



2350 W Marland Blvd Hobbs, NM 88240

Closure Report

March 25, 2019

Re: Crow Federal Mega Battery
Case # 2RP-5032

To: Robert Hamlet
Environmental Specialist-New Mexico Oil Conservation Division Energy, Minerals and
Natural Resources Department 811 S. 1st Street Artesia, NM 88210

Background:

On 10/21/2018 a release occurred due to the packing between the motor and C pump on the lact unit separated. An initial C-141 was sent to NMOCD and approved by NMOCD on 11/5/2018. The Crow Federal Mega Battery is located east of Loco Hills in unit letter B section 9 township 17S range 31E (GPS Coordinates: 32.85412 -103.87023). It is common knowledge that there is no groundwater in township 17S and range 31E. The village of Loco Hills water source is the double eagle water pipeline which source of water is on top of the Cap rock located east of the township and range. The closest geographic water course is Taylor Draw located 2 miles east and south of the release site.

The majority of the release was contained inside a lined facility except for approximately a barrel of fluid was sprayed outside the liner to the west. The standing fluid inside the lined containment was picked up with a vacuum truck. The stained area outside the containment area was hand shoveled down to 6 inches below surface. Once the hand excavation was complete bottom five point composite samples were collect not to exceed 200 square feet. Five point composite samples were collected on the north and south walls and grab samples were collected on the east and west walls. All samples collected were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. All the laboratory results were below table 1 standards for releases that occur with depth to groundwater greater than 100 feet. The excavated material 12 yards was disposed of at an NMOCD approved facility.

Enclosed: Initial C-141, Maps, Sample Plan Diagram, Photos, and Laboratory Results

Submitted by;

Bruce Baker

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

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

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

NM Oil Conservation Div.
Dist. II - Artesia
Received
Oct. 31, 2018

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

Incident ID	NAB1830954484
District RP	2RP-5032
Facility ID	fAB1830953527
Application ID	pAB1830953763

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)	NAB1830954484
Contact mailing address	2350 W. Marland BLVD Hobbs, NM 88240		

Location of Release Source

Latitude 32.85412 Longitude -103.87023
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Crow Federal Mega Battery	Site Type	Battery
Date Release Discovered	10/21/2019 10/21/2018 <i>AB</i>	API# (if applicable)	

Unit Letter	Section	Township	Range	County
B	9	17S	31E	Eddy

Surface Owner: State Federal Tribal Private (Name _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 121 barrels	Volume Recovered (bbls) 120 barrels
<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 Unknown
<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 The packing between the motor and C pump on the lact unit seperated.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1830954484
District RP	2RP-5032
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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The release was greater than 25 barrels of oil.
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, Maria Pruitt, and Shelly Tucker (BLM) via email on 10/22/2018 at 12:19 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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Bruce Baker</u>	Title: <u>Environmental Technician SR</u>
Signature: <u><i>Bruce Baker</i></u>	Date: <u>10/31/2018</u>
email: <u>larry.baker@apachecorp.com</u>	Telephone: <u>432-631-6982</u>
OCD Only Received by: <u><i>Anabela Botamante</i></u>	
Date: <u>11/05/2018</u>	

Volume Calculation

All the oil inside the lined facility was recovered 120 barrels. The pasture area was an area of 10 X 2 X.2=4 cubic feet X 7.48 gallon per cubic foot=29.92 gallons/42 gallons in a barrel = 0.7 barrels.

From: [Pruett, Maria, EMNRD](#)
To: [Bustamante, Amalia, EMNRD](#)
Subject: FW: Crow Federal Mega Battery reportable spill notification
Date: Monday, November 5, 2018 12:31:30 PM

Here is the initial notification.

From: Baker, Larry <Larry.Baker@apachecorp.com>
Sent: Monday, October 22, 2018 12:19 PM
To: Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Pruett, Maria, EMNRD <Maria.Pruett@state.nm.us>; 'stucker@blm.gov' <stucker@blm.gov>
Subject: [EXT] Crow Federal Mega Battery reportable spill notification

All,

Yesterday 10/21/2018 a release occurred due to packing separated between the motor and C Pump on the lact unit resulting in the loss of 121 barrels of oil with 120 barrels recovered. The release occurred at the Crow Federal Battery (GPS: 32.85412 -103.87023) is located in unit letter B section 9 township 17S range 31E. The majority of the release was contained in the lined secondary containment except due to wind blew 1 barrel into the pasture west of the facility. The nearest well is the Cedar Lake Federal CA 901 (API # 30-015-42364). Please let me know if you have any questions or wish to discuss. Thanks and have a good day.

