



303 Veterans Airpark Lane Midland, TX 79705

## **Remediation Plan**

November 23, 2020

Re: Werta Federal CTB  
API# 30-025-27696  
Case#: 1RP-5375

### **Background:**

On February 6, 2019 a release occurred due to livestock breached the battery fence and rubbed up on the oil circulating pump bleed off valve causing it to open. An initial C-141 was submitted and approved by NMOCD on February 21, 2019. The Werta Federal CTB (GPS: 32.61018, -103.11777) is located south of Hobbs, NM in unit letter O section 35 township 19S range 38E. A remediation plan was submitted and denied on December 13, 2019. On January 15, 2020 a soil bore was conducted on the west side of the lease pad and advanced to a depth of 55 feet. The bore hole was left open for more than 48 hours and utilizing a water meter which indicated no presence of water to a depth of 55 feet.

On February 15, 2019 samples were collected utilizing a hand shovel to a depth of one foot. All samples were collected and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. On April 16, 2019 further delineation was conducted utilizing a backhoe and hand auger to various depths of 4 to 5.7 feet. All samples collected were submitted to a commercial laboratory for analysis of TPH, and BTEX. Hard rock was encountered at 5 feet a SP 1 and the backhoe could only achieve a depth of 5.7 feet.

On January 15, 2020 a soil bore was conducted in five foot intervals at SP 1 from 10' to 25'. All samples collected were submitted to a commercial laboratory for analysis of TPH and BTEX. All samples were below table one standards for TPH and BTEX. Horizontal composite samples were collected on March 9, 2020 not to exceed 200 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX.

### **Remediation Plan:**

Apache Corporation proposes that the area around SP 1 be excavated to a depth of 5 feet. The area outside of SP1 be excavated to a depth of 6 inches to 1 foot. All excavated material (145 yards) will be hauled to an NMOCD approved facility. After the excavation is complete final 5-point bottom and wall composite samples will be collected not to exceed 200 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Once

analytical data confirms that the excavation meet table 1 standards for releases greater than 50 feet to groundwater the excavation will be backfilled with clean imported caliche. The remediation will be completed within 180 days of OCD approval of the plan.

Submitted by;

*Bruce Baker*

**Senior Environmental Technician**

*larry.baker@apachecorp.com*

**Cell# 432-631-6982**

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

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	NAB1905229182
District RP	1RP-5375
Facility ID	
Application ID	pAB1905228355

## 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)	NAB1905229182
Contact mailing address	2350 W. Marland BLVD Hobbs, NM 88240		

### Location of Release Source

Latitude 32.61018 Longitude -103.11777  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Werta Federal CTB	Site Type	Battery
Date Release Discovered	2/6/2019	API# (if applicable)	30-025-27696

Unit Letter	Section	Township	Range	County
O	35	19S	38E	Lea

Surface Owner:  State  Federal  Tribal  Private (Name Apache Corporation)

### 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 (bbls) <b>130 barrels</b>	Volume Recovered (bbls) <b>120 barrels</b>
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	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 **Livestock breached battery fence and rubbed up on the oil circulating pump bleed off valve opening it.**

Incident ID	NAB1905229182
District RP	1RP-5375
Facility ID	
Application ID	pAB1905228355

Was this a major release as defined by 19.15.29.7(A) NMAC?  
  
 Yes  No

If YES, for what reason(s) does the responsible party consider this a major release?  
 Oil release was greater than 25 barrels

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?  
 Bruce Baker notified Jim Griswold and Christina Hernandez of NMOCD and Shelly Tucker (BLM) via email on 2/6/2019 at 2:59 p.m.

### 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 Tech SR  
 Signature: Bruce Baker Date: 2-19-19  
 email: Larry.baker@apachecorp.com Telephone: 432-631-6982

**OCD Only**  
 Received by: [Signature] Date: 2/21/2019

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>61</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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

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

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. SR.  
 Signature: Bruce Baker Date: 5-7-19  
 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: Larry Baker Title: Environmental Tech SR.  
 Signature: *Larry Baker* Date: 11/23/2020  
 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: \_\_\_\_\_



B-1

100 0 100  
Graphic Scale in Feet

**Apache Corporation**  
Werta Soil Bores  
Unit O (SW 1/4 of SE 1/4)  
Sec. 35, T. 19 S., R. 38 E.,  
Lea County, New Mexico  
32° 36' 37.39"N,  
103° 07' 06.34"W

