2350 W Marland Blvd Hobbs, NM 88240

Remediation Plan

January 11, 2019

Re: Big Kick Battery
API# 30-025-36745
Case # 1RP-5237

To: Christina Hernandez
Environmental Specialist-New Mexico Oil Conservation Division Energy, Minerals and Natural Resources Department 1625 N. French Drive Hobbs, New Mexico 88240

Background:

On 10/01/2018 a release was discovered due to a nipple corroded on the transfer pump. An initial C-141 was submitted and approved by NMOCD on 10/16/2018. The Big Kick Battery (GPS Coordinates 32.57835 -103.10499) is located south of Hobbs New Mexico in unit letter C section 13 township 20S range 38E. A 2000 meter radius groundwater survey was conducted utilizing the NMOSE web page. According to the NMOSE the average depth of groundwater in the area is 47 feet below ground surface. A fresh water well is within 1,000 feet radius of the release site.

To date the release area has been excavated to a depth of 6 inches and all excavated material (24 yards) has been exported to a NMOCD approved facility. After the excavation was complete samples were collected on the east and west side of the battery and sent to a commercial laboratory for analysis of chloride, TPH, and BTEX. The laboratory results yielded chloride values above table 1 standards (600 mg/kg) for releases less than 50 feet to groundwater. The sample point east of the battery (SP 1) and west of the battery (SP 2) were delineated utilizing a hand auger collecting samples in 1 foot intervals and were submitted to a laboratory for analysis of chloride, TPH, and BTEX. Also horizontal samples were collected and field tested for chlorides. Although the release was contained inside the battery containment the samples east and south of the battery demonstrated contamination outside on the lease pad and east of the battery. A possible cause was cross contamination during excavating inside the battery and removing the excavated material. Once field composites suggested chloride values less than 600 horizontally a hand auger was advanced between the battery and the clean composite on the south and east side of battery to determine depth of contamination and samples were sent to a commercial laboratory for analysis of chloride, TPH, and BTEX. All samples came back below table one standards except for the west wall.

Remediation Plan:

Apache Corporation proposes that the area inside the battery be excavated to a depth of 1.5 feet. The berms will be removed on the south, east, and west side of the containment and hauled to a NMOCD approved facility. Once the berms are removed the excavation will be extended south to south composite and east to east composite to a depth of 1 foot. The west

will be extended until below table 1 standards are meet. Once the excavation is complete final wall and bottom composite samples representing every 200 square feet will be collected and submitted to a commercial laboratory for analysis of chloride, TPH, and BETX. NMOCD will be notified 48 hours prior to final samples collected. Approximately 36 yards will be excavated and disposed of at a NMOCD approved facility. Remediation activities will be completed in 90 days of NMOCD approval of plan.

Enclosed: Initial C-141, Groundwater Data, Maps, Sample Data, Laboratory Results, Field Notes and Photos.

Submitted by;

Bruce Baker

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

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NOY1828944685
District RP	1RP-5237
Facility ID	
Application ID	pOY1828943548

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)*	NOY1828944685
Contact mailing address	2350 W. Marland BLVD Hobbs, NM 88240		

Location of Release Source

Latitude 32.57835 Longitude -103.10499
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Big Kick Battery	Site Type	Battery
Date Release Discovered	10/01/2018	API# *(if applicable)*	30-025-36745

Unit Letter	Section	Township	Range	County
C	13	20S	38E	Lea

Fee minerals

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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☑ Produced Water	Volume Released (bbls) 113 barrels	Volume Recovered (bbls) 85 barrels
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A nipple corroded on transfer pump resulting in the loss of produced water.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NOY1828944685
District RP	1RP-5237
Facility ID	
Application ID	pOY1828943548

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible party consider this a major release?
☑ Yes ☐ No	The release was greater than 25 barrels of produced water.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Bruce Baker notified via email Jim Griswold and Olivia Yu at 9:15 a.m on 10/02/2018.

Initial Response

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

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

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

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

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

Printed Name: Bruce Baker
Title: Environmental Technician SR
Signature: Bruce Baker
Date: 10/11/2018
email: larry.baker@apachecorp.com
Telephone: 432-631-6982

OCD Only

Received by: RECEIVED By Olivia Yu at 12:11 pm, Oct 16, 2018
Date:

Volume Calculation

$487\ ft.^3 \times 7.48 = 3,646\ gal \div 42 = 86 \times .33 = 28 + 85 = 113$ barrels

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	25 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☑ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☑ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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Application ID	

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Printed Name: Bruce Baker Title: Environmetutal Tech SR.