BRUCE BAKER

ENVIRONMENTAL TECHNICIAN SR

direct 575-393-7106 ext 1523 | Cell 432-631-6982

APACHE CORPORATION

2350 W. MARLAND BLVD
HOBBS, NM 88240

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

Incident ID	
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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?	NONE (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

<p>Characterization Report Checklist: <i>Each of the following items must be included in the report.</i></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. <input type="checkbox"/> Field data <input checked="" type="checkbox"/> Data table of soil contaminant concentration data <input checked="" type="checkbox"/> Depth to water determination <input checked="" type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release <input checked="" type="checkbox"/> Boring or excavation logs <input checked="" type="checkbox"/> Photographs including date and GIS information <input checked="" type="checkbox"/> Topographic/Aerial maps <input checked="" type="checkbox"/> Laboratory data including chain of custody
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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.

Incident ID	
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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: 3-25-19
 email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Bruce Baker Title: Environmental Tech SR.
 Signature: Bruce Baker Date: 3/25/19
 email: larry.baker@apachecorp.com Telephone: 432-631-6982

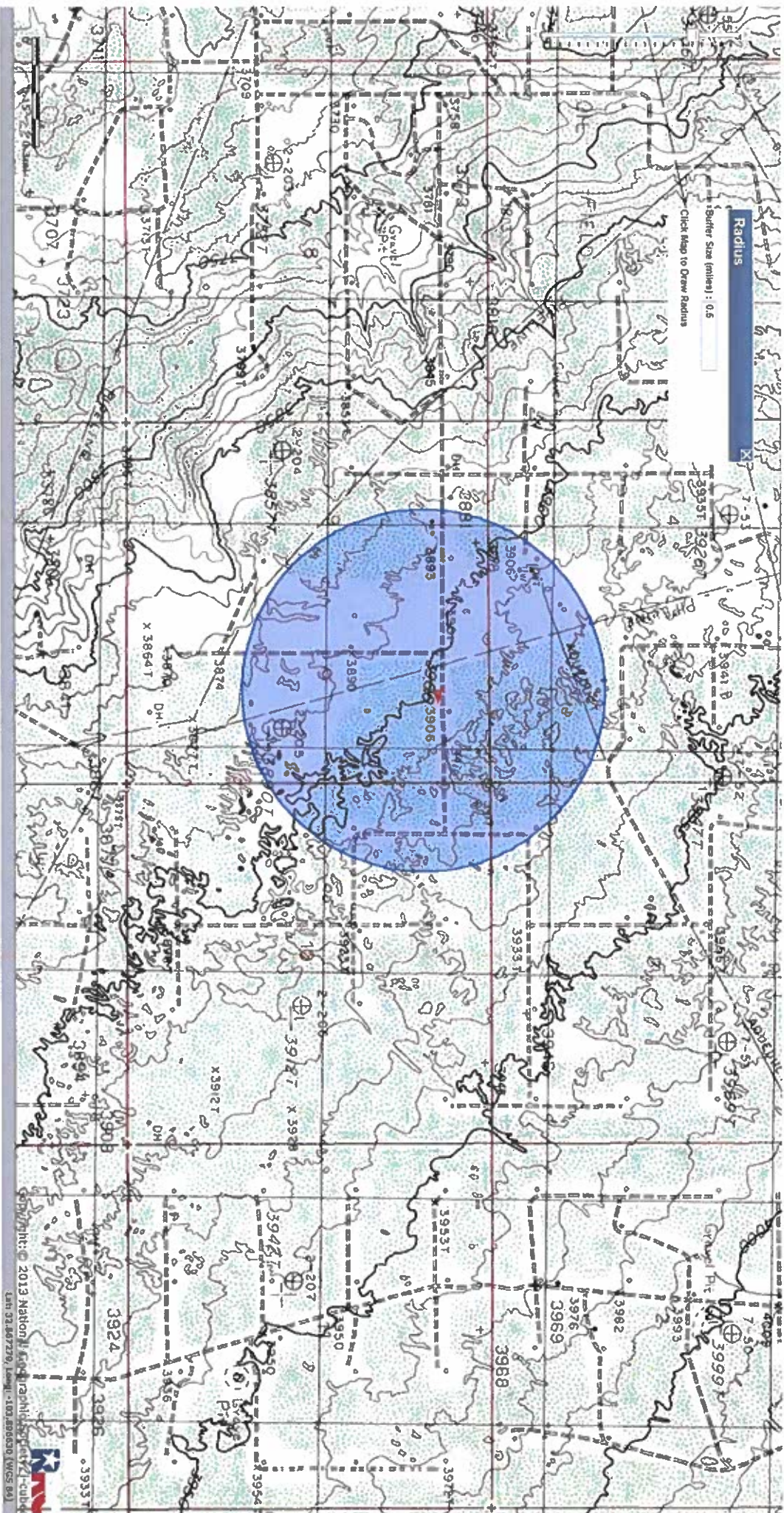
OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