**L**arson &  
Associates, Inc.  
Environmental Consultants

Figure 2 - Aerial Map

**BORING RECORD**

GEOLOGIC UNIT	DEPTH	Start: 13:35 Finish: 14:50 DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	PID READING										SAMPLE		REMARKS					
					PPM X <u>1</u>										NUMBER	PID READING	RECOVERY	DEPTH	BACKGROUND PID READING SOIL : _____ PPM SOIL : _____ PPM			
					2	4	6	8	10	12	14	16	18									
	0	Silt, 2.5YR, 5/4, Reddish Brown, Well Sorted	ML																			
	5	Silt Clay, 2.5YR, 5/6, Red, Well Sorted	CL																			
	10	Silt, 2.5YR, 6/6, Light Red, Moderately Sorted w/ Subrounded Clast Inclusions, 0.5-5mm in Diameter	ML																			
	15	Caliche, 2.5YR, 8/2, Pinkish White	Caliche																			
	20																					
	25																					
	30																					
	35	Silt, 2.5YR, 8/2, Pinkish White, Moderately Sorted w/ Subangular Inclusions, 0.5-5mm in Diameter	ML																			
	40																					
	45	Clayey Sand, 7.5YR, 6/4, Light Brown, Very Fine, Well Sorted, Subangular Caliche Inclusions 1-3mm in Diameter	SC																			
	50																					
	55	TD After 48 Hours = 55.38 ft bgs. No Water Present																				

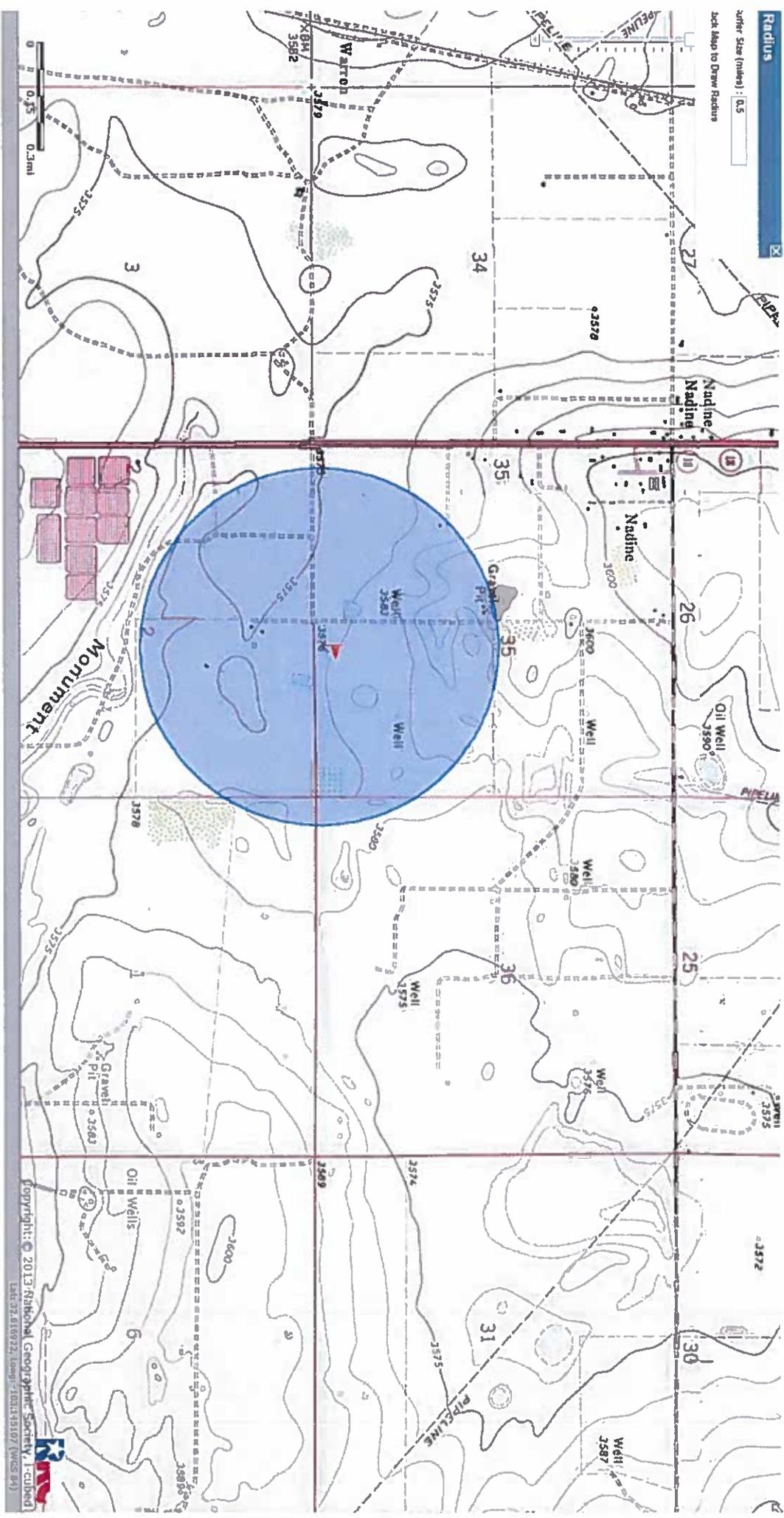
- ONE CONTINUOUS AUGER SAMPLER
- STANDARD PENETRATION TEST
- UNDISTURBED SAMPLE
- WATER TABLE ( 24 HRS )
- WATER TABLE ( TIME OF BORING )
- LABORATORY TEST LOCATION
- PENETROMETER ( TONS/ SQ. FT )
- NR NO RECOVERY

