business infermiptions, loss of use, or loss of profits incurred by chert, its autosclaims, affiliates or successions arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims to based upon any of the above stated reasons or chainwest. Results retain only to the samples identified above. This report small not be reproduced except in full with vertical approved of Cardinal Laboratomes.

Callany Thomas



### **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 SM4500CI-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

Cardinal Laboratories \*=Accredited Analyte

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Celent time



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: House & Oil Loy State: State: A to Zip: SSA 40 Alim: State: State: A to Zip: SSA 40 Alim: State: Zip: State: A to Zip: A to Zip: State: A to Zip:	101 East Mariand, Hobbs, NM 88240  575) 393-2326 FAX (575) 393-2476  12	Bruce Baker		14065 State: 17:147 ZID: 882-40	e#: 432-631-6982 Fax#:	Project Owner:	State:	on: It still the or	イトン技名という	Just Barral	MATRIX PRESERV	TER ER	Sample I.D.  RAB OR ( ONTAINE DUNDWA STEWATI L  JOGE HER: JCOOL HER:	(2) # 6 % の が 1 0 DATE TIME ( ) V ( ) THE ( ) V ( ) THE ( ) V ( ) THE ( ) THE ( ) V ( ) THE	ひって 1/1 1 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	C#2500 6 1 W/W/ W/ W/ 2-6-19/11:30 A V/V	1/	1 1 M M 1 1 2-9-5 1 1 1 1 1 1 1 1 1 2 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1	1 1 1 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	n. Edge Sur- 6 1 W V 126-15 2:40 m V 2	190 SUCI	2 5 6 9 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	PLEASE WOTE: Usbally and Damages. Californit's backlaive remark for any claim mining whether based in continue or tort, shall be finished to the amount point by the cleaf for the annual point by Cardinal which 30 days after correlation of the applicable	antal damages, Including without limbation, business liabrruptions, bas of use, or bas of profits incumed by Glent, its subadderies, reperiess harrender by Cardinat, repartiess of whether such claim is based upon any of the above stated reasons or otherwise.	Date 10 19 Required By:    Phone Result:   Yes     No	SO WILL JUNDON REMARKS:	Date:	Sample Condition	- Bus - Other 790 #07	- Day - Chair.
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+ Cardinal rannot accept verbal channes Blease fav written channes to ISTRI 382,2328

11.0/30.1 lurkey lnck Rd. e, of affected then Surface. 6 PS 32, 8026-104. 1495 1.70 2.73=4,639 2-6-19 1-14-19

P. Edg. Sur. 11.1/20.2 S. Edge Sur 11.2/30.8 W. Edge Sur. 11.1/30.2 S.# 2 at 1: = 110/30.2 5#1011 = 11.0/30.2 S.#3 st. = 11.1/30.0 S.#3 at1'= /1.2/30.1 S#2 Surface = 11.2 /30.3 5.#1 Surface = 11.2/30.0 0.15 50.0 010 0,10 3,10 2.10 2.35 4.60 . 20 1195 2.67 - 20.67 2.69 = 6,272 2.70=8,367 1.18-3,884 2.70=12,416 2-752272 751 = HET 2.74= 5,752 1.74 = 3,289