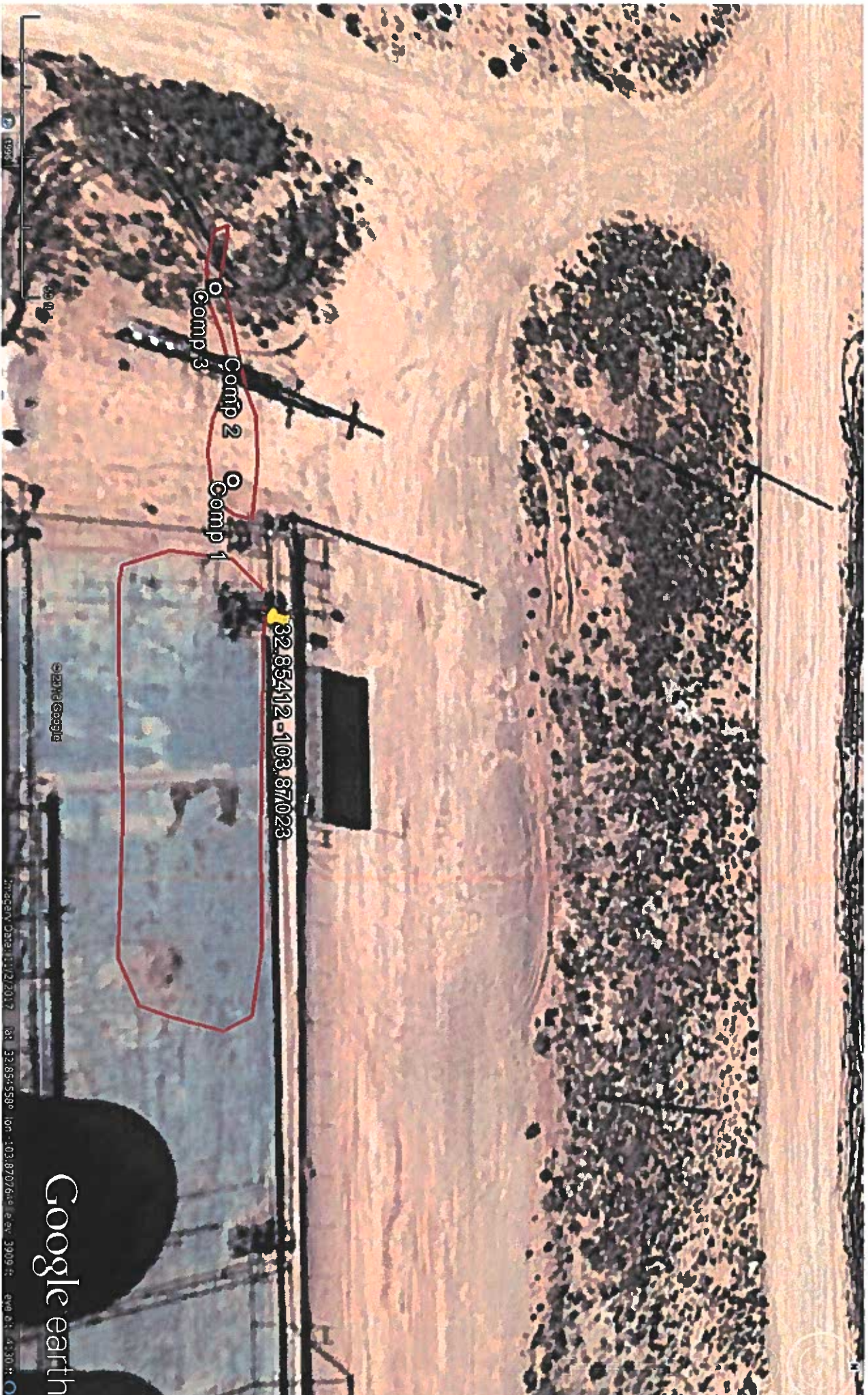
Printed Name: _____ Title: _____



Radius

Buffer Size (miles) : 0.5

Click Map to Draw Radius



Comp 3

Comp 2

Comp 1

32.85412-103.87023

Google earth

©2017 Google. Imagery ©2017. 84. 32.8545589 103.8707618 Elev. 3009 ft. 499 ft. 45.30 ft.

Crow Federal Mega Battery Sample Data

Sample Pt.	Chloride	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
COM 1	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	30.1	<10.0
COM 2	16	<0.050	<0.050	0.315	0.898	1.21	25.5	375	61.6
COMP 3 @ 6"	32	<0.050	<0.050	0.292	0.748	1.04	20.9	255	21
E Wall	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	121	27
N Wall	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
S Wall	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
W Wall	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0



WGS84: 32.85412, ±108ft - 103.87027
ft 3908 ±10ft
°T N355 ±15

Created with free version of GPS Camera 55

04Mar19 12:05 Ad-hoc
Loco Hills, NM 88255, United States © 04-Mar-19 12:05:28

Photo of Liner



WGS84: 32.85412, ±108ft - 103.87039
ft 3899 ±10ft
°T N359 ±20

Created with free version of GPS Camera 55

04Mar19 12:02 Ad-hoc
Loco Hills, NM 88255, United States © 04-Mar-19 12:02:16

Photo of excavation



Photo of excavation

December 21, 2018

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

RE: CROW FEDERAL MEGA BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/18/18 14:15.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

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

Received:	12/18/2018	Sampling Date:	12/18/2018
Reported:	12/21/2018	Sampling Type:	Soil
Project Name:	CROW FEDERAL MEGA BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: COM 1 (H803683-01)

BTEX 80218		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/20/2018	ND	1.86	93.1	2.00	3.52		
