



2350 W Marland Blvd Hobbs, NM 88240

Corrective Action Plan

June 4, 2018

Re: *Oxy Malt-O-Meal State # 1 Battery*
API# 30-015-30577
Case # 2RP-4506

To: *Mike Bratcher*
Environmental Specialist-New Mexico Oil Conservation Division Energy, Minerals and
Natural Resources Department 811 S. First Street Artesia, NM 88260

Background:

On November 22, 2017 a release occurred due to gasket failure on the heater treater resulting in the loss of 4 barrels of oil and 4 barrels of produced water with 3 barrels of oil and 1 barrel of produced water recovered. An initial C-141 was submitted to NMOCD on November 29, 2017 and approved on November 30, 2017. The release area is located east of Artesia NM (GPS Coordinates 32.8177147 -104.1701431) in unit letter L section 22 township 17S range 28E. A search for groundwater wells in the vicinity of the release was conducted utilizing information obtained from the NMOSE and USGS. The estimated groundwater level below the release is 58 feet.

A total of 4 verticals were conducted utilizing a backhoe in one foot intervals to delineate the vertical extent of contamination on May 22 through May 23, 2018. Field samples were collected and titrated for chlorides. Representative samples were collected from all verticals and submitted to a commercial laboratory for analysis of chloride, extended TPH, and BTEX. A fifth vertical was installed utilizing a hand shovel due to being near the heater treater. Field samples were collected and were field titrated for chlorides.

Corrective Action:

Upon review of the vertical data collected Apache Corporation proposes that the area around SP 1 be excavated to a depth of three feet below ground surface and the remaining release area in the pasture be excavated to a depth of 1 foot below ground surface. Once the pasture excavation is complete final wall samples will be collected and submitted to a commercial laboratory for analysis to meet the requirement for horizontal delineation.

The area around SP 5 will be hand excavated to a depth that is safely obtainable and bottom and wall samples will be collected and submitted to a commercial laboratory for analysis of chloride, extended TPH and BTEX. A hand auger will be utilized to further delineate SP 5 to below 600 chlorides or to extent possible and representative samples will be submitted to a commercial laboratory for analysis of chlorides, extended TPH, and BTEX. All excavated material will be exported to a NMOCD approved disposal facility. The excavation will be

backfield with imported caliche for the lease pad and topsoil for the excavation in the pasture.
Attached is the data for your review.

*Enclosed: Initial C-141, Groundwater Data, Sample Diagram, Field Data, Laboratory Results,
and Revegetation Plan*

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

NM OIL CONSERVATION
ARTESIA DISTRICT
State of New Mexico
Energy Minerals and Natural Resources
NOV 29 2017
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

NAB1733A575LUB **OPERATOR** Initial Report Final Report

Name of Company Apache Corporation #B73	Contact Bruce Baker
Address 2350 W Marland Street, Hobbs, NM 88240	Telephone No. (432) 631-6982
Facility Name Oxy Malt-O-Meal State # 1 Battery	Facility Type Battery
Surface Owner State	Mineral Owner State API No. 30-015-30577

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	22	17S	28E	1800'	FSL	660'	FWL	Eddy

Latitude 32.8177147 Longitude -104.1701431

NATURE OF RELEASE

Type of Release Oil and Produced Water	Volume of Release 4 barrels of oil and 4 barrels of produced water	Volume Recovered 3 barrels of oil and 1 barrel of produced water
Source of Release Heater Treater	Date and Hour of Occurrence 11/22/2017	Date and Hour of Discovery 11/22/2017 at 8:30 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom? Bruce Baker	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The gasket on the heater treater failed resulting in the release of fluids. The heater treater was isolated and a vacuum truck was dispatched to pick up standing fluid.