Signature: Bruce Baker Date: 1-11-19

email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Dylan Rose-Coss Date: 06/18/2019

State of New Mexico
Oil Conservation Division

Incident ID	
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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 I specifications subject to 19.15.29.12(C)(4) NMAC
- ☑ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

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

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

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

Printed Name: Bruce Baker Title: Environmental Tech Sr.

Signature: Bruce Baker Date: 1-11-19

email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

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

Signature: Dylan Rose-Coss Date: 06/18/2019

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

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

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

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

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twp	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 08310		L	LE		1	1	13	20S	38E	677536	3606140*	403	65	42	23
L 11004		L	LE			3	12	20S	38E	677729	3606744*	632	60	46	14
L 10049		L	LE			4	12	20S	38E	678535	3606758*	853	90	50	40
L 02735		L	LE	4	4	4	12	20S	38E	678836	3606463*	951	90	65	25
L 03125		L	LE	1	4	4	11	20S	38E	677025	3606635*	1036	52	52	0
L 10726		L	LE		2	4	11	20S	38E	677119	3606940*	1140	65	35	30
L 02239		L	LE		1	2	14	20S	38E	676732	3606127*	1207	90	38	52
L 14058 POD2		L	LE	2	3	4	11	20S	38E	676786	3606717	1286	42	33	9
L 10055 POD1		L	LE	1	1	1	24	20S	38E	677465	3604628*	1591	53	30	23
L 02848		L	LE	1	3	1	07	20S	39E	679024	3607476*	1715	97	60	37
L 14071 POD1		L	LE	4	3	1	07	20S	39E	679316	3607200	1733	120	65	55
L 10057 POD1		L	LE	3	1	1	24	20S	38E	677465	3604428*	1783	58		
L 08437		L	LE		2	3	11	20S	38E	676315	3606927*	1801	31		
L 09721		L	LE		2	2	11	20S	38E	677104	3607746*	1803	85	25	60
L 09359		L	LE	2	2	2	11	20S	38E	677203	3607845*	1850	110	90	20
L 09560		L	LE	2	2	2	11	20S	38E	677203	3607845*	1850	135		
L 13398 POD1		L	LE	4	1	1	14	20S	38E	676082	3605956	1866	60	60	0
L 09381		L	LE	4	4	1	11	20S	38E	676407	3607229*	1875	48		
L 08514		L	LE	4	1	1	14	20S	38E	676027	3606013*	1916	60		
L 10106		L	LE	4	3	3	11	20S	38E	676020	3606416*	1937	52	35	17
L 10656 POD1	R	L	LE	1	2	2	11	20S	38E	677003	3607845*	1938	66	42	24
L 10656 POD2		L	LE	1	2	2	11	20S	38E	677003	3607845*	1938	64	41	23

Average Depth to Water: **47 feet**
Minimum Depth: **25 feet**
Maximum Depth: **90 feet**