Toluene*	<0.050	0.050	12/20/2018	ND	1.92	96.2	2.00	3.16		
Ethylbenzene*	<0.050	0.050	12/20/2018	ND	1.91	95.5	2.00	3.35		
Total Xylenes*	<0.150	0.150	12/20/2018	ND	5.72	95.3	6.00	3.18		
Total BTEX	<0.300	0.300	12/20/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 97.1% 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/19/2018	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	12/20/2018	ND	198	99.2	200	1.78		
DRO >C10-C28*	30.1	10.0	12/20/2018	ND	196	97.9	200	6.28		
EXT DRO >C28-C36	<10.0	10.0	12/20/2018	ND						

Surrogate: 1-Chlorooctane 93.8% 41-142

Surrogate: 1-Chlorooctadecane 96.5% 37.6-147

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	12/18/2018	Sampling Date:	12/18/2018
Reported:	12/21/2018	Sampling Type:	Soil
Project Name:	CROW FEDERAL MEGA BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: COM 2 (H803683-02)

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	12/20/2018	ND	1.86	93.1	2.00	3.52		
Toluene*	<0.050	0.050	12/20/2018	ND	1.92	96.2	2.00	3.16		
Ethylbenzene*	0.315	0.050	12/20/2018	ND	1.91	95.5	2.00	3.35		
Total Xylenes*	0.898	0.150	12/20/2018	ND	5.72	95.3	6.00	3.18		
Total BTEX	1.21	0.300	12/20/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 109 % 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	12/19/2018	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	25.5	10.0	12/20/2018	ND	198	99.2	200	1.78		
DRO >C10-C28*	375	10.0	12/20/2018	ND	196	97.9	200	6.28		
EXT DRO >C28-C36	61.6	10.0	12/20/2018	ND						

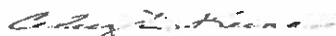
Surrogate: 1-Chlorooctane 96.0 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

Cardinal Laboratories

* = Accredited Analyte

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Coley D. Keene, Lab Director/Quality Manager