Describe Area Affected and Cleanup Action Taken.*
The release affected the area in the containment around the heater treater and approximately 1,000 square feet of pasture northeast of facility. Another area of pasture approximately 300 square feet was affected by overspray northwest of the facility. The release area was mapped and surface field samples collected.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: <i>Bruce Baker</i>	OIL CONSERVATION DIVISION	
Printed Name: Bruce Baker	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Environmental Technician	Approval Date: 11/30/17	Expiration Date: N/A
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval: See Attached	
Date: 11/29/2017 Phone: (432) 631-6982	Attached <input checked="" type="checkbox"/> 2 RP-4506	

* Attach Additional Sheets If Necessary



USGS 324724104082301

RA 12307 Pod 1

Mail @ Meal Battery

USGS 324724104082301

360

82



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	Sub-basin	County	Q	Q	Q	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 12307 POD1			ED	4	2	2	14	17S	28E	580495	3633981	3792	140	58	82

Average Depth to Water: **58 feet**

Minimum Depth: **58 feet**

Maximum Depth: **58 feet**

Record Count: 1

UTMNAD83 Radius Search (In meters):

Easting (X): 577879

Northing (Y): 3631236

Radius: 4000

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.

6/1/18 9:02 AM

WATER COLUMN/ AVERAGE
DEPTH TO WATER



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National Water Information System: Web Interface

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Data Category:

Groundwater

Geographic Area:

New Mexico

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Groundwater levels for New Mexico

5,570.77 meters

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 325141104082301

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 325141104082301 17S.28E.02.424314

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code --

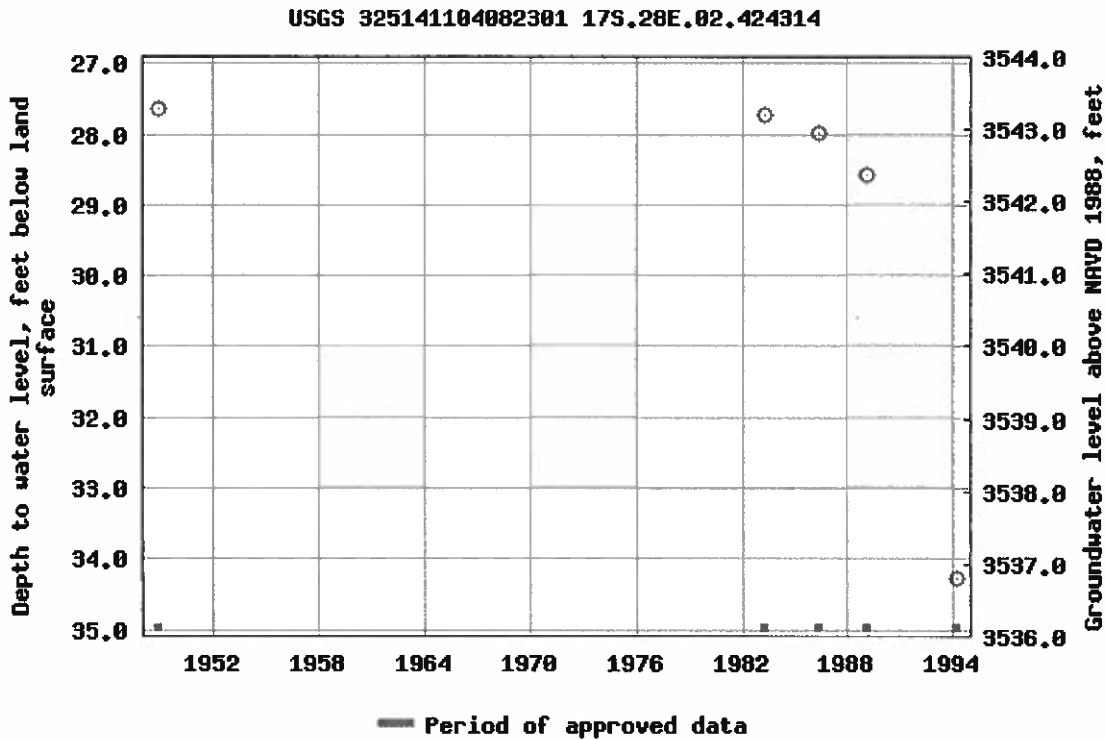
Latitude 32°51'41", Longitude 104°08'23" NAD27

Land-surface elevation 3,571 feet above NAVD88

This well is completed in the San Andres Limestone (313SADR) local aquifer.