JOB NUMBER : Apache Corp./ 20-0101-02  
 HOLE DIAMETER : 2"  
 LOCATION : Werta  
 LAI GEOLOGIST : R. Owen  
 DRILLING CONTRACTOR : Scarborough Drilling  
 DRILLING METHOD : Air Rotary



DRILL DATE : 01/15/2020

BORING NUMBER : B-1





Werta Federal

SP 1

SP 4

SP 2

SP 3

100 ft

© 2018 Google

Google earth

## Werta Federal CTB

SP 1 ( GPS: 32.610183 -103.117822)									
Depth	CL-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
0	160	30.2	188	153	365	737	9850	44600	6620
1'	16	26.4	180	121	239	566	6800	15800	2210
3'		<0.050	0.466	1.61	2.89	4.97	40.7	477	165
4'		<0.050	<0.050	1.36	1.6	2.96	115	1560	452
5'		0.155	1.45	3.36	8.64	13.6	344	5400	1490
5' 7"		<0.050	0.187	0.376	1.04	1.6	32.7	1450	458
10'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
15'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
20'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
25'		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
SP 2 ( GPS: 32610027 -103.117863)									
Depth	CL-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
0	80	21.6	199	185	384	790	10500	33600	5400
1'	16	97.4	397	210	393	1100	14500	25900	3620
SP 3 ( GPS: 32.609925 -103.117821)									
Depth	CL-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
0	208	19.6	129	102	231	481	9750	50300	8700
1'	48	58.2	190	101	204	553	8330	16800	2650
2'		0.099	2.44	3.72	10.9	17.2	167	850	177
3'		0.086	1.29	2.5	6.39	10.3	135	1190	267
4'		0.381	4.65	5.15	12.4	22.6	268	2110	373
SP 4 ( GPS: 32.610084 -103.117776)									
Depth	CL-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
0	3440	77.3	296	172	357	902	16300	43700	6090
1'	1310	9.81	46.8	28.7	59.9	145	974	3000	314
2'		0.082	0.556	0.949	3.17	4.76	53.6	249	45.8
3'		<0.050	<0.050	<0.050	<0.150	<0.300	<10	54.6	10.9
4'		<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10.0	<10.0

Horizontal Surface Samples									
Sample ID	CL-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
HC1	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10.0	<10.0
HC2	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10.0	<10.0
HC3	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10.0	<10.0
HC4	144	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10.0	<10.0



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

February 21, 2019

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

RE: WERTA FED BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/15/19 15:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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: 02/15/2019
Reported: 02/21/2019
Project Name: WERTA FED BATTERY
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 02/15/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ SURFACE (H900623-01)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIC) 165% 73.3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 471% 41-142

Surrogate: 1-Chlorooctadecane 1040% 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses.

Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 02/15/2019
Reported: 02/21/2019
Project Name: WERTA FED BATTERY
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 02/15/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 1' (H900623-02)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIC) 155% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 252% 41-142

Surrogate: 1-Chlorooctadecane 404% 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses.

Celestine

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: 02/15/2019 Sampling Date: 02/15/2019
Reported: 02/21/2019 Sampling Type: Soil
Project Name: WERTA FED BATTERY Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NONE GIVEN

Sample ID: SP 2 @ SURFACE (H900623-03)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 154% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 423% 41-142

Surrogate: 1-Chlorooctadecane 777% 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses.