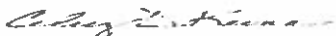
Notes and Definitions

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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* = Accredited Analyte

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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: <u>Apache</u>		BILL TO		ANALYSIS REQUEST	
Project Manager: <u>Bruce Baker</u>		P.O. #:		Company:	
Address:		Attn:		Address:	
City: <u>Hobbs</u>		State: <u>NM</u> Zip: <u>88240</u>		City:	
Phone #:		Fax #:		State:	
Project #:		Project Owner:		Zip:	
Project Name:		Project Location: <u>New Federal Mega Battery</u>		Phone #:	
Sampler Name: <u>Sgt. Fuesadla</u>		Fax #:		Matrix:	
FOR LAB USE ONLY		(G)RAB OR (C)OMP.		# CONTAINERS	
Lab I.D.		GROUNDWATER		WASTEWATER	
Sample I.D.		SOIL		OIL	
H803683		SLUDGE		OTHER:	
1 <u>Low</u>		ACID/BASE:		ICE / COOL	
2 <u>Low</u>		OTHER:		DATE	
DATE		TIME		TIME	
12/18/18		1:01 PM		1:04 PM	
Relinquished By:		Received By:		Remarks:	
Date: <u>12/18/18</u>		Signature: <u>[Signature]</u>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Time:		Received By: <u>[Signature]</u>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Relinquished By:		Date:		Add'l Phone #:	
Signature: <u>[Signature]</u>		Time:		Add'l Fax #:	
Delivered By: (Circle One)		Sample Condition		CHECKED BY:	
Sampler - UPS - Bus - Other: <u>2.4e / #97</u>		Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/>		Initials:	
Signature: <u>[Signature]</u>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		E Mail Results	



March 14, 2019

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

RE: CROW FEDERAL MEGA BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/13/19 15:05.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

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

Received:	03/13/2019	Sampling Date:	03/12/2019
Reported:	03/14/2019	Sampling Type:	Soil
Project Name:	CROW FEDERAL MEGA BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: COMP 3 @ 6" (H900999-01)

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	03/14/2019	ND	2.03	101	2.00	0.195	
Toluene*	<0.050	0.050	03/14/2019	ND	1.86	93.1	2.00	0.372	
Ethylbenzene*	0.292	0.050	03/14/2019	ND	1.96	98.1	2.00	0.568	
Total Xylenes*	0.748	0.150	03/14/2019	ND	6.05	101	6.00	0.327	
Total BTEX	1.04	0.300	03/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	32.0	16.0	03/14/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	20.9	10.0	03/14/2019	ND	197	98.5	200	8.09	
DRO >C10-C28*	255	10.0	03/14/2019	ND	176	88.2	200	3.43	
EXT DRO >C28-C36	21.0	10.0	03/14/2019	ND					

Surrogate: 1-Chlorooctane 111 % 41-142

Surrogate: 1-Chlorooctadecane 116 % 37.6-147

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	03/13/2019	Sampling Date:	03/12/2019
Reported:	03/14/2019	Sampling Type:	Soil
Project Name:	CROW FEDERAL MEGA BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: E WALL (GRAB) (H900999-02)

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	03/14/2019	ND	2.03	101	2.00	0.195	
Toluene*	<0.050	0.050	03/14/2019	ND	1.86	93.1	2.00	0.372	
Ethylbenzene*	<0.050	0.050	03/14/2019	ND	1.96	98.1	2.00	0.568	
Total Xylenes*	<0.150	0.150	03/14/2019	ND	6.05	101	6.00	0.327	
Total BTEX	<0.300	0.300	03/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 91.5 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/14/2019	ND	416	104	400	3.92	

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	03/14/2019	ND	197	98.5	200	8.09	
DRO >C10-C28*	121	10.0	03/14/2019	ND	176	88.2	200	3.43	
EXT DRO >C28-C36	27.0	10.0	03/14/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 112 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	03/13/2019	Sampling Date:	03/12/2019
Reported:	03/14/2019	Sampling Type:	Soil
Project Name:	CROW FEDERAL MEGA BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: N WALL (GRAB) (H900999-03)

