



2350 W Marland Blvd Hobbs, NM 88240

Corrective Action Plan

APPROVED

By Olivia Yu at 11:31 am, Jul 20, 2018

NMOCD approves of the delineation completed for 1RP-4924. See email correspondence regarding proposed remediation.

June 26, 2018

Re: WBDU 85
API# 30-025-06652
Case # 1RP-4924

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 January 2, 2018 Apache Corporation personal discovered an area of contamination on the east side of the well pad. The source of the release was a third party truck unloaded illegally from the pad into the pasture. An initial C-141 was submitted to NMOCD on January 9, 2018. The release area is located north of Eunice New Mexico (GPS Coordinates 32.4734573 - 103.1786652) in unit letter P section 17 Township 21S Range 37E. A search radius of 2000 meters for groundwater wells was conducted utilizing data from the NMOSE and USGS. Two USGS wells located within 2,000 feet of the release area estimate groundwater to be 71 feet.

A total of 4 verticals were conducted utilizing a backhoe in one foot intervals to delineate the vertical extend of contamination on April 19, 2018. All samples were collected from all verticals and submitted to a commercial laboratory for analysis of Cl-, TPH, and BTEX. On May 24, 2018 vertical 1 was extended to a depth of 7 feet and samples collected and submitted to a commercial laboratory for analysis of Cl-, 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 6 feet below ground surface. The area in the vicinity of SP 2 be excavated to a depth of 1 foot below ground surface. The area in the vicinity of SP 3 will be excavated to a depth of 5 feet below ground surface and the area in the vicinity of SP 4 will be excavated to a depth of 3 feet below ground surface. Once excavation is complete final wall samples will be collected and submitted to a commercial laboratory for analysis of Cl-, TPH and BTEX.

The top two feet for SP 1, 3, 4 and the top one foot for SP 2 will be disposed of at an NMOCD approved facility. The remaining excavated material will be stockpiled on plastic at a height of one foot to allow for natural attenuation of hydrocarbons. Final grab samples representing every 50 cubic yards of bio remediated material will be collected and submitted to a commercial laboratory for analysis of Cl- TPH and BTEX. The target levels to reutilize the soil for backfill will be less than 600 Cl-, less than 1,000 total TPH, and less than 50 for total BTEX. If after 3 months from the time the soil is excavated the soil does not meet the target levels to

utilize for backfill. The material will be disposed of at an NMOCD approved facility. The excavation will be backfilled with clean imported soil or a combination of bio remediated soil and clean imported soil.

Enclosed: Initial C-141, Groundwater Data, Sample Diagram, Field 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 II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
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
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Apache Corporation	Contact Bruce Baker	
Address 2350 W Marland Street, Hobbs, NM 88240	Telephone No. (432) 631-6982	
Facility Name WBDU 85	Facility Type Injection Well	
Surface Owner Private	Mineral Owner Private	API No. 30-025-06652

LOCATION OF RELEASE

Unit Letter P	Section 17	Township 21S	Range 37E	Feet from the 660'	North/South Line FSL	Feet from the 660'	East/West Line FEL	County Lea
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Latitude 32.4734573 Longitude -103.1786652

NATURE OF RELEASE

Type of Release Produce Water	Volume of Release 120 Barrels	Volume Recovered 0
Source of Release Unknown Truck	Date and Hour of Occurrence unknown	Date and Hour of Discovery 1/2/2018 at 7:32 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Olivia Yu (NMOCD)	
By Whom? Bruce Baker	Date and Hour 1/2/2018 at 1:52 p.m.	
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.*

RECEIVED

By Olivia Yu at 3:28 pm, Jan 10, 2018

Describe Cause of Problem and Remedial Action Taken.*

On the morning of 1/2/2018 contamination was discovered on the northeast corner of the pad and the pasture east of the pad. Tire tracks give the appearance that a vacuum truck backed up on the edge of the well pad and illegally unloaded the truck into the pasture.