Celely D. Keene (Signature)

Celely 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:	02/15/2019	Sampling Date:	02/15/2019
Reported:	02/21/2019	Sampling Type:	Soil
Project Name:	WERTA FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: SP 2 @ 1' (H900623-04)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	97.4	2.00	02/20/2019	ND	2.16	108	2.00	0.635		
Toluene*	397	2.00	02/20/2019	ND	2.20	110	2.00	1.11		
Ethylbenzene*	210	2.00	02/20/2019	ND	2.12	106	2.00	1.32		
Total Xylenes*	393	6.00	02/20/2019	ND	6.03	101	6.00	1.76		
Total BTEX	1100	12.0	02/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 146 % 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	02/19/2019	ND	432	108	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*	14500	100	02/18/2019	ND	177	88.7	200	11.3		
DRO >C10-C28*	25900	100	02/18/2019	ND	182	91.1	200	9.86		
EXT DRO >C28-C36	3620	100	02/18/2019	ND						

Surrogate: 1-Chlorooctane 368 % 41-142

Surrogate: 1-Chlorooctadecane 612 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 02/15/2019
Reported: 02/21/2019
Project Name: WERTA FED BATTERY
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 02/15/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 3 @ SURFACE (H900623-05)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIC) 121% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 444% 41-142

Surrogate: 1-Chlorooctadecane 1230% 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/15/2019 Sampling Date: 02/15/2019
Reported: 02/21/2019 Sampling Type: Soil
Project Name: WERTA FED BATTERY Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker
Project Location: NONE GIVEN

Sample ID: SP 3 @ 1' (H900623-06)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, Total BTEX.

Surrogate 4-Bromofluorobenzene (PIC) 106 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, EXT DRO >C28-C36.

Surrogate 1-Chlorooctane 249 % 41-142

Surrogate 1-Chlorooctadecane 421 % 37.6-147

Cardinal Laboratories

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/15/2019  
 Reported: 02/21/2019  
 Project Name: WERTA FED BATTERY  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 4 @ SURFACE (H900623-07)**

BTEX 80218		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	77.3	2.00	02/20/2019	ND	1.92	96.0	2.00	4.30		
Toluene*	296	2.00	02/20/2019	ND	1.95	97.3	2.00	3.96		
Ethylbenzene*	172	2.00	02/20/2019	ND	1.97	98.7	2.00	3.53		
Total Xylenes*	357	6.00	02/20/2019	ND	5.78	96.3	6.00	3.39		
Total BTEX	902	12.0	02/20/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 109 % 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	3440	16.0	02/19/2019	ND	432	108	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*	16300	100	02/18/2019	ND	177	88.7	200	11.3			
DRO >C10-C28*	43700	100	02/18/2019	ND	182	91.1	200	9.86			
EXT DRO >C28-C36	6090	100	02/18/2019	ND							

Surrogate: 1-Chlorooctane 500 % 41-142

Surrogate: 1-Chlorooctadecane 1040 % 37.6-147

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*Cheryl Keene*

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 02/15/2019
Reported: 02/21/2019
Project Name: WERTA FED BATTERY
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 02/15/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 4 @ 1' (H900623-08)

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate 4-Bromofluorobenzene (PIE) 101% 73 3-129

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Row includes Chloride.

TPH 8015M mg/kg Analyzed By: MS

Table with 10 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate 1-Chlorooctane 72.6% 41-142

Surrogate 1-Chlorooctadecane 108% 37.6-147

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Celey D. Keene (signature)

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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*Celely D. Keene*

Celely D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Expor by P.O. #: \_\_\_\_\_  
 Project Manager: Brian Baker Company: \_\_\_\_\_  
 Address: \_\_\_\_\_ Attn: \_\_\_\_\_  
 City: Hobbs State: NM Zip: 78010 Address: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_ City: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Project Owner: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Project Name: \_\_\_\_\_  
 Project Location: West of Red Butte Phone #: \_\_\_\_\_  
 Sampler Name: Jan Quisenberry Fax #: \_\_\_\_\_  
 FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER				
<u>H001023</u>	<u>SP 1 Surface</u>	<input checked="" type="checkbox"/>	<u>1</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2/15</u>	<u>0:38</u>	<u>Ext TPH</u>	<u>BTEX</u>				
	<u>SP 1A</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2:41</u>			
	<u>SP 2 Surface</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2:43</u>			
	<u>SP 2A Q1</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2:47</u>			
	<u>SP 3 Surface</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2:49</u>			
	<u>SP 3A Q1</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2:52</u>			
	<u>SP 4 Surface</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2:53</u>			
	<u>SP 4A Q1</u>	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>2:58</u>			

