

APPROVED

By Olivia Yu at 3:09 pm, Sep 04, 2018

2350 W Marland Blvd Hobbs, NM 88240

# Corrective Action Plan

NMOCD will approve of the vertical delineation completed for 1RP-5055 and the proposed remediation with conditions:

- 1) Confirmation bottom and sidewall samples, no greater than 50 ft. apart, tested for chlorides, BTEX, and TPH extended.
- 2) Mark release point and outline differing depths of excavation on a scaled map.
- 3) Photo documentation verifying that the release was from an oil tank and of remedial activities.

August 13, 2018

Re: BM Marcus Battery API# 30-025-27949 Case # 1RP-5055

To: Olivia Yu

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

# **Background:**

On May 1, 2018 a release occurred due to the south oil tank failed resulting in the loss of oil. An initial C-141 was submitted to NMOCD on May 11, 2018. The release area is located north of Eunice New Mexico (GPS Coordinates 32.56383055 -103.173066) in unit letter C section 20 Township 20S Range 38E. A search radius of 2000 meters for groundwater wells was conducted utilizing data from the NMOSE and USGS. A total of 7 USGS wells and 1 NMOSE well were found to be inside the radius. The average depth of groundwater in the area is 67 feet below ground surface.

A total of 4 verticals were conducted utilizing a backhoe in one foot intervals to delineate the vertical extend of contamination on July 11 and July 23, 2018. All samples collected from all verticals were submitted to a commercial laboratory for analysis of TPH and BTEX.

# **Corrective Action:**

Upon review of the vertical data collected Apache Corporation proposes that the area around SP 1 be excavated to a depth of 3 feet below ground surface. The area around SP 2 and SP 4 be excavated to a depth of 2 feet below ground surface. The area around SP 3 be excavated to a depth of 4 feet below ground surface. Once the excavation is complete final wall and bottom samples will be collected and submitted to a commercial laboratory for analysis of TPH and BTEX. All excavated material will be exported to a NMOCD approved disposal facility. The excavation will be backfield with imported caliche and top soil. Attached is the data for your review.

Enclosed: Initial C-141, Groundwater Data, Sample Diagram, Sample Data, 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 11 811 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

Revised August 8, 2011

Form C-141

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

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

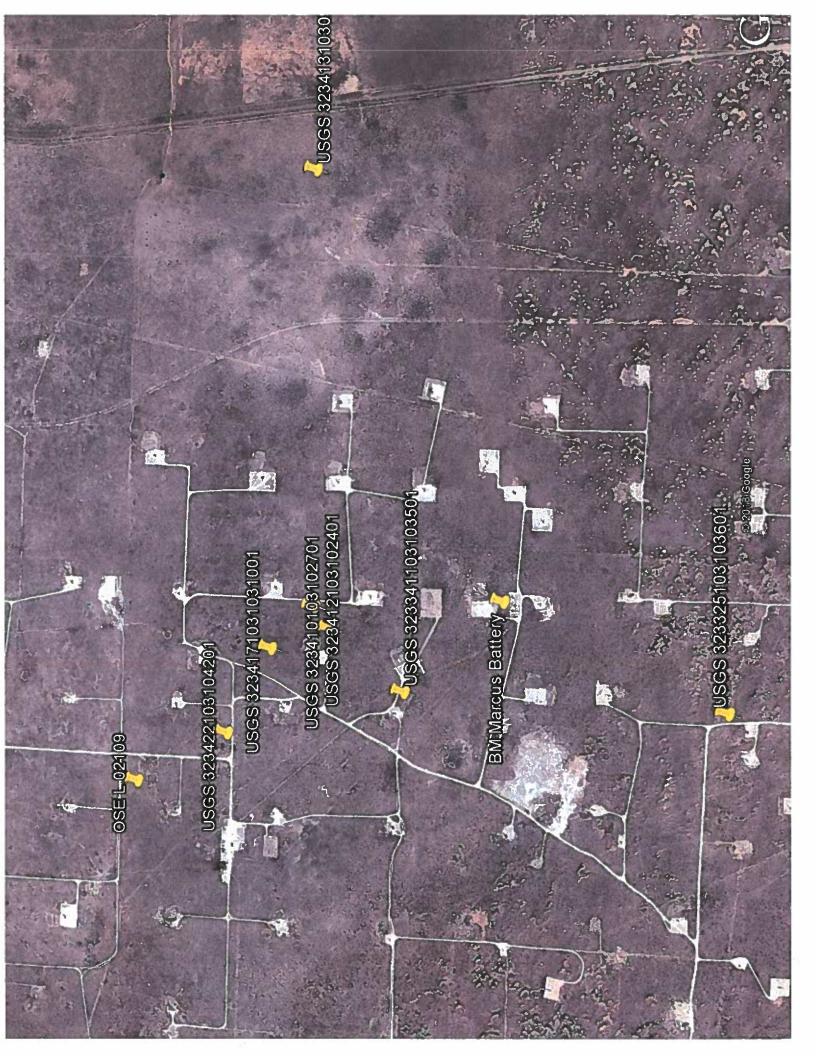
			Relo	ease Notific	ation	and Co	rrective A	ction	l			
						OPERA'	ror			l Report	П	Final Report
Name of Company Apache Corporation			Contact Br									
		rland Street,		NM 88240	,	Telephone N	lo. (432) 631 <b>-</b> 6	982				
Facility Nar (Nearest We		arcus Battery arcus 2)	,			Facility Typ	e Battery			_		
Surface Ow	ner Privat	te		Mineral C	wner l	Private			API No.	30-025-2	27949	
				LOCA	OIT	OF REI	EASE					
Unit Letter C	Section 20	Township 20S	Range 38E	Feet from the		South Line FSL	Feet from the		West Line FEL	•••	County Lea	у
			<u> </u>	Latitude :	32.5637	/ Longitude	<u>-103.1729</u>					
				NAT	URE	OF REL	EASE					
Type of Relea	ase Oil						Release 50 Barre	els of	Volume R	ecovered	40 Barre	els of oil
Source of Re				-		5/1/2018	our of Occurrence	e	Date and I 5/1/2018 a	lour of Dis it 3:00 pm	covery	
Was Immedia	ate Notice (		Yes [	No Not Re	quired	If YES, To Whom?						
By Whom? I						Date and Hour 5/2/2018 at 2:16 pm via email and voice mail.						
Was a Water	course Read		Yes 🗵	l No		If YES, Vo	lume Impacting t	he Wate	ercourse.			,
		em and Reme failed resulting		n Taken.* ss of oil. The tank	was iso	ВуС	EIVED Divia Yu at		***	COLUMN TO SERVICE	PLACE REPORT	8
The majority	y of the co		was con	ken.* tained inside the re feet of pasture			ment except the	contair	nment was	breached	on the	northwest
regulations al public health should their co or the environ	Il operators or the envi operations h ament. In a	are required t ronment. The nave failed to a	o report an acceptand adequately OCD accep	e is true and comp nd/or file certain ruce of a C-141 report investigate and rotance of a C-141	elease no rt by the emediate	otifications a NMOCD m contaminati	nd perform correct arked as "Final Re on that pose a thre	tive acti eport" d eat to gr	ions for rele loes not relic ound water,	ases which eve the ope surface wa	may en rator of ater, hun	danger liability nan health
	0						OIL CONS	SERV	ATION	DIVISIO	<u>)N</u>	
Signature:	Bruc	e Ba	hen						M-	_		
Printed Name	e: Bruce B	aker			4	Approved by	Environmental Sp	pecialist	:			
Title: Enviro	nmental Te	chnician SR				Approval Dat	<sub>e:</sub> 5/11/2018	3 1	Expiration [	Date:		
E-mail Addre	ess: larry.b	oaker@apache	corp.com			Conditions of				Attached	A	
Date: 5/11	/2018		Phone	e: (432) 631-6982		see attac	hed directive	e			194 miles	