Output formats

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



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

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Title: Groundwater for New Mexico: Water Levels

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



Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2018-06-01 11:15:09 EDT

1.87 1.53 nadww01



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USGS Water Resources

Data Category:

Groundwater

Geographic Area:

New Mexico

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Groundwater levels for New Mexico

Click to hide state-specific text

4,030.76 m

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 324724104082301

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 324724104082301 17S.28E.35.42233

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°47'24", Longitude 104°08'23" NAD27

Land-surface elevation 3,659 feet above NGVD29

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

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

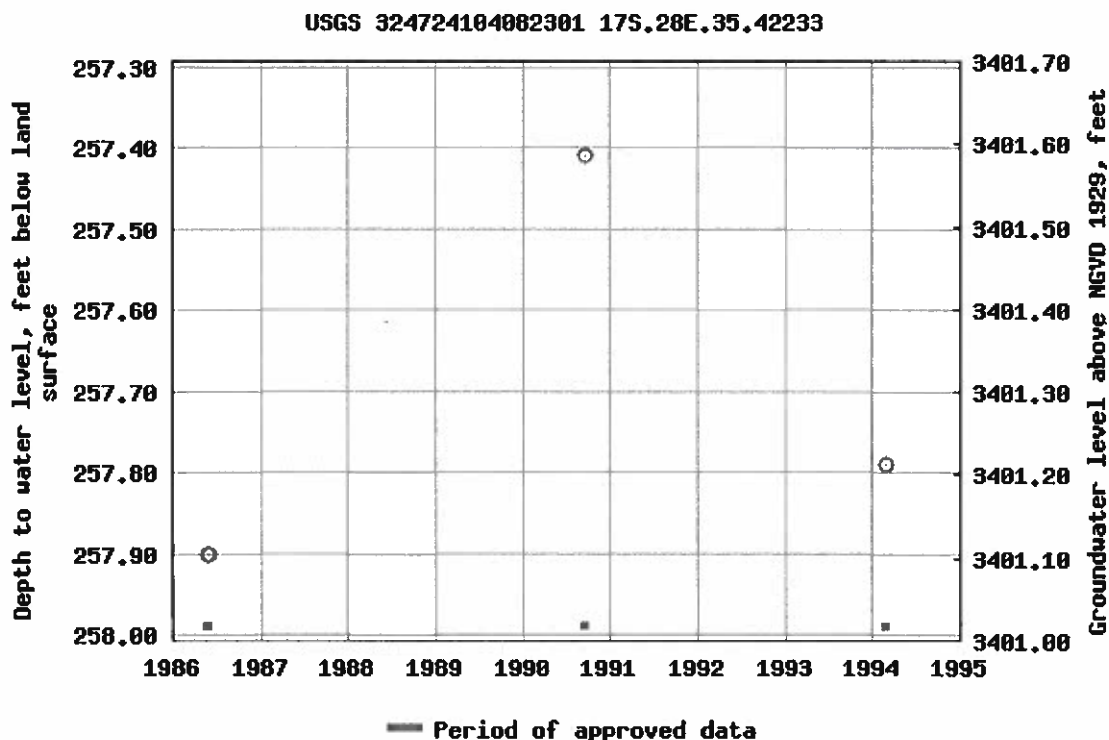
Output formats

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[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