Describe Area Affected and Cleanup Action Taken.*

The majority of the contamination is in the pasture east and northeast of the pad location. A small portion of contamination was on the well pad.

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>oy</i>	
Title: Environmental Technician	Approval Date: 1/10/2018	Expiration Date:
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>
Date: 1/9/2018	Phone: (432) 631-6982	

* Attach Additional Sheets If Necessary

1RP-4924

nOY1801055905

pOY1801056219

USGS 322831103105701



36

Turner Rd

WBDU 85



33

USGS 322814103102601





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Data Category:

Groundwater

Geographic Area:

New Mexico

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Agency code = usgs

site_no list =

- 322831103105701

Minimum number of levels = 1

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USGS 322831103105701 21S.37E.17.41211

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°28'31", Longitude 103°10'57" NAD27

Land-surface elevation 3,473 feet above NAVD88

The depth of the well is 120 feet below land surface.

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

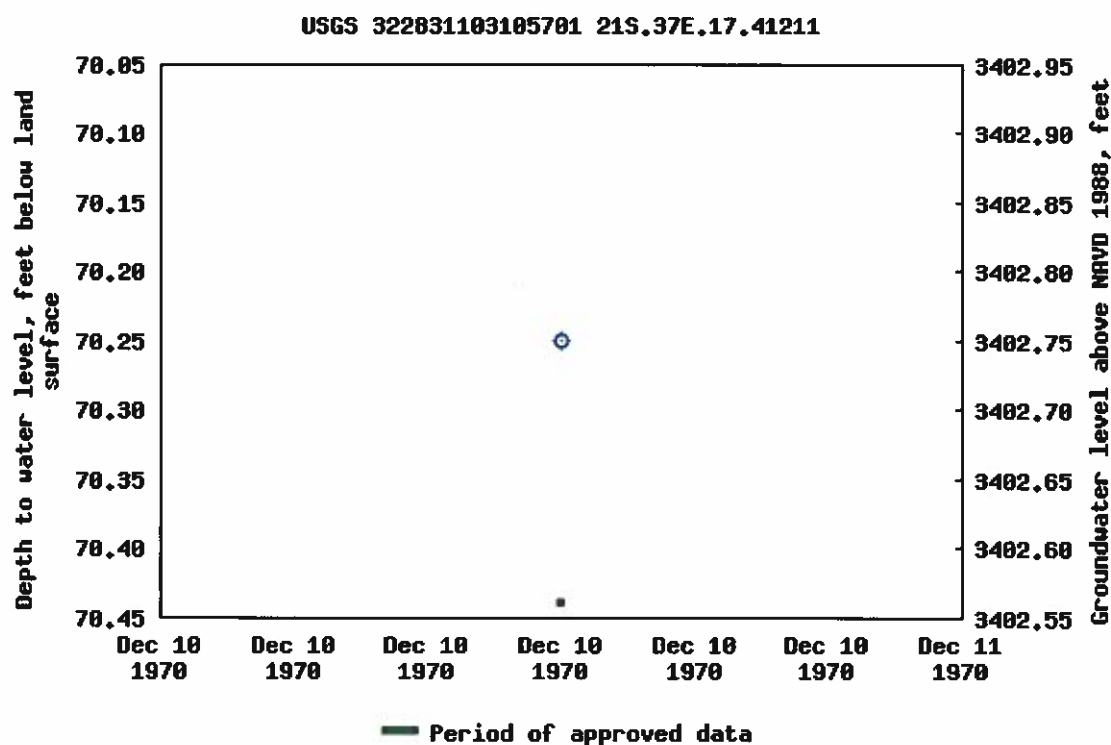
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Title: Groundwater for New Mexico: Water Levels

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



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

Page Last Modified: 2018-06-06 15:51:25 EDT

1.99 1.53 nadww01



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Data Category:

Groundwater

Geographic Area:

New Mexico

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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 =