\* Attach Additional Sheets If Necessary

1RP-5055

nOY1813149173

pOY1813149644





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# National Water Information System: Web Interface

HEGE	Water	Pacou	reac
U3U3	vvater	Resou	rces

Data Category:	Geographic Area:	
Groundwater V	New Mexico	✓ GO

GO

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Groundwater levels for New Mexico

Click to hide state-specific text

# Search Results -- 1 sites found

**Agency code** = usgs **site\_no list** = • 323341103103501

# Minimum number of levels = 1

Save file of selected sites to local disk for future upload

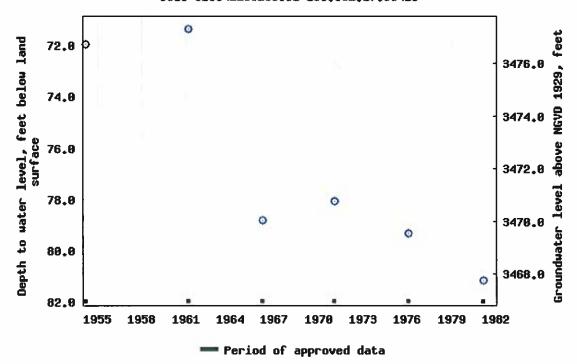
# USGS 323341103103501 20S.38E.17.33410

Available data for this site | Groundwater: Field measurements

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°34'01.3", Longitude 103°10'35.2" NAD83
Land-surface elevation 3,548.80 feet above NGVD29
The depth of the well is 116 feet below land surface.
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Ogallala Formation (1210GLL) local aquifer.

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

#### USGS 323341103103501 205.38E.17.33410



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

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

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# USGS 323410103102701 20S.38E.17.141341

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Lea County, New Mexico

Hydrologic Unit Code 13070007

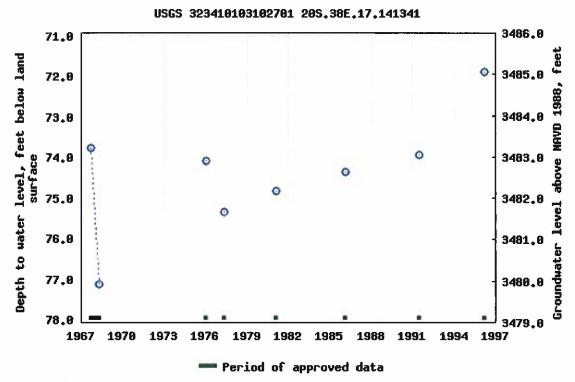
Latitude 32°34'10", Longitude 103°10'27" NAD27

Land-surface elevation 3,557 feet above NAVD88

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

**Output formats** 

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Agency code = usgs site\_no list = • 323412103102401

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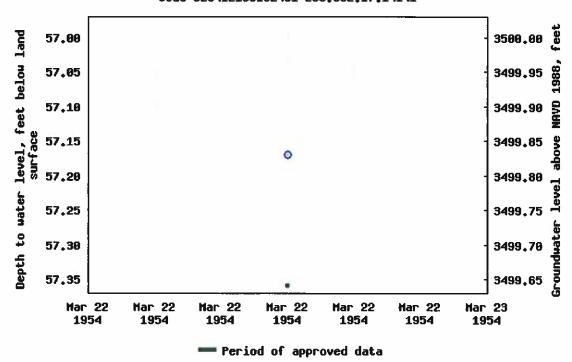
Save file of selected sites to local disk for future upload

# USGS 323412103102401 20S.38E.17.14141

Available data for this site	Groundwater: Field measurements	<b>∨</b> GO
Lea County, New Mexico		
Hydrologic Unit Code 1307	0007	
Latitude 32°34'12", Longit	ude 103°10'24" NAD27	
Land-surface elevation 3,5	57 feet above NAVD88	
The depth of the well is 96	feet below land surface.	
This well is completed in th	e Ogallala Formation (1210)	GLL) local aquifer.
	<b>.</b>	

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• 323413103092401

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# USGS 323413103092401 20S.38E.16.141233

Available data for this site Groundwater: Field measurements GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