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

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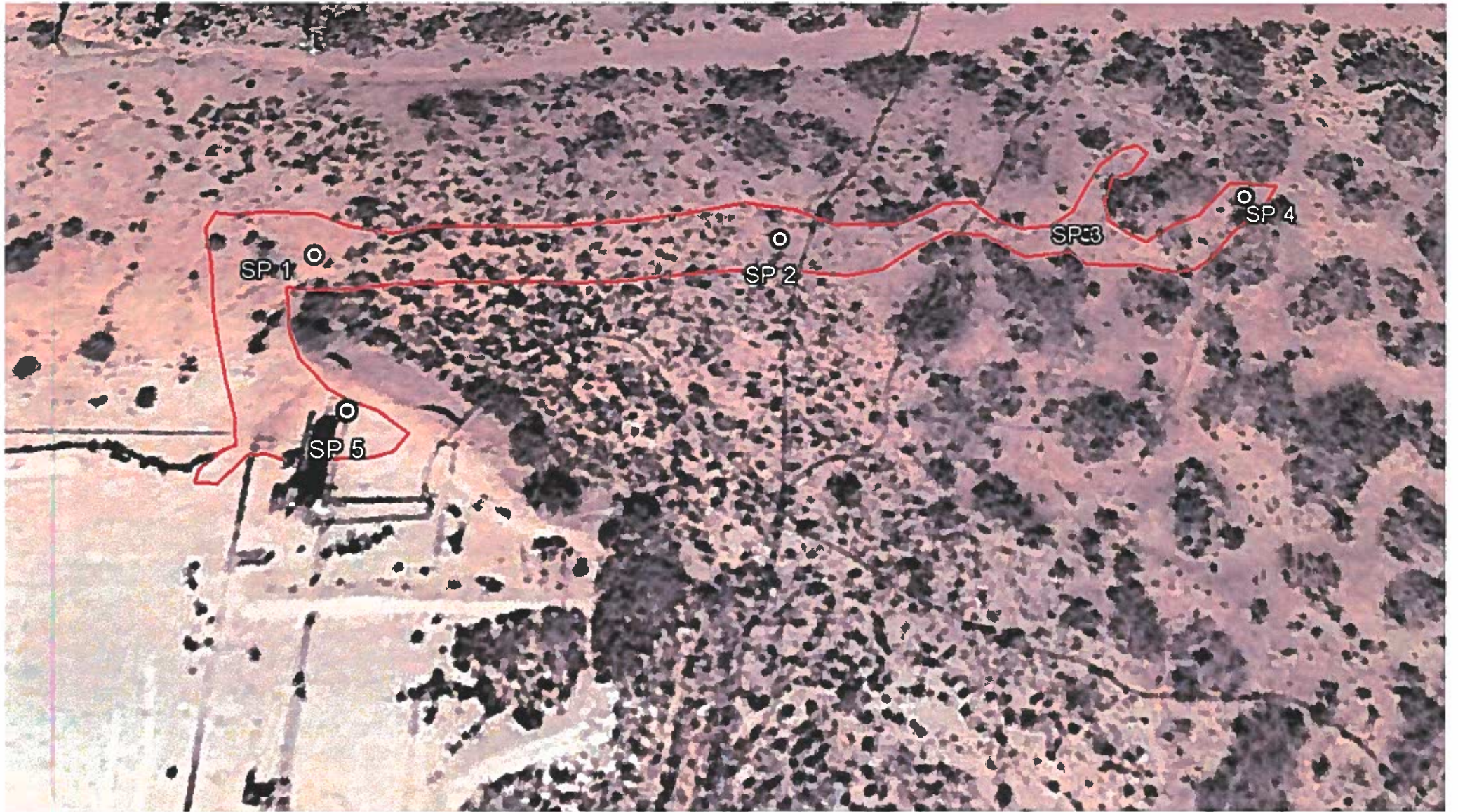
URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>



Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2018-06-01 11:08:21 EDT

1.65 1.5 nadww01



Malt-O-Meal Battery

SP 1											
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	Soil Description
Surface	507										Brown Sand
1'	1216	768	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	Brown Sand
2'	1735										Brown Sand
3'	939	576	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	Brown Sand
4'	326	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	Brown Sand
5'	162	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	Brown Sand

SP 2											
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	Soil Description
Surface	950	1020	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	2170	482	Brown Sand
1'	166	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	19	<10.0	Brown Sand
2'	168	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	Brown Sand

SP 3											
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	Soil Description
Surface	173	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	8750	1640	Brown Sand
1'	160	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	22.7	<10.0	Brown Sand
2'	135	48									Brown Sand
3'	141	128									Brown Sand
4'	150	128									Brown Sand

SP 4											
Depth	Field Cl-	Lab Cl-	Benzene	Toluene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	Soil Description
Surface	153	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	4440	843	Brown Sand
1'	119	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	Brown Sand
2'	114	<16									Brown Sand
3'	119	48									Brown Sand
4'	106	64									Brown Sand

SP 5											
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PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

May 29, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: MALT-O-MEAL BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 05/24/18 10:08.