Record Count: 22

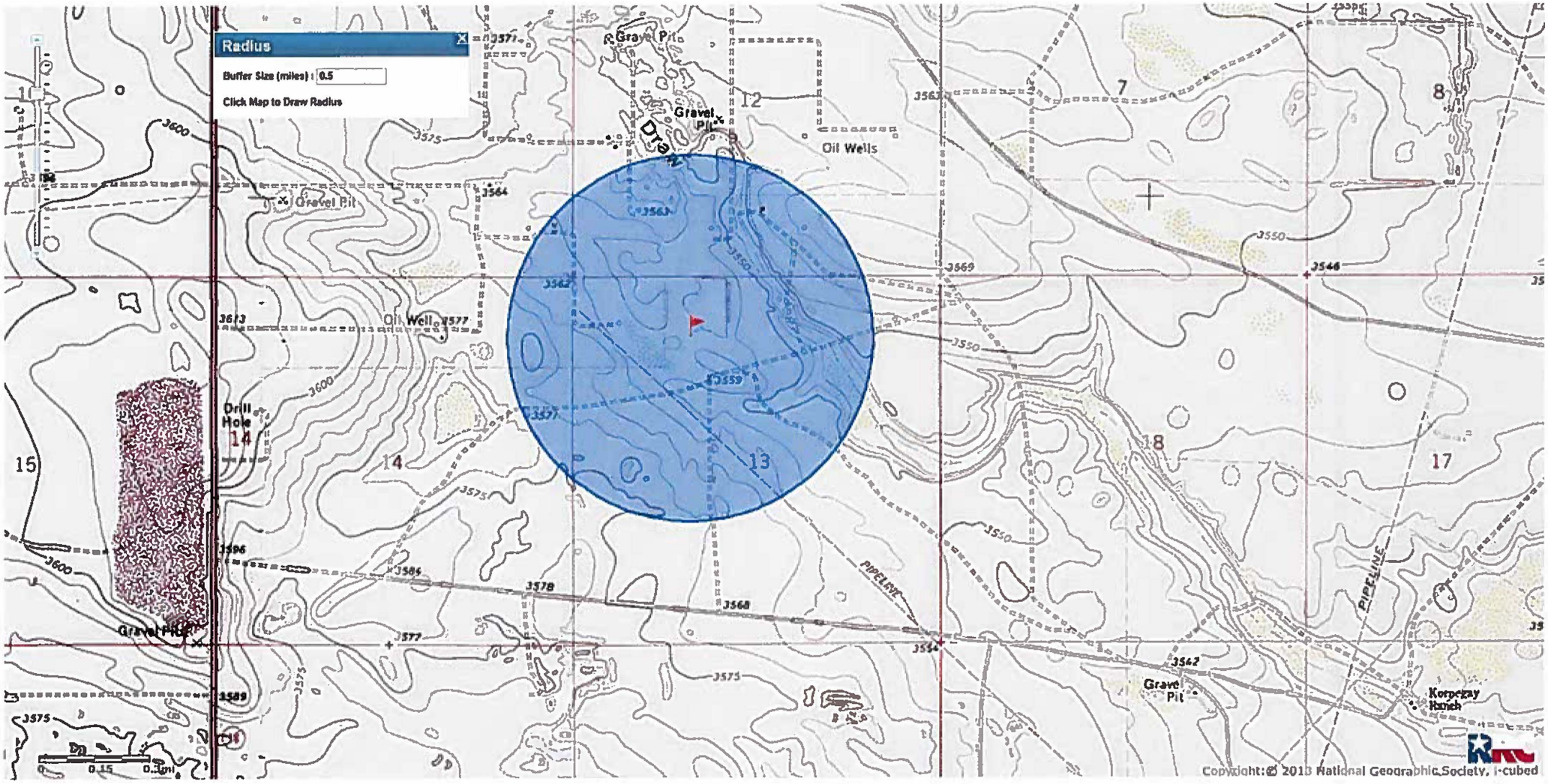
UTMNAD83 Radius Search (in meters):