- 322814103102601

Minimum number of levels = 1

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USGS 322814103102601 21S.37E.21.11121

Available data for this site

Groundwater: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code --

Latitude 32°28'14", Longitude 103°10'26" NAD27

Land-surface elevation 3,462 feet above NAVD88

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

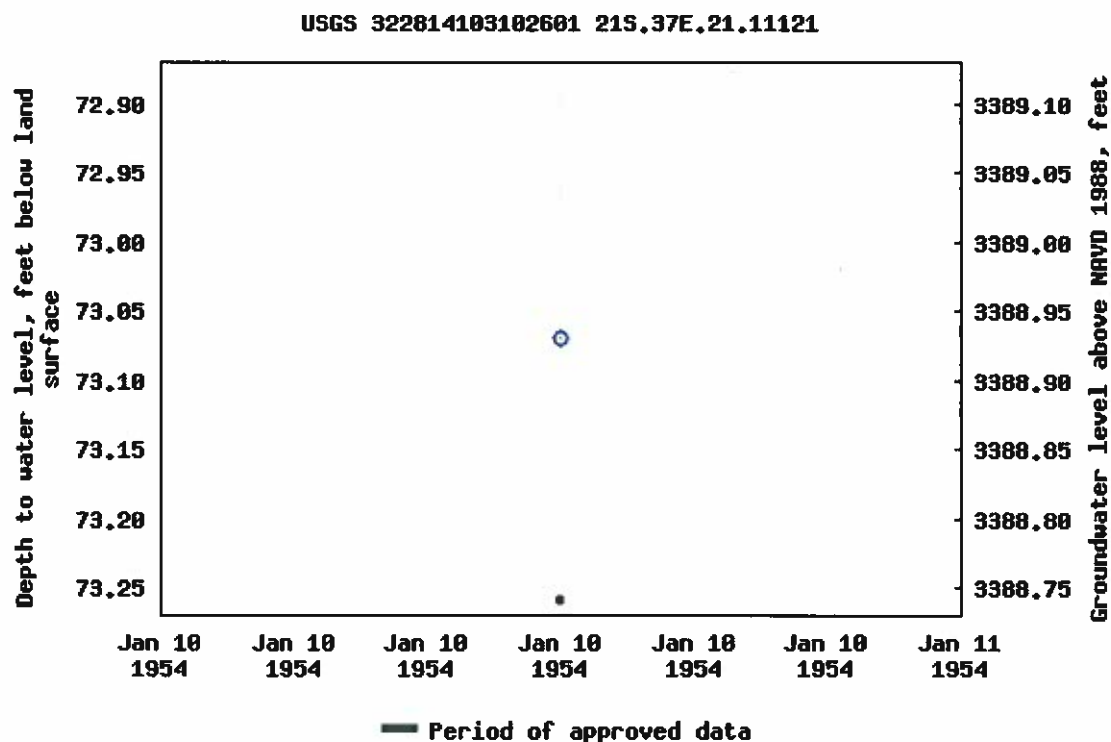
Output formats

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

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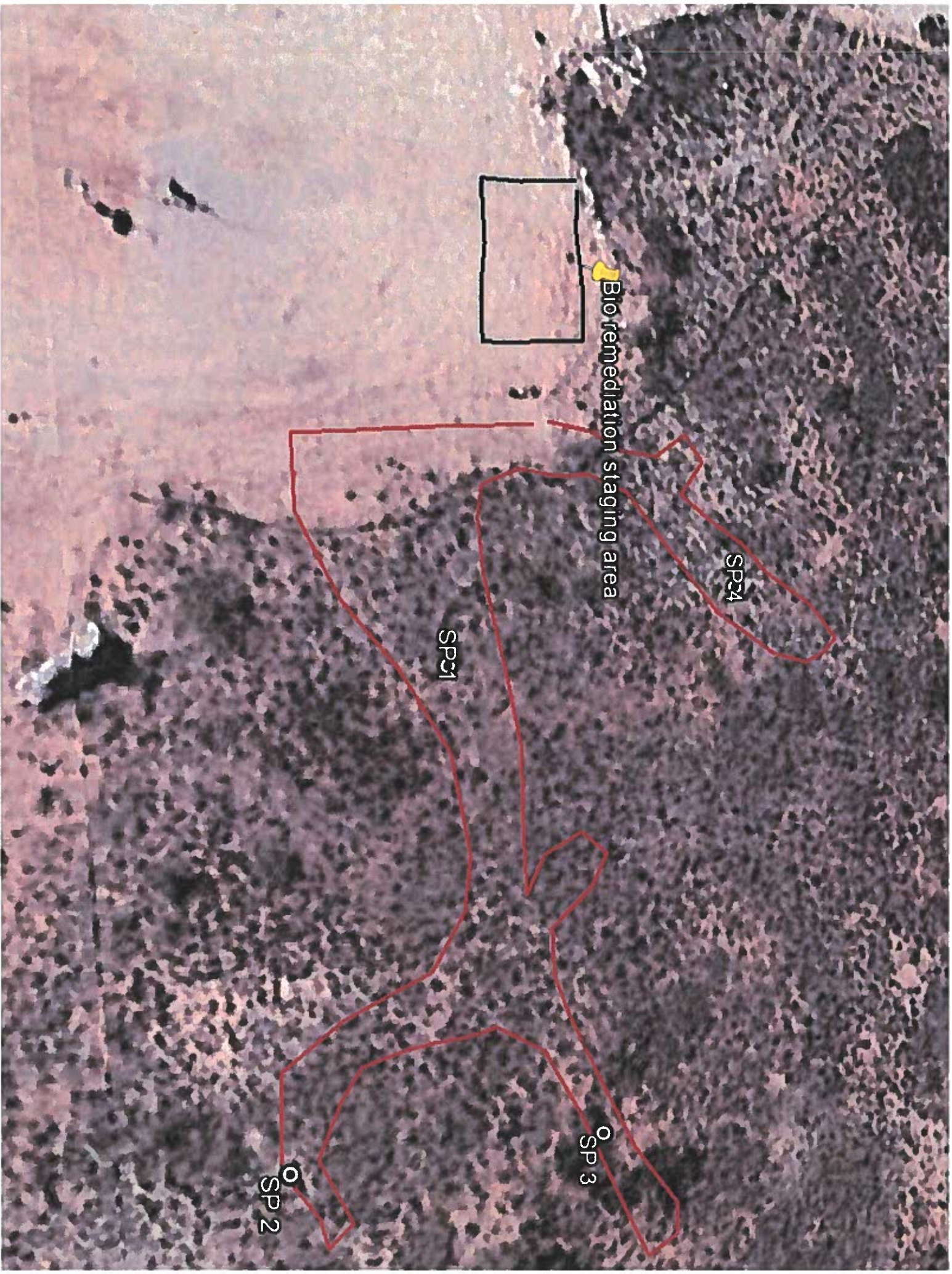
URL: [https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?](https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?site_no=322814103102601&agency_cd=13)



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Page Last Modified: 2018-06-04 16:27:15 EDT

1.3 1.15 nadww01



WBDU 85 Illegal Dump

SP 1

Depth	Lab Cl-	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	1060	0.228	5.46	3.38	11.7	20.8	188	10400	2640
1'	64	25.1	450	150	434	1060	6540	116000	1620
2'	16.0	18.8	314	82.2	244	660	3490	5780	753
3'	32	0.213	1.44	0.319	1.11	3.08	16.9	127	16.4
4'	48	<1.00	36.6	20.1	64.2	121	480	1690	235
5'	672	<0.50	0.239	0.06	0.188	0.487	<10.0	26.4	<10.0
6'	544	<0.050	0.503	0.434	1.79	2.73	27.6	323	50.6
7'	560	<0.050	0.176	0.243	1.07	1.49	26.4	508	87