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 www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/22/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 1' (H801421-01)

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	05/24/2018	ND	1.67	83.3	2.00	3.01		
Toluene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	2.68		
Ethylbenzene*	<0.050	0.050	05/24/2018	ND	1.66	83.0	2.00	2.98		
Total Xylenes*	<0.150	0.150	05/24/2018	ND	5.19	86.6	6.00	3.17		
Total BTEX	<0.300	0.300	05/24/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	768	16.0	05/24/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	<10.0	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	<10.0	10.0	05/24/2018	ND						

Surrogate: 1-Chlorooctane 83.8 % 41-142

Surrogate: 1-Chlorooctadecane 83.1 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/22/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 3' (H801421-02)

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	05/24/2018	ND	1.67	83.3	2.00	3.01		
Toluene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	2.68		
Ethylbenzene*	<0.050	0.050	05/24/2018	ND	1.66	83.0	2.00	2.98		
Total Xylenes*	<0.150	0.150	05/24/2018	ND	5.19	86.6	6.00	3.17		
Total BTEX	<0.300	0.300	05/24/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 105 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	576	16.0	05/24/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	<10.0	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	<10.0	10.0	05/24/2018	ND						


Surrogate: 1-Chlorooctane 84.7 % 41-142

Surrogate: 1-Chlorooctadecane 85.0 % 37.6-147

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/22/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 4' (H801421-03)

BTEX 80218		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	3.01		
Toluene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	2.68		
Ethylbenzene*	<0.050	0.050	05/24/2018	ND	1.66	83.0	2.00	2.98		
Total Xylenes*	<0.150	0.150	05/24/2018	ND	5.19	86.6	6.00	3.17		
Total BTEX	<0.300	0.300	05/24/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	05/24/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	<10.0	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	<10.0	10.0	05/24/2018	ND						

Surrogate: 1-Chlorooctane 81.5 % 41-142

Surrogate: 1-Chlorooctadecane 79.5 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

Received:	05/24/2018	Sampling Date:	05/22/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 5' (H801421-04)

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	05/24/2018	ND	1.67	83.3	2.00	3.01		
Toluene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	2.68		
Ethylbenzene*	<0.050	0.050	05/24/2018	ND	1.66	83.0	2.00	2.98		
Total Xylenes*	<0.150	0.150	05/24/2018	ND	5.19	86.6	6.00	3.17		
Total BTEX	<0.300	0.300	05/24/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 106 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	05/24/2018	ND	400	100	400	7.69		

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	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	<10.0	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	<10.0	10.0	05/24/2018	ND						

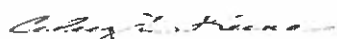
Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 85.8 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/22/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ SURFACE (H801421-05)

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	05/25/2018	ND	1.67	83.3	2.00	3.01	
Toluene*	<0.050	0.050	05/25/2018	ND	1.67	83.3	2.00	2.68	
Ethylbenzene*	<0.050	0.050	05/25/2018	ND	1.66	83.0	2.00	2.98	
Total Xylenes*	<0.150	0.150	05/25/2018	ND	5.19	86.6	6.00	3.17	
Total BTEX	<0.300	0.300	05/25/2018	ND					

 Surrogate: *p*-Bromofluorobenzene (PIC) 104 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	05/24/2018	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed 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	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	2170	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	482	10.0	05/24/2018	ND						

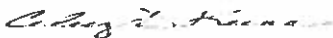
Surrogate: 1-Chlorooctane 72.2 % 41-142

Surrogate: 1-Chlorooctadecane 262 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/22/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 1' (H801421-06)

BTEX 80218		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	3.01		
Toluene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	2.68		
Ethylbenzene*	<0.050	0.050	05/24/2018	ND	1.66	83.0	2.00	2.98		
Total Xylenes*	<0.150	0.150	05/24/2018	ND	5.19	86.6	6.00	3.17		
Total BTEX	<0.300	0.300	05/24/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	05/24/2018	ND	400	100	400	7.69		

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	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	19.0	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	<10.0	10.0	05/24/2018	ND						