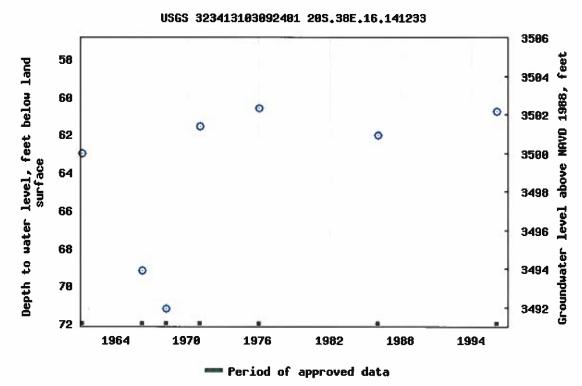
Latitude 32°34'13", Longitude 103°09'24" NAD27

Land-surface elevation 3,563 feet above NAVD88

This well is completed in the Ogallala Formation (1210GLL) local aquifer.

Table of data	2,012,000
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**Output formats** 



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# USGS 323417103103001 20S.38E.17.114442

Available data for this site Groundwater: Field measurements GO

Lea County, New Mexico

Hydrologic Unit Code 12080003

Latitude 32°34'17", Longitude 103°10'30" NAD27

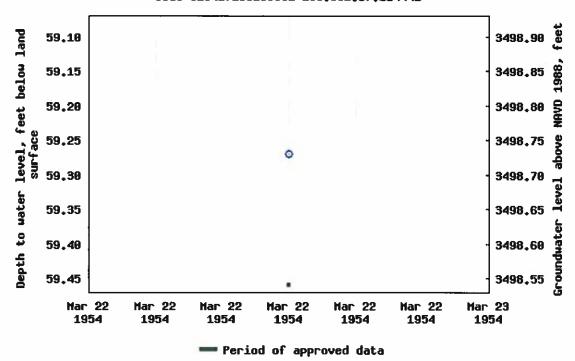
Land-surface elevation 3,558 feet above NAVD88

The depth of the well is 105 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

	Output formats	
Table of data		
Tab-separated data		
Graph of data	15	
Reselect period		

#### USGS 323417103103001 205.38E.17.114442



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

POD suffix indicates the POD has been replaced & no longer serves a water right

(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

Q Q Q Sub-

Code basin County 64 16 4 Sec Tws Rng 2 4 2 18 20S 38E

Υ X 670803 3605719\*

Depth Depth Water Distance Well WaterColumn

124 Average Depth to Water:

1485

50 feet

Minimum Depth: 50 feet

Maximum Depth: 50 feet

Record Count: 1

**POD Number** 

L 02109

UTMNAD83 Radius Search (in meters):

Easting (X): 671533

Northing (Y): 3604425

Radius: 2000

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/16/18 9:07 AM

WATER COLUMN/ AVERAGE **DEPTH TO WATER** 

# **BM Marcus Battery Delineation Data**

Toluene   Ethybenzene   Total			SP	SP 1 ( GPS: 32	32.56383055 -103.173066	-103.1730	(99		
<0.050	Depth	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
<0.050	9	<0.050	2.58	22.5	19.1	27.5	225	29300	5400
<0.050         <0.050         <0.050         <0.050         <0.050         <10           <0.050	2,	<0.050	0.468	0.842	2.86	4.17	6.99	830	116
COUSCO   C	3,	<0.050	<0.050	<0.050	<0.150	<0.300	<10	256	145
SP 2 (GPS: 32.563977 -103.1730055)           Benzene         Toluene         Ethybenzene         Total Nylenes         Total BTEX         GRO           <0.500	4'	<0.050	<0.050	050:0>	<0.150	<0.300	<10	257	57.1
Benzene         Toluene         Ethybenzene         Total Xylenes         Total BTEX         GRO           <0.500         0.605         2.44         9.43         12.5         427           <0.200         <0.219         0.909         <1.20         <50           <0.050         <0.050         <0.050         <0.150         <10           <0.050         <0.050         <0.050         <0.150         <10           <0.050         <0.050         <0.050         <0.150         <10           Benzene         Toluene         Ethybenzene         Total BTEX         GRO            <0.464         8.23         8.6         25.8         43.1         962            <0.050         <0.071         <0.244         <0.315         <10           <0.050         <0.050         <0.071         <0.244         <0.315         <10           <0.050         <0.050         <0.050         <0.050         <0.050         <10           <0.050         <0.050         <0.050         <0.050         <0.050         <10           <0.050         <0.050         <0.050         <0.050         <0.050         <0.050           <0.050         <0.050			SP	l .	2.563977 -1	03.173005	(5)		
<0.500         0.605         2.44         9.43         12.5         427           <0.200	Depth	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
<0.200         <0.219         0.909         <1.20         <50           <0.050	9	<0.500	0.605	2.44	9.43	12.5	427	32200	6120
<.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050         <.0.050 <t< td=""><td>1.5'</td><td>&lt;0.200</td><td>&lt;0.200</td><td>0.219</td><td>0.909</td><td>&lt;1.20</td><td>&lt;50</td><td>1390</td><td>254</td></t<>	1.5'	<0.200	<0.200	0.219	0.909	<1.20	<50	1390	254
CO.050         C.0.050         C.0.050 <th< td=""><td>2,</td><td>&lt;0.050</td><td>&lt;0.050</td><td>050'0&gt;</td><td>&lt;0.150</td><td>&lt;0.300</td><td>&lt;10</td><td>235</td><td>68.1</td></th<>	2,	<0.050	<0.050	050'0>	<0.150	<0.300	<10	235	68.1
SP 3 (GPS: 32.5638611 -103.172933)           Benzene         Toluene         Ethybenzene         Total Xylenes         Total BTEX         GRO           0.464         8.23         8.6         25.8         43.1         962           1.23         25.8         28         75.1         130         2210           <0.050	3,	<0.050	<0.050	050'0>	<0.150	<0.300	<10	154	40.8
Benzene         Toluene         Ethybenzene         Total Xylenes         Total BTEX         GRO           0.464         8.23         8.6         25.8         43.1         962           1.23         25.8         28         75.1         130         2210           <0.050         0.124         0.327         1.12         1.57         48           <0.050         <0.050         0.071         0.244         0.315         <10           <0.050         <0.050         <0.050         <0.150         <0.300         <10           Senzene         Toluene         Ethybenzene         Total Xylenes         Total BTEX         GRO           8enzene         Toluene         Ethybenzene         Total Xylenes         Total BTEX         GRO           <0.200         0.228         1.91         7.08         9.22         264           <0.050         <0.050         <0.050         <0.050         <0.050         <0.050           <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050           <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050			SP		2.5638611 -	103.17293	33)		
0.464         8.23         8.6         25.8         43.1         962           1.23         25.8         28         75.1         130         2210           <0.050         0.124         0.327         1.12         1.57         48           <0.050         <0.050         0.071         0.244         0.315         <10           <0.050         <0.050         <0.050         <0.150         <10         <10           <0.050         <0.050         <0.050         <0.150         <0.300         <10         <10           <0.050         <0.020         <0.228         1.91         7.08         9.22         264            <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050	Depth	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
1.23         25.8         28         75.1         130         2210           <0.050	1,	0.464	8.23	9.8	25.8	43.1	396	35700	0989
<0.050         0.124         0.327         1.12         1.57         48           <0.050	1.5'	1.23	25.8	28	75.1	130	2210	13500	2080
< 0.050         < 0.050         0.071         0.244         0.315         <10           < 0.050	3,	<0.050	0.124	0.327	1.12	1.57	48	1480	264
<0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <10           Benzene         Toluene         Ethybenzene         Total Xylenes         Total BTEX         GRO           <0.200	4,	<0.050	<0.050	0.071	0.244	0.315	<10	316	68.7
SP 4 (GPS: 32.56409722 -103.17318611)           Benzene         Toluene         Ethybenzene         Total Xylenes         Total BTEX         GRO           <0.200	5,	<0.050	<0.050	<0.050	<0.150	<0.300	<10	332	92.9
Benzene         Toluene         Ethybenzene         Total Xylenes         Total BTEX         GRO           <0.200			SP 4	(GPS: 32.	56409722 -	103.17318	611)		
<0.200         0.228         1.91         7.08         9.22         264           <0.050	Depth	Benzene	Toluene	<b>Ethybenzene</b>	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
<0.050         <0.050         <0.050         0.259         2.2         2.73         109           <0.050	Surface	<0.200	0.228	1.91	7.08	9.22	264	24700	4930
<0.050	1,	<0.050	<0.050	0.259	2.2	2.73	109	1970	181
<0.050 <0.050 <0.050 <0.050 <0.150 <0.300 <10	2,	<0.050	<0.050	<0.050	<0.150	<0.300	10.3	543	106
	3,	<0.050	<0.050	<0.050	<0.150	<0.300	<10	194	24.8