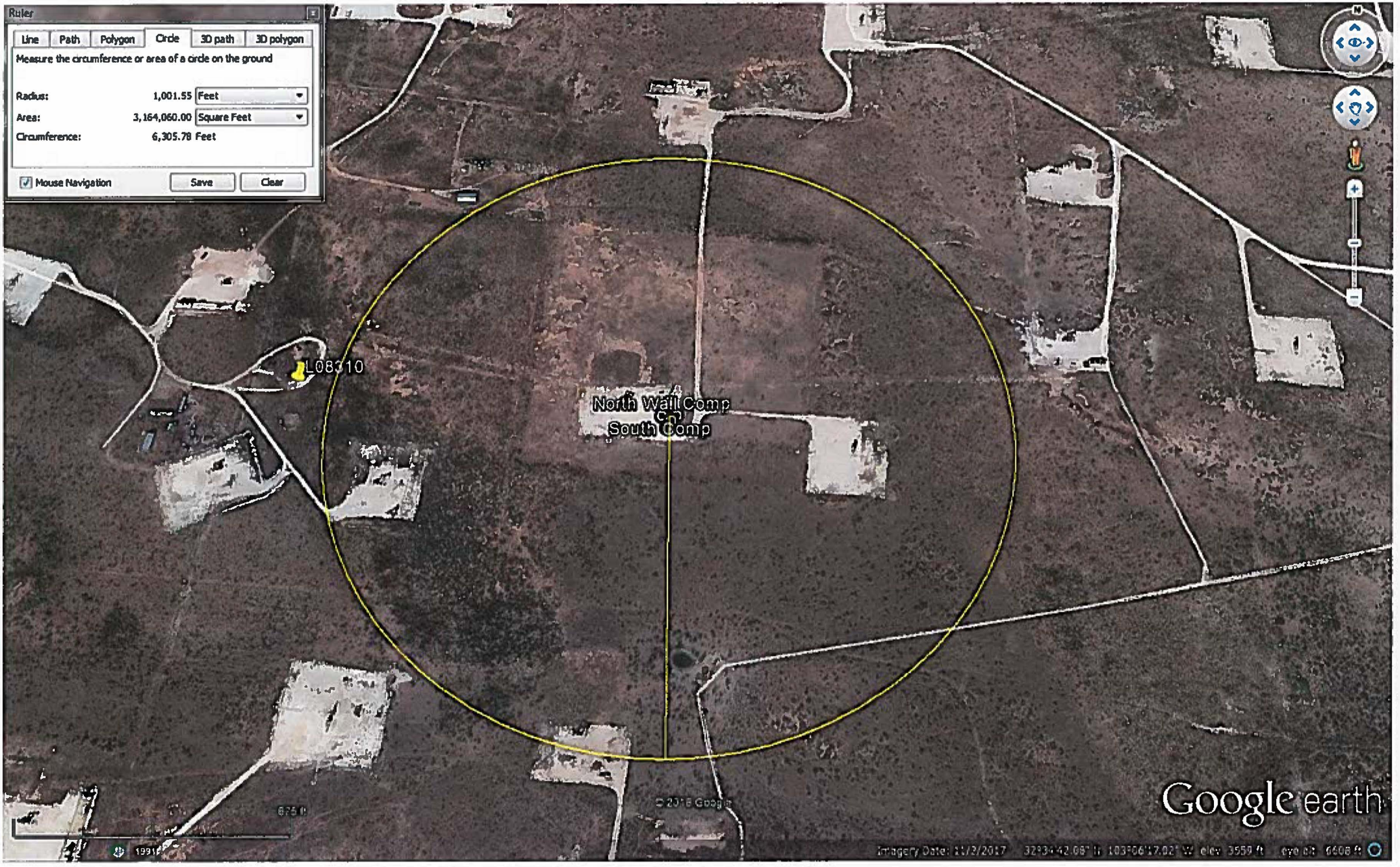
Easting (X): 677939 **Northing (Y):** 3606147 **Radius:** 2000

*UTM location was derived from PLSS - see Help

12/18/18 9:21 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER


Radius
Buffer Size (miles) : 0.5
Click Map to Draw Radius
Gravel Pit
Oil Wells
Drill Hole
PIPELINE
Korpczay Ranch
Copyright © 2013 National Geographic Society, i-cubed


Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the circumference or area of a circle on the ground
Radius: 1,001.55 Feet
Area: 3,164,060.00 Square Feet
Circumference: 6,305.78 Feet
Mouse Navigation
Save
Clear
L08310
North Wall Comp
South Comp
Google earth


North Wall Comp
SP 2
East Comp
West Wall Comp
East Auger
SP 1
South Auger
South Comp
Google earth

Big Kick Battery

SP 1	Depth	Field CL	Lab CL	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
	6"		2320	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
	1.5	662	592	<0.050	<0.050	<0.050	<0.150	<0.300	12.3	324	93.4
	2.5	400	464	<0.050	<0.050	<0.050	<0.150	<0.300	<10	14.5	<10

SP 2	Depth	Field CL	Lab CL	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
	6'		2680	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
	1.5	270	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
	2.5	404	352	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10

	Depth	Field CL	Lab CL	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
East Auger	Surface										
	1'	134	208	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
South Auger	Surface										
	1'	137	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10

		Field CL	Lab CL	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
North Wall		453	672	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
West Wall		453	5730	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
South Comp.		134	496	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
East Comp.		135	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10

CARDINAL Laboratories

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

December 27, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: BIG KICK #1 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/18/18 16:45.