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Relinquished By: \_\_\_\_\_ Date: 2-15-19 Received By: Janora White  
 Time: 15:25

Delivered By: (Circle One) UPS - Bus - Other: D.6.e #97 Sample Condition: Cool  Intact   
 YES  NO  CHECKED BY: JD (Initials)

REMARKS: Ena. / Results

Phone Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 Fax Result:  Yes  No Add'l Fax #: \_\_\_\_\_



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

April 24, 2019

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

RE: WERTA 001

Enclosed are the results of analyses for samples received by the laboratory on 04/16/19 15:34.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

- Method EPA 552.2      Haloacetic Acids (HAA-5)
- Method EPA 524.2      Total Trihalomethanes (TTHM)
- Method EPA 524.4      Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 2' (H901392-01)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 141% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 202% 41-142

Surrogate: 1-Chlorooctadecane 316% 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 3' (H901392-02)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 183% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 103% 41-142

Surrogate: 1-Chlorooctadecane 106% 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 4' (H901392-03)

Table with 11 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate 4-Bromofluorobenzene (PIE) 78.5% 73.3-129

Table with 11 columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate 1-Chlorooctane 119% 41-142

Surrogate 1-Chlorooctadecane 131% 37.6-147

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 5' (H901392-04)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 83.4% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 18.4% 41-142

Surrogate: 1-Chlorooctadecane 2.9% 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 5'7 (H901392-05)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIL) 129% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 106% 41-142

Surrogate: 1-Chlorooctadecane 129% 37.6-147

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Signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 3 @ 2' (H901392-06)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate 4-Bromofluorobenzene (PIC) 201% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate 1-Chlorooctane 131% 41-142

Surrogate 1-Chlorooctadecane 119% 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 3 @ 3' (H901392-07)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIE) 162% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 129% 41-142

Surrogate: 1-Chlorooctadecane 126% 37.6-147

Cardinal Laboratories

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Celely D. Keene (Signature)

Celely 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: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 3 @ 4' (H901392-08)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate 4-Bromofluorobenzene (PIE) 164% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate 1-Chlorooctane 145% 41-142

Surrogate 1-Chlorooctadecane 155% 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 4 @ 2' (H901392-09)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate 4-Bromofluorobenzene (PIC) 135 % 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate 1-Chlorooctane 99.5 % 41-142

Surrogate 1-Chlorooctadecane 99.5 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Handwritten signature of Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN
Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 4 @ 3' (H901392-10)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

Surrogate: 4-Bromofluorobenzene (PIC) 98.4% 73.3-129

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 86.7% 41-142

Surrogate: 1-Chlorooctadecane 87.6% 37.6-147

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Celely D. Keene (signature)

Celely D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 04/16/2019
Reported: 04/24/2019
Project Name: WERTA 001
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 04/16/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 4 @ 4' (H901392-11)

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include Benzene\*, Toluene\*, Ethylbenzene\*, Total Xylenes\*, and Total BTEX.

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

Table with columns: Analyte, Result, Reporting Limit, Analyzed, Method Blank, BS, % Recovery, True Value QC, RPD, Qualifier. Rows include GRO C6-C10\*, DRO >C10-C28\*, and EXT DRO >C28-C36.

Surrogate: 1-Chlorooctane 79.3% 41-142

Surrogate: 1-Chlorooctadecane 80.0% 37.6-147

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Signature of 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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*Keene*

Keely D. Keene, Lab Director/Quality Manager



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

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

**BILL TO**

**ANALYSIS REQUEST**

Company Name: APACHE CARBON  
 Project Manager: BOUCE BREWER  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Project Owner: \_\_\_\_\_  
 Project Name: \_\_\_\_\_  
 Project Location: WETA 001  
 Sampler Name: JEFF RYAN  
 P.O. #: \_\_\_\_\_ Company: \_\_\_\_\_  
 Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

DATE	TIME	ANALYSIS	REMARKS
4/6/14	10:30	BTEX	
4/6/14	11:20	Ext. TPH	
4/6/14	12:06		
4/6/14	1:58		
4/6/14	2:37		
4/6/14	6:20		
4/6/14	11:10		
4/6/14	12:10		
4/6/14	6:25		
4/6/14	11:00		