July 13, 2018

**BRUCE BAKER** 

**APACHE CORP - HOBBS** 

2350 W. MARLAND BLVD.

HOBBS, NM 88240

**RE: BM MARCUS BATTERY** 

Enclosed are the results of analyses for samples received by the laboratory on 07/11/18 15:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab-accred-certif.html">www.tceq.texas.gov/field/ga/lab-accred-certif.html</a>.

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.

Celeg D. Keene

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Fax To:

(575) 393-2432

Received:

07/11/2018

Reported:

07/13/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location: NONE GIVEN

**NOT GIVEN** 

Sampling Date:

07/11/2018

Sampling Type:

Soil Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

# Sample ID: SP 1 @ 6" (H801890-01)

BTEX 8021B	mg/l	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method 8 ank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	07/12/2018	ND	1.84	91.8	2.00	0.0879	
Toluene*	2.58	0.500	07/12/2018	ND	1.81	90.6	2.00	0.132	
Ethylbenzene*	5.77	0.500	07/12/2018	ND	1.77	88.7	2.00	0.719	
Total Xylenes*	19.1	1.50	07/12/2018	ND	5.46	91.0	6.00	1.01	
Total BTEX	27.5	3.00	07/12/2018	ND					
Surrogate: 4-Bromoftworobenzene (PIE	120 %	6 69 8-14	2						
TPH 8015M	mg/l	kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	572	100	07/12/2018	ND	231	116	200	6.54	
DRO >C10-C28*	29300	100	07/12/2018	ND	240	120	200	22.1	
EXT DRO >C28-C36	5400	100	07/12/2018	ND					
Surrogate: 1-Chlorooctane	155 %	6 41-142	?						
Surrogate: 1-Chlorooctadecane	1470 9	% 37.6-14	7						

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\*=Accredited Analyte

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

Fax To:

(575) 393-2432

Received:

07/11/2018

Reported:

07/13/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location: NONE GIVEN

Sampling Date:

07/11/2018

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

NOT GIVEN

Sample ID: SP 1 @ 2' (H801890-02)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	07/12/2018	ND	1.84	91.8	2.00	0.0879	
Toluene*	0.468	0.050	07/12/2018	ND	1.81	90.6	2.00	0.132	
Ethylbenzene*	0.842	0.050	07/12/2018	ND	1.77	88.7	2.00	0.719	
Total Xylenes*	2.86	0.150	07/12/2018	ND	5.46	91.0	6.00	1.01	
Total BTEX	4.17	0.300	07/12/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL

125 %

69.8-142

TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	66.3	10.0	07/12/2018	ND	231	116	200	6.54	
DRO >C10-C28*	830	10.0	07/12/2018	ND	240	120	200	22.1	
EXT DRO >C28-C36	116	10.0	07/12/2018	ND					

Surrogate: 1-Chlorooctane

97.8%

41-142

Surrogate: I-Chlorooctadecane

116%

37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Page 3 of 12



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

Fax To:

(575) 393-2432

Analyzed By MC

Received:

07/11/2018

Reported:

DTEV 0031D

07/13/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location: NONE GIVEN **NOT GIVEN** 