SP 2

Depth	Lab Cl-	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	128	<0.050	2.04	4.85	20.2	27.1	174	8110	1800+
1'	16	<0.050	<0.050	0.055	0.285	0.34	<10	234	57.5
2'	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	95.2	<10.0
3'	176	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0

SP 3

Depth	Lab Cl-	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	352	2.54	58.3	37.8	125	224	1500	18400	3550
1'	64	1.42	53.4	32.5	76.3	164	1890	4690	624
2'	80	0.532	16.4	7.26	24	48.2	848	2640	364
3'	32	0.052	1.03	0.766	2.61	4.45	59.5	591	78.7
4'	80	0.948	50.4	28.9	83	163	817	2320	313
5'	208	<0.050	0.665	0.198	0.544	1.41	<10.0	<10.0	<10.0

SP 4

Depth	Lab Cl-	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Surface	272	1.62	39.9	20.2	68.6	130	1180	25200	5540
1'	16	13.9	260	113	288	675	3700	6780	888
2'	64	0.193	7.56	5.72	17.5	31	327	1260	176
3'	272	<0.050	0.118	<0.050	<0.150	<0.300	<10.0	15.7	<10.0



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

April 26, 2018

BRUCE BAKER

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

RE: WBDU #85

Enclosed are the results of analyses for samples received by the laboratory on 04/19/18 16:19.

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,

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

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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ SURFACE (H801093-01)

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.228	0.050	04/21/2018	ND	2.10	105	2.00	0.675	
Toluene*	5.46	0.050	04/21/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	3.38	0.050	04/21/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	11.7	0.150	04/21/2018	ND	6.15	103	6.00	2.14	
Total BTEX	20.8	0.300	04/21/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 114 % 72-148

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1060	16.0	04/24/2018	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	188	50.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	10400	50.0	04/21/2018	ND	213	107	200	3.00	QM-07, QR-03
EXT DRO >C28-C36	2640	50.0	04/21/2018	ND					

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	188	50.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	10400	50.0	04/21/2018	ND	213	107	200	3.00	QM-07, QR-03
EXT DRO >C28-C36	2640	50.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 123 % 41-142

Surrogate: 1-Chlorooctadecane 530 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 1' (H801093-02)

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	25.1	5.00	04/23/2018	ND	2.10	105	2.00	0.675	
Toluene*	450	5.00	04/23/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	150	5.00	04/23/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	434	15.0	04/23/2018	ND	6.15	103	6.00	2.14	
Total BTEX	1060	30.0	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 99.7 % 72-148

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	04/24/2018	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	6540	50.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	11600	50.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	1620	50.0	04/21/2018	ND					

S-06

Surrogate: 1-Chlorooctane 340 % 41-142

Surrogate: 1-Chlorooctadecane 328 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 2' (H801093-03)

BTX 80218		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	18.8	5.00	04/23/2018	ND	2.10	105	2.00	0.675	
Toluene*	314	5.00	04/23/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	82.2	5.00	04/23/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	244	15.0	04/23/2018	ND	6.15	103	6.00	2.14	
Total BTX	660	30.0	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 96.0 % 72-148

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	04/24/2018	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	3490	50.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	5780	50.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	753	50.0	04/21/2018	ND					

S-06

Surrogate: 1-Chlorooctane 233 % 41-142

Surrogate: 1-Chlorooctadecane 183 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 3' (H801093-04)
BTEX 8021B
mg/kg
Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.213	0.050	04/23/2018	ND	2.10	105	2.00	0.675	
Toluene*	1.44	0.050	04/23/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	0.319	0.050	04/23/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	1.11	0.150	04/23/2018	ND	6.15	103	6.00	2.14	
Total BTEX	3.08	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 97.8 % 72-148

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	04/25/2018	ND	416	104	400	0.00	