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER				
1	SP1 @ 2'								4/6/14	10:30	BTEX		
2	SP1 @ 3'								4/6/14	11:20	Ext. TPH		
3	SP1 @ 4'								4/6/14	12:06			
4	SP1 @ 5'								4/6/14	1:58			
5	SP1 @ 5.7								4/6/14	2:37			
6	SP3 @ 2'								4/6/14	6:20			
7	SP3 @ 3'								4/6/14	11:10			
8	SP3 @ 4'								4/6/14	12:10			
9	SP4 @ 2'								4/6/14	6:25			
10	SP4 @ 3'								4/6/14	11:00			

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Relinquished By: \_\_\_\_\_ Date: 4/6/14 Time: 3:34  
 Received By: Scott Jensen  
 Delivered By: (Circle One) UPS - UPS - Bus - Other: 4:30 / #97  
 Sample Condition:  Cool  Intact  Yes  No  Yes  No  
 CHECKED BY: \_\_\_\_\_

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

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

Company Name: <b>MACHE GRAYSON</b>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>	
Project Manager: <b>MICHE BAKER</b>		P.O. #:			
Address:		Company:			
City:		Attn:			
State:		Address:			
Zip:		City:			
Phone #:		State:			
Fax #:		Zip:			
Project #:		Phone #:			
Project Owner:		Fax #:			
Project Name:		Project Location: <b>WSETH 001</b>			
Sampler Name: <b>J. Brown</b>		FOR USE ONLY			
Lab I.D.:		Sample I.D.:			
<b>H901392</b>		<b>11 SPY 041</b>			
		(G)RAB OR (C)OMP.			
		# CONTAINERS			
		GROUNDWATER			
		WASTEWATER			
		SOIL			
		OIL			
		SLUDGE			
		OTHER:			
		ACID/BASE			
		ICE / COOL			
		OTHER:			
		DATE			
		TIME			
		<b>4/6/17</b>		<b>12:12</b>	
		RECEIVED BY:		<b>BTEX</b>	
		RECEIVED BY:		<b>EXT. TPH</b>	
Relinquished By: <b>JTB</b>		Date: <b>4/6/17</b>			
Time: <b>3:34</b>		Received By: <b>Michelle Henderson</b>			
Date: _____		Time: _____			
Delivered By: (Circle One)		Sample Condition		CHECKED BY: <b>[Signature]</b>	
Sampler - UPS - Bus - Other: <b>4:30 / #97</b>		Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
		Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No			
		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No			
		REMARKS:			

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March 11, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WERTA FEDERAL

Enclosed are the results of analyses for samples received by the laboratory on 03/09/20 11:33.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

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:	03/09/2020	Sampling Date:	03/09/2020
Reported:	03/11/2020	Sampling Type:	Soil
Project Name:	WERTA FEDERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: HC 1 (H000736-01)**

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	03/10/2020	ND	2.00	99.9	2.00	0.430	
Toluene*	<0.050	0.050	03/10/2020	ND	2.02	101	2.00	0.251	
Ethylbenzene*	<0.050	0.050	03/10/2020	ND	2.03	102	2.00	0.353	
Total Xylenes*	<0.150	0.150	03/10/2020	ND	5.87	97.9	6.00	0.536	
Total BTEX	<0.300	0.300	03/10/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 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	48.0	16.0	03/09/2020	ND	432	108	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	03/10/2020	ND	198	99.1	200	6.26	
DRO >C10-C28*	<10.0	10.0	03/10/2020	ND	202	101	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	03/10/2020	ND					

Surrogate: 1-Chlorooctane 90.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 94.6 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	03/09/2020	Sampling Date:	03/09/2020
Reported:	03/11/2020	Sampling Type:	Soil
Project Name:	WERTA FEDERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: HC 2 (H000736-02)**

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	03/10/2020	ND	2.00	99.9	2.00	0.430	
Toluene*	<0.050	0.050	03/10/2020	ND	2.02	101	2.00	0.251	
Ethylbenzene*	<0.050	0.050	03/10/2020	ND	2.03	102	2.00	0.353	
Total Xylenes*	<0.150	0.150	03/10/2020	ND	5.87	97.9	6.00	0.536	
Total BTEX	<0.300	0.300	03/10/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	03/09/2020	ND	432	108	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	03/10/2020	ND	198	99.1	200	6.26	
DRO >C10-C28*	<10.0	10.0	03/10/2020	ND	202	101	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	03/10/2020	ND					

Surrogate: 1-Chlorooctane 85.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 89.9 % 42.2-156