Sampling Date:

07/11/2018

Soil

Sampling Type:

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

# Sample ID: SP 2 @ 6" (H801890-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	07/12/2018	ND	1.84	91.8	2.00	0.0879	
Toluene*	0.605	0.500	07/12/2018	ND	1.81	90.6	2.00	0.132	
Ethylbenzene*	2.44	0.500	07/12/2018	ND	1.77	88.7	2.00	0.719	
Total Xylenes*	9.43	1.50	07/12/2018	ND	5.46	91.0	6.00	1.01	
Total BTEX	12.5	3.00	07/12/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	112.9	6 69.8-14	2						
TPH 8015M	mg/	kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	427	100	07/12/2018	ND	231	116	200	6.54	
DRO >C10-C28*	32200	100	07/12/2018	ND	240	120	200	22.1	
EXT DRO >C28-C36	6120	100	07/12/2018	ND					
Surrogate: 1-Chlorooctane	170 %	6 41-142	?						
Surrogate: 1-Chlorooctadecane	1610	% 37.6-14	7						

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

Fax To:

(575) 393-2432

Received:

07/11/2018

Reported:

DTEV 00310

07/13/2018

Project Name:

BM MARCUS BATTERY

Project Number:

NONE GIVEN

Sampling Date:

07/11/2018

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Project Location:

**NOT GIVEN** 

Sample ID: SP 2 @ 1.5' (H801890-04)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Anatyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	07/12/2018	ND	1.84	91.8	2.00	0.0879	
Toluene*	<0.200	0.200	07/12/2018	ND	1.81	90.6	2.00	0.132	
Ethylbenzene*	0.219	0.200	07/12/2018	ND	1.77	88.7	2.00	0.719	
Total Xylenes*	0.909	0.600	07/12/2018	ND	5.46	91.0	6.00	1.01	
Total BTEX	<1.20	1.20	07/12/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIC	112 9	6 69.8-14	2						
TPH 8015M	mg/	kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

Analysis of Pre MC

TPH 8015M	mg	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	07/12/2018	ND	231	116	200	6.54	
DRO >C10-C28*	1390	50.0	07/12/2018	ND	240	120	200	22.1	
EXT DRO >C28-C36	254	50.0	07/12/2018	ND					

Surrogate: 1-Chlorooctane

115 %

41-142

Surrogate: 1-Chlorooctadecane

162 %

37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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

Fax To:

(575) 393-2432

Received:

07/11/2018

Reported:

07/13/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location: NONE GIVEN NOT GIVEN

Sampling Date:

07/11/2018

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Sample ID: SP 3 @ 1' (H801890-05)

BTEX 8021B	mg,	/kg	Analyze	d By: MS				7	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.464	0.200	07/12/2018	ND	1.84	91.8	2.00	0.0879	
Toluene*	8.23	0.200	07/12/2018	ND	1.81	90.6	2.00	0.132	
Ethylbenzene*	8.60	0.200	07/12/2018	ND	1.77	88.7	2.00	0.719	
Total Xylenes*	25.8	0.600	07/12/2018	ND	5.46	91.0	6.00	1.01	

ND

07/12/2018

Surrogate: 4-Bromofluorobenzene (PIL

**Total BTEX** 

131%

43.1

69.8-142

1.20

TPH 8015M	mg/	kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	962	100	07/12/2018	ND	231	116	200	6.54	
DRO >C10-C28*	35700	100	07/12/2018	ND	240	120	200	22.1	
EXT DRO >C28-C36	6860	100	07/12/2018	ND					

Surrogate: 1-Chlorooctane

208 %

41-142

Surrogate: 1-Chlorooctadecane

1880 %

37.6-147

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Page 6 of 12

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

Fax To:

):

(575) 393-2432

Received:

07/11/2018

Reported:

07/13/2018

Project Name: Project Number: BM MARCUS BATTERY

Project Location:

NONE GIVEN

Sampling Date:

07/11/2018

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

Sample ID: SP 3 @ 1.5' (H801890-06)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.23	0.200	07/12/2018	ND	1.84	91.8	2.00	0.0879	
Toluene*	25.8	0.200	07/12/2018	ND	1.81	90.6	2.00	0.132	
Ethylbenzene*	28.0	0.200	07/12/2018	ND	1.77	88.7	2.00	0.719	
Total Xylenes*	75.1	0.600	07/12/2018	ND	5.46	91.0	6.00	1.01	
Total BTEX	130	1.20	07/12/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	150	% 69.8-14	2						
TPH 8015M	mg.	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	2210	50.0	07/12/2018	ND	231	116	200	6.54	

TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	2210	50.0	07/12/2018	ND	231	116	200	6.54	
DRO >C10-C28*	13500	50.0	07/12/2018	ND	240	120	200	22.1	
EXT DRO >C28-C36	2080	50.0	07/12/2018	ND					
Surrogate 1-Chlorooctane	204	% 41-142	?						

Surrogate 1-Chlorooctadecane 636 %

37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Page 7 of 12

07/11/2018

Cool & Intact

Tamara Oldaker

Soil

Sampling Date:

Sampling Type:

# Analytical Results For:

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

100

Reported: 07/13/2018

07/11/2018

Project Name: BM MARCUS BATTERY Sampling Condition:
Project Number: NONE GIVEN Sample Received By:

Project Location: NOT GIVEN

Sample ID: SP 3 @ 3' (H801890-07)

Received:

**BTEX 8021B** Analyzed By: MS mg/kg Method Blank Analyte Result Reporting Limit Analyzed BS % Recovery True Value QC RPD Qualifier Benzene\* < 0.050 0.050 07/12/2018 ND 1.84 91.8 2.00 0.0879 Toluene\* 0.124 0.050 07/12/2018 ND 1.81 90.6 2.00 0.132 0.327 0.050 07/12/2018 Ethylbenzene\* ND 88.7 1.77 2.00 0.719 **Total Xylenes\*** 1.12 0.150 07/12/2018 ND 5.46 91.0 6.00 1.01 **Total BTEX** 1.57 0.300 07/12/2018 ND