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

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

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

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/18/2018	Sampling Date:	12/18/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: SP # 1 W SIDE OF B SURFACE (H803692-01)

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	12/21/2018	ND	2.06	103	2.00	1.70	
Toluene*	<0.050	0.050	12/21/2018	ND	2.02	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	12/21/2018	ND	2.02	101	2.00	1.51	
Total Xylenes*	<0.150	0.150	12/21/2018	ND	6.13	102	6.00	1.91	
Total BTEX	<0.300	0.300	12/21/2018	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2680**	16.0	12/21/2018	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/20/2018	ND	190	94.8	200	3.55	
DRO >C10-C28*	<10.0	10.0	12/20/2018	ND	207	103	200	8.43	
EXT DRO >C28-C36	<10.0	10.0	12/20/2018	ND					

Surrogate: 1-Chlorooctane 79.9 % 41-142

Surrogate: 1-Chlorooctadecane 81.8 % 37.6-147

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/18/2018	Sampling Date:	12/18/2018
Reported:	12/27/2018	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: SP # 2 E SIDE OF B SURFACE (H803692-02)

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	12/26/2018	ND	1.90	94.8	2.00	19.4	
Toluene*	<0.050	0.050	12/26/2018	ND	1.88	94.2	2.00	19.9	
Ethylbenzene*	<0.050	0.050	12/26/2018	ND	1.87	93.6	2.00	19.6	
Total Xylenes*	<0.150	0.150	12/26/2018	ND	5.86	97.7	6.00	19.3	
Total BTEX	<0.300	0.300	12/26/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL *104 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2320**	16.0	12/21/2018	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/20/2018	ND	190	94.8	200	3.55	
DRO >C10-C28*	<10.0	10.0	12/20/2018	ND	207	103	200	8.43	
EXT DRO >C28-C36	<10.0	10.0	12/20/2018	ND					

Surrogate: 1-Chlorooctane *96.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *98.1 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Apache		BILL TO	
Project Manager: Bruce Baker		P.O. #:	
Address:		Company:	
City: Hobbs	State: NM Zip: 88240	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location: Big Hatchet Battery #1		Phone #:	
Sampler Name: Jesse Quintanilla		Fax #:	

ANALYSIS REQUEST: GRO, Ext TPH, BTEX

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE	COOL	OTHER:	SAMPLING: DATE	TIME
H803692															
1	SP#1 W side of B Battery	G	1			X						X		12-18	11:50AM
2	SP#2 E side of B Battery	G	1			X						X		12-18	11:55AM

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 the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 12/19/10	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 16:45		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Email Results
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	4.6 °C	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) CH #75

+ Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

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

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

RUSH!!

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Apache		BILL TO	
Project Manager: Bruce Baker		P.O. #:	
Address:		Company:	
City: Hobbs	State: NM Zip: 88240	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location: Big Kick Battery		Phone #:	
Sampler Name: Joe Rickard		Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME	Cl	8015 TPH	BTEX
H900030																	
1	SP1@1.5	G	1			1					1		1-7-19	10:09AM	1	1	1
2	SP1@2.5	G	1			1					1		1-7-19	10:11AM	1	1	1
3	SP2@1.5	G	1			1					1		1-7-19	10:16AM	1	1	1
4	SP2@2.5	G	1			1					1		1-7-19	10:19AM	1	1	1
5	N Well	C	1			1					1		1-7-19	11:17AM	1	1	1
6	W Well	C	1			1					1		1-7-19	11:20AM	1	1	1

Relinquished By:	Date: 1-9-19	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
	Time: 16:40		Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: 1/9/19 @ 11:50 Bruce wants to RUSH!! Email Results	
	Time:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other: S.L.C. #97	Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials) TO		

CARDINAL Laboratories

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

January 10, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: BIG KICK #1 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 01/07/19 16:40.

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 accreditated through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/07/2019	Sampling Date:	01/07/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	BIG KICK BATTERY	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 1.5 (H900030-01)

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	01/09/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/09/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/09/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/09/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/09/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *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	**592**	16.0	01/09/2019	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**12.3**	10.0	01/09/2019	ND	198	98.8	200	2.20	
DRO >C10-C28*	**324**	10.0	01/09/2019	ND	216	108	200	1.53	
EXT DRO >C28-C36	**93.4**	10.0	01/09/2019	ND					

Surrogate: 1-Chlorooctane *88.7 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.6 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/07/2019	Sampling Date:	01/07/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	BIG KICK BATTERY	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 2.5 (H900030-02)

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	01/10/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/10/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/10/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/10/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL 95.5 % 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	**464**	16.0	01/09/2019	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/09/2019	ND	198	98.8	200	2.20	
DRO >C10-C28*	**14.5**	10.0	01/09/2019	ND	216	108	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	01/09/2019	ND					

Surrogate: 1-Chlorooctane 85.6 % 41-142

Surrogate: 1-Chlorooctadecane 86.0 % 37.6-147

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/07/2019	Sampling Date:	01/07/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	BIG KICK BATTERY	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 1.5 (H900030-03)