Cardinal Laboratories

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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:	03/09/2020	Sampling Date:	03/09/2020
Reported:	03/11/2020	Sampling Type:	Soil
Project Name:	WERTA FEDERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: HC 3 (H000736-03)**

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	03/10/2020	ND	1.79	89.4	2.00	10.3	
Toluene*	<0.050	0.050	03/10/2020	ND	1.78	89.0	2.00	10.2	
Ethylbenzene*	<0.050	0.050	03/10/2020	ND	1.81	90.5	2.00	10.2	
Total Xylenes*	<0.150	0.150	03/10/2020	ND	5.30	88.4	6.00	10.4	
Total BTEX	<0.300	0.300	03/10/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	32.0	16.0	03/09/2020	ND	432	108	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	03/10/2020	ND	198	99.1	200	6.26	
DRO >C10-C28*	<10.0	10.0	03/10/2020	ND	202	101	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	03/10/2020	ND					

Surrogate: 1-Chlorooctane 86.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.4 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	03/09/2020	Sampling Date:	03/09/2020
Reported:	03/11/2020	Sampling Type:	Soil
Project Name:	WERTA FEDERAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: HC 4 (H000736-04)**

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	03/10/2020	ND	1.79	89.4	2.00	10.3	
Toluene*	<0.050	0.050	03/10/2020	ND	1.78	89.0	2.00	10.2	
Ethylbenzene*	<0.050	0.050	03/10/2020	ND	1.81	90.5	2.00	10.2	
Total Xylenes*	<0.150	0.150	03/10/2020	ND	5.30	88.4	6.00	10.4	
Total BTEX	<0.300	0.300	03/10/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 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	144	16.0	03/09/2020	ND	432	108	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	03/10/2020	ND	198	99.1	200	6.26	
DRO >C10-C28*	<10.0	10.0	03/10/2020	ND	202	101	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	03/10/2020	ND					

Surrogate: 1-Chlorooctane 90.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 94.5 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCS/D recovery and/or RPD values.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

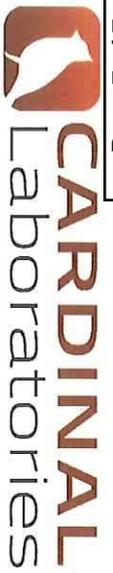
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Apack Corporation</i>	P.O. #:	<b>BILL TO</b>	<b>ANALYSIS REQUEST</b>
Project Manager:	Company:		
Address:	Attn:		
City:	Address:		
Phone #:	City:		
Project #:	State:		
Project Name: <i>Verde FEDERAL</i>	Zip:		
Project Location: <i>Verde FEDERAL</i>	Phone #:		
Sampler Name: <i>V. Brown</i>	Fax #:		

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	CL -	BTEX	EXT. TPH
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
<i>A000734</i>	<i>HC 1</i>	<i>C</i>							<i>3/5/20</i>	<i>1023</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	<i>HC 2</i>	<i>C</i>							<i>3/5/20</i>	<i>1025</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	<i>HC 3</i>	<i>C</i>							<i>3/5/20</i>	<i>1027</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	<i>HC 4</i>	<i>C</i>							<i>3/5/20</i>	<i>1029</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	

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Relinquished By: <i>Tom Brown</i>	Date: <i>3/4/20</i>	Received By: <i>William White</i>	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By: _____	Time: <i>1133</i>	Received By: _____	All Results are emailed. Please provide Email address:	
Delivered By: (Circle One) <i>S.I.</i>	Observed Temp. °C	Sample Condition	CHECKED BY: (Initials) <i>T.O.</i>	Turnaround Time: <i>Standard</i>
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID #97	Bacteria (only) <input checked="" type="checkbox"/> Rush
		Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Correction Factor +0.4 °C	Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
				Sample Condition
				Observed Temp. °C
				Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabnm.com



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

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January 20, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WERTA 001

Enclosed are the results of analyses for samples received by the laboratory on 01/15/20 15:51.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

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:	01/15/2020	Sampling Date:	01/15/2020
Reported:	01/20/2020	Sampling Type:	Soil
Project Name:	WERTA 001	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: SP 1 @ 10' (H000141-01)**

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	01/17/2020	ND	2.07	104	2.00	10.5		
Toluene*	<0.050	0.050	01/17/2020	ND	2.08	104	2.00	10.8		
Ethylbenzene*	<0.050	0.050	01/17/2020	ND	2.11	106	2.00	10.6		
Total Xylenes*	<0.150	0.150	01/17/2020	ND	6.19	103	6.00	10.9		
Total BTEX	<0.300	0.300	01/17/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