Surrogate: 4-Bromofluorobenzene (PIE 121 % 69.8-142

TPH 8015M	mg	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	48.0	10,0	07/12/2018	ND	231	116	200	6.54	
DRO >C10-C28*	1480	10.0	07/12/2018	ND	240	120	200	22.1	
EXT DRO >C28-C36	264	10.0	07/12/2018	ND					

Surrogate: 1-Chlorooctadecane 109 % 41-142
Surrogate: 1-Chlorooctadecane 168 % 37 6-147

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Celey D. Keene, Lab Director/Quality Manager

Page 8 of 12



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

Fax To:

(575) 393-2432

Analyzed Ry: MS

Received:

07/11/2018

Reported:

RTFY 8021R

07/13/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location:

NONE GIVEN

mo/ko

Sampling Date:

07/11/2018

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

# Sample ID: SP 4 @ SURFACE (H801890-08)

DICA GOZID	my/	<u>~9</u>	Allalyze	u by, ma					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	07/12/2018	ND	1.84	91.8	2.00	0.0879	
Toluene*	0.228	0.200	07/12/2018	ND	1.81	90.6	2.00	0.132	
Ethylbenzene*	1.91	0.200	07/12/2018	ND	1.77	88.7	2.00	0.719	
Total Xylenes*	7.08	0.600	07/12/2018	ND	5.46	91.0	6.00	1.01	
Total BTEX	9.22	1.20	07/12/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIE	128 9	69.8-14	12						
TPH 8015M	mg/	kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	264	100	07/12/2018	ND	231	116	200	6.54	
DRO >C10-C28*	24700	100	07/12/2018	ND	240	120	200	22.1	
EXT DRO >C28-C36	4930	100	07/12/2018	ND					
Surrogate: 1-Chlorooctane	146 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	1330	% 37.6-14	17						

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Celey D. Keene, Lab Director/Quality Manager

Page 9 of 12



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

Fax To:

(575) 393-2432

Received:

07/11/2018

Reported:

07/13/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number:

NONE GIVEN

Sampling Date:

07/11/2018

Sampling Type:

Soil

Sampling Condition: Sample Received By:

Cool & Intact Tamara Oldaker

Project Location:

**NOT GIVEN** 

Sample ID: SP 4 @ 1' (H801890-09)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2018	ND	1.84	91.8	2.00	0.0879	
Toluene*	<0.050	0.050	07/12/2018	ND	1.81	90.6	2.00	0.132	
Ethylbenzene*	0.529	0.050	07/12/2018	ND	1.77	88.7	2.00	0.719	
Total Xylenes*	2.20	0.150	07/12/2018	ND	5.46	91.0	6.00	1.01	
Total BTEX	2.73	0.300	07/12/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL

133 %

69.8-142

TPH 8015M	mg	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	109	50.0	07/12/2018	ND	231	116	200	6.54	
DRO >C10-C28*	1970	50.0	07/12/2018	ND	240	120	200	22.1	
EXT DRO >C28-C36	181	50.0	07/12/2018	ND					
Surrogate: I-Chlorooctane	128	% 41-142	?						

128 %

Surrogate: I-Chlorooctadecane

185 %

37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Page 10 of 12



#### **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.
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
2	Chloride by SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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College L. Kinne



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name.	- Moderne								副	-		b	1	B/LL 70					Þ	ANALYSIS	χ.	Ŝ	Z			REQUEST	<b>-</b>					ł	
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Address:					1	ĺ			Ö.	<u>š</u>	Company:	Š																					
city: Hobbs	State: NM	Zip:		88240	7	Ö			≥	Attn:		li																	—				
Phone #:									Þ	ğ	Address:	**																					
Project #:	Project Owner:								Ω	City:														_					_				
Project Name:									ဋ	State:	••		χ. Ι	Zip:										_					_				
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Sampler-UPS - Bus - Other: MMMM 5.750

+ Cardinal connect accort works I channed Blosco for written channes to IRTRI 202\_2226

Delivered By: (Circle One)

5.80

Sample Condition Cool Intact
Cool Intact
Cool No 75

CHECKED BY:
(Initials)

Time:

Relinquished By:

Gruce Baker

Time: //S //S

Received By:

7-11-18

Received By:

Phone Result:
Fax Result:
REMARKS:

☐ Yes ☐ No

Add'l Phone #: Add'l Fax #:

Email

Relinquished By:



July 27, 2018

**BRUCE BAKER** 

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

**RE: BM MARCUS BATTERY** 

Enclosed are the results of analyses for samples received by the laboratory on 07/23/18 14:38.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.qov/field/qa/lab-accred-certif.html">www.tceq.texas.qov/field/qa/lab-accred-certif.html</a>.

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

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

Fax To:

(575) 393-2432

Received:

07/23/2018

Reported:

07/27/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location:

NONE GIVEN

NOT GIVEN

Sampling Date:

07/23/2018

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Tamara Oldaker

#### Sample ID: SP 1 @ 3' (H802001-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2018	ND	1.85	92.3	2.00	3.72	
Toluene*	<0.050	0.050	07/24/2018	ND	1.85	92.7	2.00	2.88	QR-03
Ethylbenzene*	<0.050	0.050	07/24/2018	ND	1.86	92.8	2.00	2.91	QR-03
Total Xylenes*	<0.150	0.150	07/24/2018	ND	5.39	89.8	6.00	2.89	QR-03
Total BTEX	<0.300	0.300	07/24/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108	% 69.8-14	2						
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2018	ND	202	101	200	8.17	
DRO >C10-C28*	556	10.0	07/24/2018	ND	224	112	200	7.15	QM-07
EXT DRO >C28-C36	145	10.0	07/24/2018	ND					
Surrogate: 1-Chlorooctane	95.2	% 41-142	?						
Surrogate: 1-Chlorooctadecane	149	% 37.6-14	7						

#### **Cardinal Laboratories**

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Celen Kerne

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 11



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

Fax To:

(575) 393-2432

Received:

07/23/2018

Reported:

07/27/2018

Project Name: Project Number: BM MARCUS BATTERY NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

07/23/2018

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

# Sample ID: SP 1 @ 4' (H802001-02)

BTEX 8021B	mg/	kg	Anaiyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2018	ND	1.85	92.3	2.00	3.72	
Toluene*	<0.050	0.050	07/24/2018	ND	1.85	92.7	2.00	2.88	
Ethylbenzene*	<0.050	0.050	07/24/2018	ND	1.86	92.8	2.00	2.91	
Total Xylenes*	<0.150	0.150	07/24/2018	ND	5.39	89.8	6.00	2.89	
Total BTEX	<0.300	0.300	07/24/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIC	106 9	69.8-14	2						
TPH 8015M	mg/	kg	Analyze	d By: MS			·		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2018	ND	202	101	200	8.17	
DRO >C10-C28*	257	10.0	07/24/2018	ND	224	112	200	7.15	
EXT DRO >C28-C36	57.1	10.0	07/24/2018	ND					
Surrogate: 1-Chlorooctane	98.5	% 41-142	?						
Surrogate: 1-Chlorooctadecane	1199	6 37.6-14	7						

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Celeg D. Keene

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

Fax To:

(575) 393-2432

Received:

07/23/2018

Reported:

07/27/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number:

NONE GIVEN

Project Location:

**NOT GIVEN** 

Sampling Date:

07/23/2018

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

# Sample ID: SP 2 @ 2' (H802001-03)

BTEX 8021B	mg/l	(g	Analyze	d By: MS					_
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2018	ND	1.85	92.3	2.00	3.72	
Toluene*	<0.050	0.050	07/24/2018	ND	1.85	92.7	2.00	2.88	
Ethylbenzene*	<0.050	0.050	07/24/2018	ND	1.86	92.8	2.00	2.91	
Total Xylenes*	<0.150	0.150	07/24/2018	ND	5.39	89.8	6.00	2.89	
Total BTEX	<0.300	0.300	07/24/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIE	103 %	6 69.8-14	2						
TPH 8015M	mg/l	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2018	ND	202	101	200	8.17	
DRO >C10-C28*	235	10.0	07/24/2018	ND	224	112	200	7.15	
EXT DRO >C28-C36	68.1	10.0	07/24/2018	ND					
Surrogate: 1-Chlorooctane	97.69	6 41-142							
Surrogate: 1-Chlorooctadecane	126 %	6 37.6-14	7						

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

Fax To:

(575) 393-2432

Received:

07/23/2018

Reported:

07/27/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location: NONE GIVEN

cation: NOT GIVEN

Sampling Date:

07/23/2018

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

# Sample ID: SP 2 @ 3' (H802001-04)

BTEX 8021B	mg/	kg	Analyze	d By: MS			<b></b>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8\$	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2018	ND	1.85	92.3	2.00	3.72	
Toluene*	<0.050	0.050	07/24/2018	ND	1.85	92.7	2.00	2.88	
Ethylbenzene*	<0.050	0.050	07/24/2018	ND	1.86	92.8	2.00	2.91	
Total Xylenes*	<0.150	0.150	07/24/2018	ND	5.39	89.8	6.00	2.89	
Total BTEX	<0.300	0.300	07/24/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIC	105	69.8-14	22						
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2018	ND	202	101	200	8.17	
DRO >C10-C28*	154	10.0	07/24/2018	ND	224	112	200	7.15	
EXT DRO >C28-C36	40.8	10.0	07/24/2018	ND					
Surrogate: 1-Chlorooctane	87.5	% 41-142	?						
Surrogate: 1-Chlorooctadecane	105	% 37.6-14	17						

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Celeg T. Keene



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

Fax To:

(575) 393-2432

Received:

07/23/2018

Reported:

07/27/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location: NONE GIVEN NOT GIVEN

Sampling Date:

07/23/2018

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Sample ID: SP 3 @ 5' (H802001-06)

BTEX	8021B

21B	г	ng/l

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2018	ND	1.85	92.3	2.00	3.72	
Toluene*	<0.050	0.050	07/24/2018	ND	1.85	92.7	2.00	2.88	
Ethylbenzene*	<0.050	0.050	07/24/2018	ND	1.86	92.8	2.00	2.91	
Total Xylenes*	<0.150	0.150	07/24/2018	ND	5.39	89.8	6.00	2.89	
Total BTEX	<0.300	0.300	07/24/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC

105 %

69.8-142

TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2018	ND	202	101	200	8.17	
DRO >C10-C28*	332	10.0	07/24/2018	ND	224	112	200	7.15	
EXT DRO >C28-C36	92.9	10.0	07/24/2018	ND					

Surrogate: 1-Chlorooctane

76.6%

41-142

Surrogate: 1-Chlorooctadecane

126 %

37.6-147

Cardinal Laboratories

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any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be lable for incidental or consumer including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its autoislandes, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celegy to trains

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

Fax To:

(575) 393-2432

Received:

07/23/2018

Reported:

07/27/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location:

NONE GIVEN

Sampling Date:

07/23/2018

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

#### Sample ID: SP 3 @ 4' (H802001-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2018	ND	1.85	92.3	2.00	3.72	
Toluene*	<0.050	0.050	07/24/2018	ND	1.85	92.7	2.00	2.88	
Ethylbenzene*	0.071	0.050	07/24/2018	ND	1.86	92.8	2.00	2.91	
Total Xylenes*	0.244	0.150	07/24/2018	ND	5.39	89.8	6.00	2.89	
Total BTEX	0.315	0.300	07/24/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIC	106 9	6 69.8-14	2						
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2018	ND	202	101	200	8.17	
DRO >C10-C28*	316	10.0	07/24/2018	ND	224	112	200	7.15	
EXT DRO >C28-C36	68.7	10.0	07/24/2018	ND					
Surrogate: 1-Chlorooctane	93.3	% 41-142							
Surrogate: 1-Chlorooctadecane	122 9	6 37.6-14	7						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celley L. Keine