TPH 8015M
mg/kg
Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	16.9	10.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	127	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	16.4	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 4' (H801093-05)

BTEX 80218		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	04/23/2018	ND	2.10	105	2.00	0.675	
Toluene*	36.6	1.00	04/23/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	20.1	1.00	04/23/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	64.2	3.00	04/23/2018	ND	6.15	103	6.00	2.14	
Total BTEX	121	6.00	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 98.4 % 72-148

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	04/25/2018	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	480	10.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	1690	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	235	10.0	04/21/2018	ND					


Surrogate: 1-Chlorooctane 131 % 41-142

Surrogate: 1-Chlorooctadecane 123 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 1 @ 5' (H801093-06)

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/23/2018	ND	2.10	105	2.00	0.675	
Toluene*	0.239	0.050	04/23/2018	ND	2.09	105	2.00	2.22	
Ethylbenzene*	0.060	0.050	04/23/2018	ND	2.02	101	2.00	1.75	
Total Xylenes*	0.188	0.150	04/23/2018	ND	6.15	103	6.00	2.14	
Total BTEX	0.487	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 72-148

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	04/25/2018	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	26.4	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 86.3 % 41-142

Surrogate: 1-Chlorooctadecane 82.4 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 2 @ SURFACE (H801093-07)

BTEX 8021B		mg/kg	Analyzed By: MS				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	2.04	0.050	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	4.85	0.050	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	20.2	0.150	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	27.1	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 190 % 72-148

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC				S-06		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	04/25/2018	ND	416	104	400	0.00	

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*	174	50.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	8110	50.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	1800	50.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 93.9 % 41-142

Surrogate: 1-Chlorooctadecane 492 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 2 @ 1' (H801093-08)

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	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	<0.050	0.050	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	0.055	0.050	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	0.285	0.150	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	0.340	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID 116 % 72-148

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	04/25/2018	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	234	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	57.5	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 92.6 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 2 @ 2' (H801093-09)

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	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	<0.050	0.050	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	<0.050	0.050	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	<0.300	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 72-148

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	04/25/2018	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	95.2	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 96.1 % 41-142

Surrogate: 1-Chlorooctadecane 96.3 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 2 @ 3' (H801093-10)
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	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	<0.050	0.050	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	<0.050	0.050	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	<0.150	0.150	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	<0.300	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 110 % 72-148

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	04/25/2018	ND	416	104	400	0.00	

TPH 8015M
mg/kg
Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 97.1 % 41-142

Surrogate: 1-Chlorooctadecane 90.0 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 3 @ SURFACE (H801093-11)
BTEX 8021B
mg/kg
Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	2.54	1.00	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	58.3	1.00	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	37.8	1.00	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	125	3.00	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	224	6.00	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 127 % 72-148

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	04/25/2018	ND	432	108	400	3.77	

TPH 8015M
mg/kg
Analyzed By: MS
S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1500	50.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	18400	50.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	3550	50.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 218 % 41-142

Surrogate: 1-Chlorooctadecane 725 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 3 @ 1' (H801093-12)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.42	1.00	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	53.4	1.00	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	32.5	1.00	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	76.3	3.00	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	164	6.00	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 121 % 72-148

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	04/25/2018	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
S-06									

Surrogate: 1-Chlorooctane 189 % 41-142

Surrogate: 1-Chlorooctadecane 160 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 3 @ 2' (H801093-13)

BTEX 80218			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.532	0.500	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	16.4	0.500	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	7.26	0.500	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	24.0	1.50	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	48.2	3.00	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 118 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	04/25/2018	ND	432	108	400	3.77	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	848	10.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	2640	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	364	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 151 % 41-142

Surrogate: 1-Chlorooctadecane			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	848	10.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	2640	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	364	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctadecane 135 % 37.6-147

Surrogate: 1-Chlorooctadecane 135 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 3 @ 3' (H801093-14)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.052	0.050	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	1.03	0.050	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	0.766	0.050	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	2.61	0.150	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	4.45	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 127 % 72-148