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	01/10/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/10/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/10/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/10/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID 95.9 % 73.3-129

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	01/09/2019	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/09/2019	ND	198	98.8	200	2.20	
DRO >C10-C28*	<10.0	10.0	01/09/2019	ND	216	108	200	1.53	
EXT DRO >C28-C36	<10.0	10.0	01/09/2019	ND					

Surrogate: 1-Chlorooctane 79.6 % 41-142

Surrogate: 1-Chlorooctadecane 78.0 % 37.6-147

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/07/2019	Sampling Date:	01/07/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	BIG KICK BATTERY	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 2.5 (H900030-04)

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	01/10/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/10/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/10/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/10/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL 95.7 % 73.3-129

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**352**	16.0	01/09/2019	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/09/2019	ND	216	108	200	8.17	
DRO >C10-C28*	<10.0	10.0	01/09/2019	ND	204	102	200	11.8	
EXT DRO >C28-C36	<10.0	10.0	01/09/2019	ND					

Surrogate: 1-Chlorooctane 87.3 % 41-142

Surrogate: 1-Chlorooctadecane 81.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/07/2019	Sampling Date:	01/07/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	BIG KICK BATTERY	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: N WALL (H900030-05)

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	01/10/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/10/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/10/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/10/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL 97.5 % 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	**672**	16.0	01/09/2019	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/09/2019	ND	216	108	200	8.17	
DRO >C10-C28*	<10.0	10.0	01/09/2019	ND	204	102	200	11.8	
EXT DRO >C28-C36	<10.0	10.0	01/09/2019	ND					

Surrogate: 1-Chlorooctane 83.0 % 41-142

Surrogate: 1-Chlorooctadecane 77.9 % 37.6-147

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/07/2019	Sampling Date:	01/07/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	BIG KICK BATTERY	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: W WALL (H900030-06)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/10/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/10/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/10/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/10/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/10/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	*96.8 %*	*73.3-129*							

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5730**	16.0	01/09/2019	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/09/2019	ND	216	108	200	8.17	
DRO >C10-C28*	<10.0	10.0	01/09/2019	ND	204	102	200	11.8	
EXT DRO >C28-C36	<10.0	10.0	01/09/2019	ND					
Surrogate: 1-Chlorooctane	*89.8 %*	*41-142*							
Surrogate: 1-Chlorooctadecane	*83.7 %*	*37.6-147*							

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

January 10, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: BIG KICK #1 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 01/09/19 11:50.

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

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

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

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/09/2019	Sampling Date:	01/09/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOUTH AGER @ 1' (H900049-01)

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	01/10/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/10/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/10/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/10/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/10/2019	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	**128**	16.0	01/10/2019	ND	400	100	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	01/09/2019	ND	186	93.1	200	5.47	
DRO >C10-C28*	<10.0	10.0	01/09/2019	ND	203	102	200	3.92	
EXT DRO >C28-C36	<10.0	10.0	01/09/2019	ND					

Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/09/2019	Sampling Date:	01/09/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOUTH COMPOSITE (H900049-02)

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	01/10/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/10/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/10/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/10/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID	*97.4 %*	*73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**496**	16.0	01/10/2019	ND	400	100	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	01/09/2019	ND	186	93.1	200	5.47	
DRO >C10-C28*	<10.0	10.0	01/09/2019	ND	203	102	200	3.92	
EXT DRO >C28-C36	<10.0	10.0	01/09/2019	ND					

Surrogate: 1-Chlorooctane	*84.5 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*80.3 %*	*37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/09/2019	Sampling Date:	01/09/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EAST COMPOSITE (H900049-03)

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	01/10/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/10/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/10/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/10/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL 96.4 % 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	**80.0**	16.0	01/10/2019	ND	400	100	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	01/09/2019	ND	186	93.1	200	5.47	
DRO >C10-C28*	<10.0	10.0	01/09/2019	ND	203	102	200	3.92	
EXT DRO >C28-C36	<10.0	10.0	01/09/2019	ND					

Surrogate: 1-Chlorooctane 92.8 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/09/2019	Sampling Date:	01/09/2019
Reported:	01/10/2019	Sampling Type:	Soil
Project Name:	BIG KICK #1 BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EAST AGER @ 1' (H900049-04)