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	01/18/2020	ND	224	112	200	0.417		
DRO >C10-C28*	<10.0	10.0	01/18/2020	ND	229	115	200	2.47		
EXT DRO >C28-C36	<10.0	10.0	01/18/2020	ND						

Surrogate: 1-Chlorooctane 89.7 % 41-142

Surrogate: 1-Chlorooctadecane 92.1 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	01/15/2020	Sampling Date:	01/15/2020
Reported:	01/20/2020	Sampling Type:	Soil
Project Name:	WERTA 001	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: SP 1 @ 15' (H000141-02)**

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	01/17/2020	ND	2.07	104	2.00	10.5	
Toluene*	<0.050	0.050	01/17/2020	ND	2.08	104	2.00	10.8	
Ethylbenzene*	<0.050	0.050	01/17/2020	ND	2.11	106	2.00	10.6	
Total Xylenes*	<0.150	0.150	01/17/2020	ND	6.19	103	6.00	10.9	
Total BTEX	<0.300	0.300	01/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

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	01/18/2020	ND	224	112	200	0.417	
DRO >C10-C28*	<10.0	10.0	01/18/2020	ND	229	115	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	01/18/2020	ND					

Surrogate: 1-Chlorooctane 99.5 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	01/15/2020	Sampling Date:	01/15/2020
Reported:	01/20/2020	Sampling Type:	Soil
Project Name:	WERTA 001	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: SP 1 @ 20' (H000141-03)**

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	01/17/2020	ND	2.07	104	2.00	10.5	
Toluene*	<0.050	0.050	01/17/2020	ND	2.08	104	2.00	10.8	
Ethylbenzene*	<0.050	0.050	01/17/2020	ND	2.11	106	2.00	10.6	
Total Xylenes*	<0.150	0.150	01/17/2020	ND	6.19	103	6.00	10.9	
Total BTEX	<0.300	0.300	01/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 73.3-129

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	01/18/2020	ND	224	112	200	0.417	
DRO >C10-C28*	<10.0	10.0	01/18/2020	ND	229	115	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	01/18/2020	ND					

Surrogate: 1-Chlorooctane 98.2 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	01/15/2020	Sampling Date:	01/15/2020
Reported:	01/20/2020	Sampling Type:	Soil
Project Name:	WERTA 001	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: SP 1 @ 25' (H000141-04)**

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	01/17/2020	ND	2.07	104	2.00	10.5	
Toluene*	<0.050	0.050	01/17/2020	ND	2.08	104	2.00	10.8	
Ethylbenzene*	<0.050	0.050	01/17/2020	ND	2.11	106	2.00	10.6	
Total Xylenes*	<0.150	0.150	01/17/2020	ND	6.19	103	6.00	10.9	
Total BTEX	<0.300	0.300	01/17/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 73.3-129

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	01/18/2020	ND	224	112	200	0.417	
DRO >C10-C28*	<10.0	10.0	01/18/2020	ND	229	115	200	2.47	
EXT DRO >C28-C36	<10.0	10.0	01/18/2020	ND					

Surrogate: 1-Chlorooctane 96.5 % 41-142

Surrogate: 1-Chlorooctadecane 99.1 % 37.6-147

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### Notes and Definitions

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

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

---

Celey D. Keene, Lab Director/Quality Manager







Incident ID	NAB1905229182
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: Larry Baker Title: Environmental Tech SR.  
 Signature: Larry Baker Date: 11/23/2020  
 email: larry.baker@apachecorp.com Telephone: 432-631-6982

**OCD Only**

Received by: Robert Hamlet Date: 4/9/2021

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature: Robert Hamlet Date: 4/9/2021

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

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

CONDITIONS

Action 11289

**CONDITIONS OF APPROVAL**

Operator: #1000	APACHE CORPORATION Midland, TX79705	303 Veterans Airpark Ln	OGRID: 873	Action Number: 11289	Action Type: C-141
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OCD Reviewer	Condition
rhamlet	Borehole to 51' showing no groundwater allows for vertical delineation to 2,500 mg/kg (for GRO+DRO+MRO) or 1,000 mg/kg (for GRO+DRO) and chlorides to 10,000 mg/kg. Please make sure the release is horizontally delineated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. If rock refusal is encountered, use hydrovac to clean contaminated soil off rock. Layer clean rock with microbial strains to digest organics and hydrocarbons. Back-fill with clean material.