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	04/25/2018	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	59.5	10.0	04/21/2018	ND	216	108	200	2.57	
DRO >C10-C28*	591	10.0	04/21/2018	ND	213	107	200	3.00	
EXT DRO >C28-C36	78.7	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 121 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 3 @ 4' (H801093-15)

BTEX 80218		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.948	0.500	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	50.4	0.500	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	28.9	0.500	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	83.0	1.50	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	163	3.00	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 132 % 72-148

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	04/25/2018	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	817	10.0	04/23/2018	ND	213	107	200	0.870	QM-07
DRO >C10-C28*	2320	10.0	04/23/2018	ND	209	104	200	2.13	QM-07
EXT DRO >C28-C36	313	10.0	04/23/2018	ND					

Surrogate: 1-Chlorooctane 138 % 41-142

Surrogate: 1-Chlorooctadecane 128 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 3 @ 5' (H801093-16)

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	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	0.665	0.050	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	0.198	0.050	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	0.544	0.150	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	1.41	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 114 % 72-148

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	04/25/2018	ND	432	108	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/23/2018	ND	213	107	200	0.870	
DRO >C10-C28*	<10.0	10.0	04/23/2018	ND	209	104	200	2.13	
EXT DRO >C28-C36	<10.0	10.0	04/23/2018	ND					

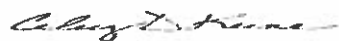
Surrogate: 1-Chlorooctane 72.3 % 41-142

Surrogate: 1-Chlorooctadecane 68.7 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 4 @ SURFACE (H801093-17)

BTEX 80218		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.62	1.00	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	39.9	1.00	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	20.2	1.00	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	68.6	3.00	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	130	6.00	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	04/25/2018	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1180	50.0	04/23/2018	ND	213	107	200	0.870	
DRO >C10-C28*	26200	50.0	04/23/2018	ND	209	104	200	2.13	
EXT DRO >C28-C36	5540	50.0	04/23/2018	ND					

S-06

Surrogate: 1-Chlorooctane 203 % 41-142

Surrogate: 1-Chlorooctadecane 1410 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 4 @ 1' (H801093-18)
BTEX 80218
mg/kg
Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	13.9	1.00	04/23/2018	ND	2.00	100	2.00	0.705	
Toluene*	260	1.00	04/23/2018	ND	2.04	102	2.00	1.64	
Ethylbenzene*	113	1.00	04/23/2018	ND	2.07	104	2.00	1.34	
Total Xylenes*	288	3.00	04/23/2018	ND	6.08	101	6.00	0.503	
Total BTEX	675	6.00	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 137 % 72-148

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	04/25/2018	ND	432	108	400	3.77	

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*	3700	10.0	04/23/2018	ND	213	107	200	0.870	
DRO >C10-C28*	6780	10.0	04/23/2018	ND	209	104	200	2.13	
EXT DRO >C28-C36	888	10.0	04/23/2018	ND					

Surrogate: 1-Chlorooctane 236 % 41-142

Surrogate: 1-Chlorooctadecane 191 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 4 @ 2' (H801093-19)

BTEX 80218		mg/kg	Analyzed By: MS				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.193	0.050	04/23/2018	ND	2.13	106	2.00	2.90	
Toluene*	7.56	0.050	04/23/2018	ND	2.09	104	2.00	2.48	
Ethylbenzene*	5.72	0.050	04/23/2018	ND	2.07	103	2.00	4.39	
Total Xylenes*	17.5	0.150	04/23/2018	ND	6.32	105	6.00	4.60	
Total BTEX	31.0	0.300	04/23/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 171 % 72-148

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	04/25/2018	ND	432	108	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	327	10.0	04/23/2018	ND	213	107	200	0.870	
DRO >C10-C28*	1260	10.0	04/23/2018	ND	209	104	200	2.13	
EXT DRO >C28-C36	176	10.0	04/23/2018	ND					