Surrogate: 1-Chlorooctane 78.9 % 41-142

Surrogate: 1-Chlorooctadecane 76.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/22/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 2' (H801421-07)

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	05/24/2018	ND	1.67	83.3	2.00	3.01		
Toluene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	2.68		
Ethylbenzene*	<0.050	0.050	05/24/2018	ND	1.66	83.0	2.00	2.98		
Total Xylenes*	<0.150	0.150	05/24/2018	ND	5.19	86.6	6.00	3.17		
Total BTEX	<0.300	0.300	05/24/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 106% 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/24/2018	ND	400	100	400	7.69		

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	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	<10.0	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	<10.0	10.0	05/24/2018	ND						

Surrogate: 1-Chlorooctane 77.8% 41-142

Surrogate: 1-Chlorooctadecane 75.2% 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/23/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ SURFACE (H801421-08)

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	05/25/2018	ND	1.67	83.3	2.00	3.01	
Toluene*	<0.050	0.050	05/25/2018	ND	1.67	83.3	2.00	2.68	
Ethylbenzene*	<0.100	0.100	05/24/2018	ND	1.66	83.0	2.00	2.98	
Total Xylenes*	<0.150	0.150	05/25/2018	ND	5.19	86.6	6.00	3.17	
Total BTEX	<0.300	0.300	05/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 113 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/24/2018	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<50.0	50.0	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	8750	50.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	1640	50.0	05/24/2018	ND						

Surrogate: 1-Chlorooctane 90.1 % 41-142

Surrogate: 1-Chlorooctadecane 456 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/23/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 1' (H801421-09)

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	05/24/2018	ND	1.67	83.3	2.00	3.01		
Toluene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	2.68		
Ethylbenzene*	<0.050	0.050	05/24/2018	ND	1.66	83.0	2.00	2.98		
Total Xylenes*	<0.150	0.150	05/24/2018	ND	5.19	86.6	6.00	3.17		
Total BTEX	<0.300	0.300	05/24/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 112% 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/24/2018	ND	400	100	400	7.69		

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	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	22.7	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	<10.0	10.0	05/24/2018	ND						

Surrogate: 1-Chlorooctane 68.2% 41-142

Surrogate: 1-Chlorooctadecane 67.2% 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/23/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 2' (H801421-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/24/2018	ND	400	100	400	7.69		

Sample ID: SP 3 @ 3' (H801421-11)

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	05/24/2018	ND	400	100	400	7.69		

Sample ID: SP 3 @ 4' (H801421-12)

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	05/24/2018	ND	400	100	400	7.69		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/23/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ SURFACE (H801421-13)

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	05/25/2018	ND	1.67	83.3	2.00	3.01	
Toluene*	<0.050	0.050	05/25/2018	ND	1.67	83.3	2.00	2.68	
Ethylbenzene*	<0.050	0.050	05/25/2018	ND	1.66	83.0	2.00	2.98	
Total Xylenes*	<0.150	0.150	05/25/2018	ND	5.19	86.6	6.00	3.17	
Total BTEX	<0.300	0.300	05/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 112 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/24/2018	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed 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	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	4440	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	843	10.0	05/24/2018	ND						

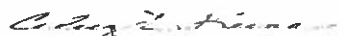
Surrogate: 1-Chlorooctane 87.5 % 41-142

Surrogate: 1-Chlorooctadecane 230 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/23/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 1' (H801421-14)

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	05/24/2018	ND	1.67	83.3	2.00	3.01		
Toluene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	2.68		
Ethylbenzene*	<0.050	0.050	05/24/2018	ND	1.66	83.0	2.00	2.98		
Total Xylenes*	<0.150	0.150	05/24/2018	ND	5.19	86.6	6.00	3.17		
Total BTEX	<0.300	0.300	05/24/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 119 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/24/2018	ND	400	100	400	7.69		

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	05/24/2018	ND	223	112	200	3.37		
DRO >C10-C28*	<10.0	10.0	05/24/2018	ND	208	104	200	6.23		
EXT DRO >C28-C36	<10.0	10.0	05/24/2018	ND						