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	01/10/2019	ND	2.19	109	2.00	1.43	
Toluene*	<0.050	0.050	01/10/2019	ND	2.23	111	2.00	0.594	
Ethylbenzene*	<0.050	0.050	01/10/2019	ND	2.24	112	2.00	1.72	
Total Xylenes*	<0.150	0.150	01/10/2019	ND	6.78	113	6.00	0.793	
Total BTEX	<0.300	0.300	01/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL 97.3 % 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	**208**	16.0	01/10/2019	ND	400	100	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	01/09/2019	ND	186	93.1	200	5.47	
DRO >C10-C28*	<10.0	10.0	01/09/2019	ND	203	102	200	3.92	
EXT DRO >C28-C36	<10.0	10.0	01/09/2019	ND					

Surrogate: 1-Chlorooctane 85.0 % 41-142

Surrogate: 1-Chlorooctadecane 83.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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

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

RUSH!!

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Apache	BILL TO
Project Manager: Brian Baker	P.O. #:
Address:	Company:
City: Hobbs State: NM Zip: 88240	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: Big Hills #1 Battery	Phone #:
Sampler Name: Joe Rinaldo / Juan Bernal	Fax #:

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	(ICE) COOL	OTHER	DATE	TIME			
H900049																	
1	South auger @ 1'	G	1			X					X		1/9/20	11:11am	X	X	X
2	South composite	C	1			X					X		1/9/20	10:[illegible]am	X	X	X
3	East composite	C	1			X					X		1/9/20	11:05am	X	X	X
4	East auger @ 1'	G	1			X					X		1/9/20	11:19am	X	X	X

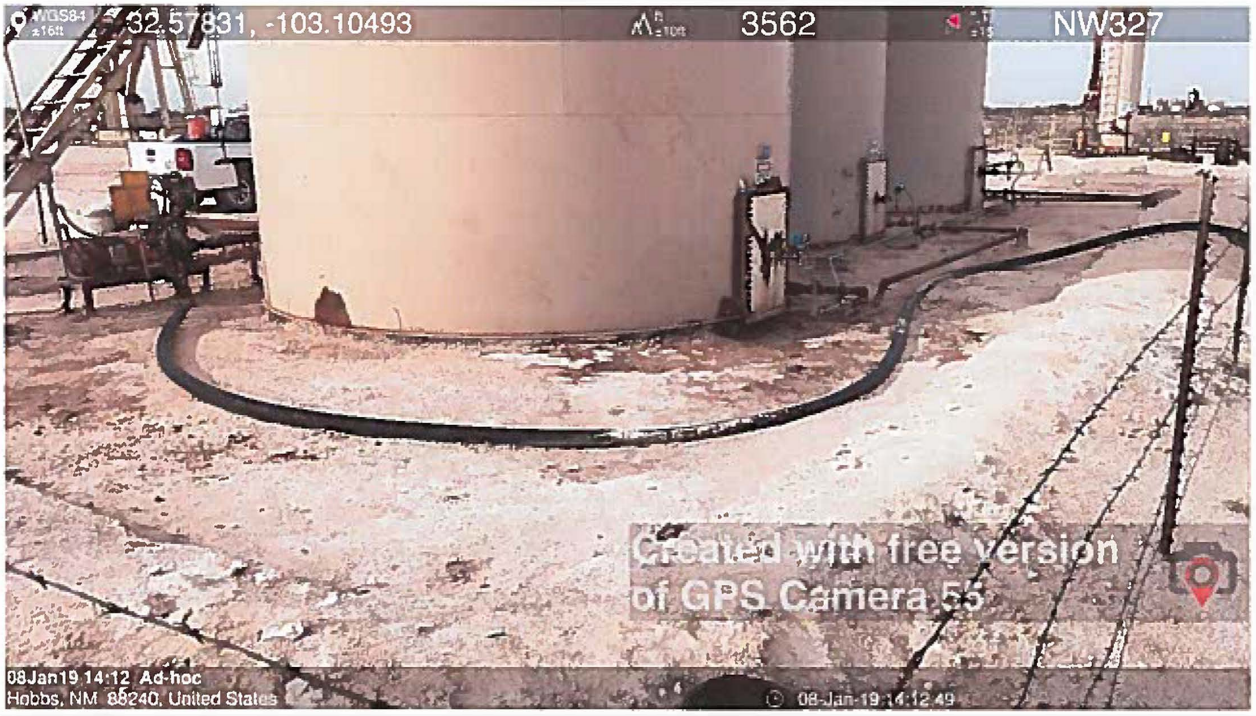
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries affiliates or successors arising out of or related to the performance of services hereunder by Cardinal regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 1/9/19	Received By: Jodi Henson	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 11:50		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: (Rushed) Email Results
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.6°C / #97	Sample Condition Cool: Yes / No Intact: Yes / No	CHECKED BY: (Initials)	