Surrogate: 1-Chlorooctane 113 % 41-142

Surrogate: 1-Chlorooctadecane 109 % 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: 04/19/2018
Reported: 04/26/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 04/19/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SP 4 @ 3' (H801093-20)

BTX 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	04/23/2018	ND	2.13	106	2.00	2.90	QR-03	
Toluene*	0.118	0.050	04/23/2018	ND	2.09	104	2.00	2.48		
Ethylbenzene*	<0.050	0.050	04/23/2018	ND	2.07	103	2.00	4.39		
Total Xylenes*	<0.150	0.150	04/23/2018	ND	6.32	105	6.00	4.60		
Total BTX	<0.300	0.300	04/23/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 95.1 % 72-148

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AC
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	04/25/2018	ND	432	108	400	3.77		

TPH 8015M			mg/kg							Analyzed By: MS
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	04/23/2018	ND	213	107	200	0.870		
DRO >C10-C28*	15.7	10.0	04/23/2018	ND	209	104	200	2.13		
EXT DRO >C28-C36	<10.0	10.0	04/23/2018	ND						

Surrogate: 1-Chlorooctane 90.8 % 41-142

Surrogate: 1-Chlorooctadecane 86.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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.
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 D. Keene, Lab Director/Quality Manager

CARDINAL
Laboratoires

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(575) 393-2326 FAX (575) 393-2476

FOR LAB USE ONLY

Sample I.D.

SP 3 Surface

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15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Cardinal de Sade for incitement or conspiracy to

By: _____ Date: _____

Tim

By:	Date:
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Time

WY: (Circle One) 11-75

Category	Count
Other	1
Bike	0

20

cannot account for the

THE UNIVERSITY OF CHICAGO

103



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: WBDU #85

Enclosed are the results of analyses for samples received by the laboratory on 05/24/18 15:25.

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
Reported: 05/29/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 05/24/2018
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 6' (H801426-01)
BTEX 80218
mg/kg
Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2018	ND	1.70	85.2	2.00	2.11	
Toluene*	0.503	0.050	05/26/2018	ND	1.70	85.1	2.00	3.26	
Ethylbenzene*	0.434	0.050	05/26/2018	ND	1.76	88.1	2.00	0.591	
Total Xylenes*	1.79	0.150	05/26/2018	ND	5.28	88.0	6.00	0.437	
Total BTEX	2.73	0.300	05/26/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	544	16.0	05/25/2018	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*	27.6	10.0	05/25/2018	ND	233	117	200	1.37	
DRO >C10-C28*	323	10.0	05/25/2018	ND	225	113	200	1.48	
EXT DRO >C28-C36	50.6	10.0	05/25/2018	ND					

Surrogate: 1-Chlorooctane 88.5 % 41-142

Surrogate: 1-Chlorooctadecane 98.9 % 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
Reported: 05/29/2018
Project Name: WBDU #85
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 05/24/2018
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 7' (H801426-02)

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	05/26/2018	ND	1.70	85.2	2.00	2.11	
Toluene*	0.176	0.050	05/26/2018	ND	1.70	85.1	2.00	3.26	
Ethylbenzene*	0.243	0.050	05/26/2018	ND	1.76	88.1	2.00	0.591	
Total Xylenes*	1.07	0.150	05/26/2018	ND	5.28	88.0	6.00	0.437	
Total BTEX	1.49	0.300	05/26/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 111 % 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	560	16.0	05/25/2018	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*	26.4	10.0	05/25/2018	ND	233	117	200	1.37	
DRO >C10-C28*	508	10.0	05/25/2018	ND	225	113	200	1.48	
EXT DRO >C28-C36	87.0	10.0	05/25/2018	ND					

Surrogate: 1-Chlorooctane 89.6 % 41-142

Surrogate: 1-Chlorooctadecane 93.1 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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