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	03/14/2019	ND	2.03	101	2.00	0.195		
Toluene*	<0.050	0.050	03/14/2019	ND	1.86	93.1	2.00	0.372		
Ethylbenzene*	<0.050	0.050	03/14/2019	ND	1.96	98.1	2.00	0.568		
Total Xylenes*	<0.150	0.150	03/14/2019	ND	6.05	101	6.00	0.327		
Total BTEX	<0.300	0.300	03/14/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 95.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/14/2019	ND	416	104	400	3.92		

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	03/14/2019	ND	197	98.5	200	8.09		
DRO >C10-C28*	<10.0	10.0	03/14/2019	ND	176	88.2	200	3.43		
EXT DRO >C28-C36	<10.0	10.0	03/14/2019	ND						

Surrogate: 1-Chlorooctane 106 % 41-142

Surrogate: 1-Chlorooctadecane 110 % 37.6-147

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	03/13/2019	Sampling Date:	03/12/2019
Reported:	03/14/2019	Sampling Type:	Soil
Project Name:	CROW FEDERAL MEGA BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S WALL (GRAB) (H900999-04)

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	03/14/2019	ND	2.03	101	2.00	0.195	
Toluene*	<0.050	0.050	03/14/2019	ND	1.86	93.1	2.00	0.372	
Ethylbenzene*	<0.050	0.050	03/14/2019	ND	1.96	98.1	2.00	0.568	
Total Xylenes*	<0.150	0.150	03/14/2019	ND	6.05	101	6.00	0.327	
Total BTEX	<0.300	0.300	03/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 94.1 % 73.3-129

Chloride, SM4500Cl-8		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/14/2019	ND	416	104	400	3.92	

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	03/14/2019	ND	197	98.5	200	8.09	
DRO >C10-C28*	<10.0	10.0	03/14/2019	ND	176	88.2	200	3.43	
EXT DRO >C28-C36	<10.0	10.0	03/14/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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*=Accredited Analyte

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Coley D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	03/13/2019	Sampling Date:	03/12/2019
Reported:	03/14/2019	Sampling Type:	Soil
Project Name:	CROW FEDERAL MEGA BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: W WALL (GRAB) (H900999-05)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/14/2019	ND	2.03	101	2.00	0.195		
Toluene*	<0.050	0.050	03/14/2019	ND	1.86	93.1	2.00	0.372		
Ethylbenzene*	<0.050	0.050	03/14/2019	ND	1.96	98.1	2.00	0.568		
Total Xylenes*	<0.150	0.150	03/14/2019	ND	6.05	101	6.00	0.327		
Total BTEX	<0.300	0.300	03/14/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 94.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/14/2019	ND	416	104	400	3.92		

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	03/14/2019	ND	197	98.5	200	8.09		
DRO >C10-C28*	<10.0	10.0	03/14/2019	ND	176	88.2	200	3.43		
EXT DRO >C28-C36	<10.0	10.0	03/14/2019	ND						

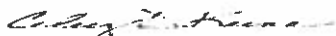
Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 109 % 37.6-147

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Coley D. Keene, Lab Director/Quality Manager

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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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <i>Apichals</i>			P.O. #:		
Project Manager: <i>Bruce Roberts</i>			Company:		
Address:			Attn:		
City: <i>Hobbs</i>			Address:		
State: <i>NM</i> Zip: <i>88240</i>			City:		
Phone #:			State:		
Project #:			Zip:		
Project Name:			Project Owner:		
Project Location: <i>Gross Federal Mine Battery</i>			Sample Name: <i>see attached file</i>		
FOR LAB USE ONLY			Matrix		
Lab I.D.			PRESERV		
Sample I.D.			SAMPLING		
H900999					
1 Cond 3 @ 6"					
2 Ewell (Grab)					
3 Ewell (Grab)					
4 Small (Grab)					
5 Small (Grab)					

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Relinquished By: *[Signature]* Date: *3/13/19* Time: *15:05*

Received By: *[Signature]* Date: *3/12* Time: *8:39*

Delivered By: (Circle One) *UPS* - *3.12* / *#97*

Sample Condition: Cool Intact

Checked By: *[Signature]*

REMARKS: *Email Results (Crushwell)*

On March 13, 2019 I Jose L. Quispe
went to Apach Crew Federal Maya battery to
get soil Composites of North and South wall
and Grab East and west wall. When I filled out
lab paper I marked the wrong info on
N. + S. wall, put Grab instead of Composite

Jose L. Quispe