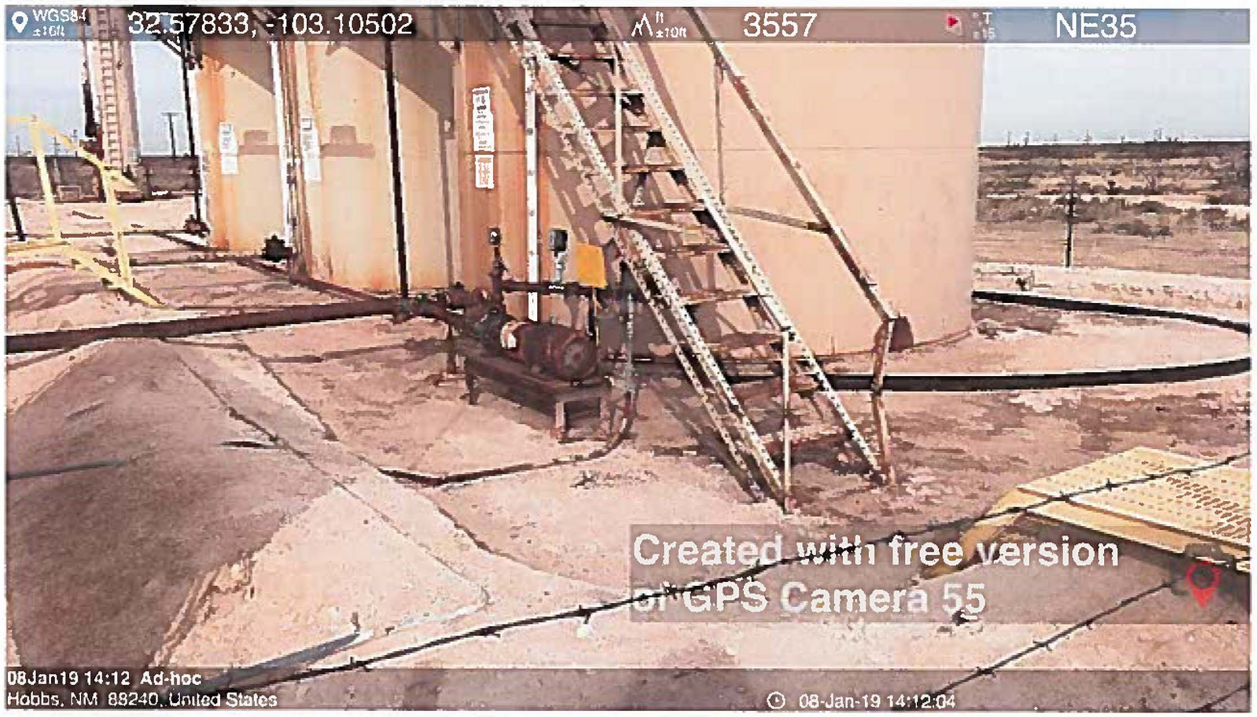
1-7-19 Big Kick #1 Battery

Sample #1 at	1.5'	11.3 / 30.0	0.25	2.65 = 662
Sample #1 at	2.5'	11.2 / 30.0	0.15	2.67 = 400
Sample #2 at	1.5'	11.1 / 30.0	0.10	2.70 = 270
Sample #2 at	2.5'	11.1 / 3.0	0.15	2.70 = 404
W. Composite		11.2 / 30.0	0.17	2.67 = 453
N. Composite		11.2 / 30.0	0.17	2.67 = 453
E. Composite		11.1 / 30.3	0.05	2.72 = 135
E. auger at	1'	11.1 / 30.0	0.05	2.70 = 137
S. auger at	1'	11.1 / 30.0	0.05	2.75 = 137

Big Kick Battery Photos




WGS84
32.57853, -103.10494
3556
SW217
Created with free version
of GPS Camera 55
08Jan19 14:11 Ad-hoc
Hobbs, NM 88240, United States
08-Jan-19 14:11:07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NE35
Created with free version
of GPS Camera 55
08Jan19 14:12 Ad-hoc
Hobbs, NM 88240, United States
08-Jan-19 14:12:04