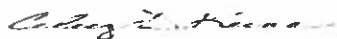
Surrogate: 1-Chlorooctane 79.6 % 41-142

Surrogate: 1-Chlorooctadecane 76.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/23/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 2' (H801421-15)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/24/2018	ND	400	100	400	7.69		

Sample ID: SP 4 @ 3' (H801421-16)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/24/2018	ND	400	100	400	7.69		

Sample ID: SP 4 @ 4' (H801421-17)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	05/24/2018	ND	400	100	400	7.69		

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/24/2018	Sampling Date:	05/23/2018
Reported:	05/29/2018	Sampling Type:	Soil
Project Name:	MALT-O-MEAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 5 @ SURFACE (H801421-18)

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	05/24/2018	ND	1.67	83.3	2.00	3.01		
Toluene*	<0.050	0.050	05/24/2018	ND	1.67	83.3	2.00	2.68		
Ethylbenzene*	<0.050	0.050	05/24/2018	ND	1.66	83.0	2.00	2.98		
Total Xylenes*	<0.150	0.150	05/24/2018	ND	5.19	86.6	6.00	3.17		
Total BTEX	<0.300	0.300	05/24/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 120 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2800	16.0	05/24/2018	ND	400	100	400	7.69		

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	05/25/2018	ND	233	117	200	1.37		
DRO >C10-C28*	153	10.0	05/25/2018	ND	225	113	200	1.48		
EXT DRO >C28-C36	32.8	10.0	05/25/2018	ND						


Surrogate: 1-Chlorooctane 86.1 % 41-142

Surrogate: 1-Chlorooctadecane 95.6 % 37.6-147

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* = Accredited Analyte

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Celestine D. Keene, Lab Director/Quality Manager

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2

Company Name: Apache Project Manager: Bruce Baker		P.O. #: Company:	
Address: City: Hobbs State: NM Zip: 88240		Attn: Address:	
Phone #: Fax #: Project #: Project Owner:		City: State: Zip:	
Project Name: Project Location: Molt-O-Ment Battery		State: Zip:	
Project Location: Molt-O-Ment Battery		Phone #: Fax #:	
Sampler Name: Bruce Baker		Fax #:	
FOR LAB USE ONLY		BILL TO	
Lab I.D. Sample I.D. 11801421	(G)GRAB OR (C)COMP. # CONTAINERS	MATRIX	
		GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	PRESERV. ICE / COOL OTHER:
11 SP 3 @ 3' 12 SP 3 @ 4' 13 SP 4 Surface 14 SP 4 @ 1' 15 SP 4 @ 2' 16 SP 4 @ 3' 17 SP 4 @ 4' 18 SP 5 Surface	G 1 G 1 G 1 G 1 G 1 G 1 G 1	DATE 5-23-18 5-23-18 5-23-18 5-23-18 5-23-18 5-23-18 5-23-18	TIME 10:45am 10:53am 12:30pm 12:58pm 12:53pm 1:00pm 2:00pm
		CI- Ext. TPH BTEX	

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Relinquished By: **Bruce Baker** Date: **5-23-18** Time: **10:36am**
 Received By: **Bruce Baker** Date: **5-23-18** Time: **10:36am**

Relinquished By: **Bruce Baker** Date: **5-23-18** Time: **10:36am**
 Received By: **Bruce Baker** Date: **5-23-18** Time: **10:36am**

Delivered By: (Circle One) **g.d.c**
 Sample - UPS - Bus - Other: **Collected 1.95c**

Sample Condition: Cool Intact
 Yes No
 Checked By: **g.d.c**

REMARKS:
Email Results



Oxy Malt-O-Meal Battery
2RP-4506
Revegetation
and
Noxious Weed Plan

Revegetation Plan:

All the disturbed area in the pasture will be properly prepared and seeded with BLM # 2. The disturbed area will be monitored to ensure successful revegetation is achieved. If revegetation is not successful after a couple of growing seasons the site will be reseeded.

Noxious Weed Plan:

Apache Corporation will treat noxious weeds if they become established within the area of remediation. Weed control will be maintained on the disturbed land where noxious weeds exist both prior to remediation and restoration. Apache Corporation will consult with the Authorized Officer for acceptable weed control methods.