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

Fax To:

(575) 393-2432

Received:

07/23/2018

Reported:

07/27/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location: NONE GIVEN **NOT GIVEN** 

Sampling Date:

07/23/2018

Sampling Type:

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

Soil Cool & Intact

Sampling Condition: Sample Received By:

Tamara Oldaker

Sample ID: SP 4 @ 2' (H802001-07)

BTEX	8021B	

	Ana	lyzed	By:	MS
--	-----	-------	-----	----

DIEX 6021B	my	kg	Analyze	u by: M3					
Analyte	Result	Reporting Limit	Anatyzed	Method Blank	8\$	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2018	ND	1.85	92.3	2.00	3.72	
Toluene*	<0.050	0.050	07/24/2018	ND	1.85	92.7	2.00	2.88	
Ethylbenzene*	<0.050	0.050	07/24/2018	ND	1.86	92.8	2.00	2.91	
Total Xylenes*	<0.150	0.150	07/24/2018	ND	5.39	89.8	6.00	2.89	
Total BTEX	<0.300	0.300	07/24/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL

106 %

69.8-142

TPH 8015M mg/kg		Analyzed	By: MS					
. Analyte Result Rej	porting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10* 10.3	10.0	07/24/2018	ND	202	101	200	8.17	
DRO >C10-C28* 543	10.0	07/24/2018	ND	224	112	200	7.15	
EXT DRO >C28-C36 106	10.0	07/24/2018	ND					

Surrogate: 1-Chlorooctane

94.5 %

41-142

Surrogate: 1-Chlorooctadecane

137 %

37.6-147

**Cardinal Laboratories** 

\*=Accredited Analyte

any other clause whitstooner shall be deemed valved unless made in werbing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable including, wethout limitation, business interruptions, loss of use, or loss of profits incurred by client, ets subsidiances, affisizes or successors arising out of or related to the performance of the services hereunded claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Luboratories.

Celeg D. Keene

Celey D. Keene, Lab Director/Quality Manager

Page 8 of 11

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

Fax To:

(575) 393-2432

Received:

07/23/2018

Reported:

07/27/2018

Project Name:

**BM MARCUS BATTERY** 

Project Number: Project Location: NONE GIVEN

Sampling Date:

07/23/2018

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

#### Sample ID: SP 4 @ 3' (H802001-08)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2018	ND	1.85	92.3	2.00	3.72	
Toluene*	<0.050	0.050	07/24/2018	ND	1.85	92.7	2.00	2.88	
Ethylbenzene*	<0.050	0.050	07/24/2018	ND	1.86	92.8	2.00	2.91	
Total Xylenes*	<0.150	0.150	07/24/2018	ND	5.39	89.8	6.00	2.89	
Total BTEX	<0.300	0.300	07/24/2018	ND					
Surrogate 4-Bromofluorobenzene (PIE	107 9	% 69.8-14	2						
TPH 8015M	mg/	kg	Analyze	d By: MS			<u> </u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/24/2018	ND	202	101	200	8.17	
DRO >C10-C28*	194	10.0	07/24/2018	ND	224	112	200	7.15	
EXT DRO >C28-C36	24.8	10.0	07/24/2018	ND					
Surrogate: 1-Chlorooctane	82.5	% 41-142	?						
Surrogate: 1-Chlorooctadecane									

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg & Kune



#### **Notes and Definitions**

The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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 LCSD recovery and/or RPD values.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey & Keine



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: HOACLE		0.15/1/6	A control of the cont	ANALYSIS REQUEST
Project Manager: Bruce Suker		P.O. #:		
Address:		Company:		
City: Hobbs State: NA	Zip: 88240	Attn:		-
® <b>*</b>		Address:		
Project #: Project Owner		City:		
ame: 8M MArc	they	State: Zip:		
on:		Phone #:	2-1	
Sampler Name: Bruck Enker		Fax #:	Pi	
	MATRIX	PRESERV. SAMPLING	7.	
	RS		d.	
Lab I.D. Sample I.D.	CAB OR (CONTAINED UNDWASTEWATE	D/BASE: / COOL	Ex	
H-602401	# CO GRO WAS SOIL		TIME	
1 501 @ 3'	6-	V 7-33-18	1.00001	
2 50 100 41	6 -	> =	1:05 pm	
3 SP 2 @ 21	6 7	V "	1:18m VX	
4 SP 2 @ 3'	6 - 1	11	1:204.	
543641	6 1 1	11	1:25 mm 2/	
6 SP3 @ S'	6 -	11	( BOOM /	
7 594 60 21	6 - 7		1:55/2 1/	
8 594 @ 31	ر د	=	1:42m / V	
PLEASE NOTE: LABURY and Demagns. Curdinal's lability and denn't exclusive remody for any claim artising whether besend in contract or too, ahali be limited to the emount paid by the claim for the applicable analyses. All claims including those for negligence and any other cause whatesever shall be deemed welved unless made in writing and received by Cardinal within 30 days after completion of the applicable	eny daim arising whether besed in contract deemad waterd unless made in writing and	or tort, shall be limited to the amount paid received by Cerdinal within 30 days side	d by the client for the r completion of the applicable	
service. In no event shall Cardinal be lable for incidented or consequented charages, induction of which introded, Datamas internal provise, new or tree or present annual or years, new or tree or present annual or present or services have under by Cardinal, organises of whether such claim to besed upon any of the above challed neutrons or otherwise.	questal chrages, including without introduct, Dubiness Interruptoris, saw of thes, or kies of prune structure by of services hereunder by Cardinal, regardless of whether such defin is based upon any of the above stated ne	s based upon any of the above stated re-	4	
	Received By:		Fax Result:	Yes □ No Add1Fax#:
Bruce Parker Time: 35 pm	Mayara 1	Market	REMARKS:	
	Received By:		Em41	1 Results
Time:				
Delivered By: (Circle One) 5,82		on CHECKED BY:		
Sample - UPS - Bus - Other: Mongotal S.	S.75 Hives Hives	10.4%		