



2350 W Marland Blvd Hobbs, NM 88240

Remediation Plan

November 20, 2018

*Re: WBDU 23
API# 30-025-21225
Case # 1RP-5181*

*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 August 23, 2018 a release occurred due to ½ nipple on the injection line going to the well failed. An initial C-141 was submitted to NMOCD and approved on September 7, 2018. The release is located north of Eunice New Mexico (GPS: 32.49885 -103.17441) in unit letter D section 9 township 21S range 37E. Groundwater data was collected utilizing USGS and NMOSE wells of record in a 2,000 meter radius of the release. 5 wells were located inside the 2,000 meter radius with an average depth of groundwater of 65 feet below ground surface. A USGS topographic map was utilized and there are no significant water courses within a ½ mile radius of the release site.

The majority of the release impacted two lease pads and a lease road. A pasture area were a two track road was also impacted and a small area off the north side of the pad. A one call was placed and the wet areas on the lease pads and road were scraped to a depth of 6". The two track road pasture area was excavated to a depth of 2 feet as indicated by field chloride values. Due to the release being of an unknown volume on October 2, 2018 seven verticals were installed throughout the release to determine the depth of contamination. Field samples were collected and titrated for chlorides. Representative samples from each vertical were submitted to a commercial laboratory for Chlorides, TPH, and BTEX.

Remediation Plan:

Upon review of the data collected at the release site and the depth of groundwater being greater than 50 feet below ground surface and preliminary data collected suggest that chlorides and hydrocarbons are below table one standards. Apache proposes that final 5 point bottom composite samples be collected on the pad and lease roads not to exceed a 1,000 square foot radius. If the laboratory results for the composite samples on the lease pad and lease road are below NMOCD table one standards then no further excavation activities will proceed. If there are areas on the lease road and lease pad that exceed the table one standards then excavation will proceed in those areas until the table one standards are met. Apache proposes that final 5 point bottom composite samples be collected in a 200 foot radius and submitted to a commercial laboratory for analysis for the two foot pasture excavation. If the laboratory analysis are less than 600 chlorides and meet table one standards for

hydrocarbons no further excavation will be required. If the levels exceed 600 chlorides and the hydrocarbon levels exceed the table one standards the area will be excavated until the hydrocarbon levels are meet regardless of depth and excavate chlorides in excess of 600 but below 10,000 to a maximum depth of 4 feet. A small area in the pasture north of SP 7 needs to be address and will be excavated until standards are meet. Final 5 point composite wall samples will be collected in intervals not to exceed 200 square feet throughout the release path. All excavated material will be hauled to an NMOCD approved facility. If the depth exceeds 6 inches on the lease pads and lease road the area will be backfilled with clean imported caliche. The areas in the pasture will be backfilled with clean imported topsoil to ground surface and contoured to the surrounding area. The surface owner will be consulted to determine revegetation requirements. NMOCD will be notified 48 hours prior to final samples being collected. Apache Corporation will complete remediation activities within 90 days of the date NMOCD approves the plan.

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

Submitted by;

Bruce Baker

Environmental Technician

larry.baker@apachecorp.com

Cell# 432-631-6982

Off# 575-393-7106

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NOY1825032205 WBDU 23	
District RP	1RP-5181	
Facility ID		
Application ID	pOY1825031294	

Release Notification

Responsible Party

Responsible Party	Apache Corporation	OGRID	873
Contact Name	Bruce Baker	Contact Telephone	432-631-6982
Contact email	larry.baker@apachecorp.com	Incident # (assigned by OCD)	NOY1825032205 WBDU 23
Contact mailing address	2350 W Marland Street, Hobbs, NM, 88240		

Location of Release Source

Latitude 32.49885 Longitude -103.17441
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	WBDU 23	Site Type	Injection Well
Date Release Discovered	8-23-18	API# (if applicable)	30-025-21225

Unit Letter	Section	Township	Range	County
D	9	21S	37E	Lea

Federal minerals

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name Millard Deck Estates)

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <u>180 bbls</u>	Volume Recovered (bbls) <u>2 bbls</u>
	Is the concentration of total dissolved solids (TDS) in the produced water > 10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

1/2 nipple on the injection line going to well failed. The failure was near the well head.

State of New Mexico
Oil Conservation Division

Incident ID	NOY1825032205 WBDU 23
District RP	1RP-5181
Facility ID	
Application ID	pOY1825031294

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? <p style="text-align: center;">Volume lost is greater than 25 bbls.</p>
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? <p style="text-align: center;">Immediate notice was given via email to Olivia Yu and Jim Griswold at 4:50pm on 8/23/18</p>	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Bruce Baker</u>	Title: <u>Environmental Technician SR</u>
Signature: <u>Bruce Baker</u>	Date: <u>9-5-18</u>
email: <u>larry.baker@apachecorp.com</u>	Telephone: <u>432-631-6982</u>
OCD Only Received by: <u>RECEIVED</u> <u>By Olivia Yu at 8:39 am, Sep 07, 2018</u>	
Date: _____	

Remediation Activities:

To date the release area has been mapped utilizing GPS coordinates. Preliminary surface samples have been taken to laboratory for analysis of Cl-, TPH, and BTEX. Currently the release surface is being scraped and the area in the pasture is being excavated to a depth of 2 feet indicated through field chloride screenings.

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>58</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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Printed Name: Bruce Baker Title: Environmental Tech. SR.
Signature: Bruce Baker Date: 11/20/18
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

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

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

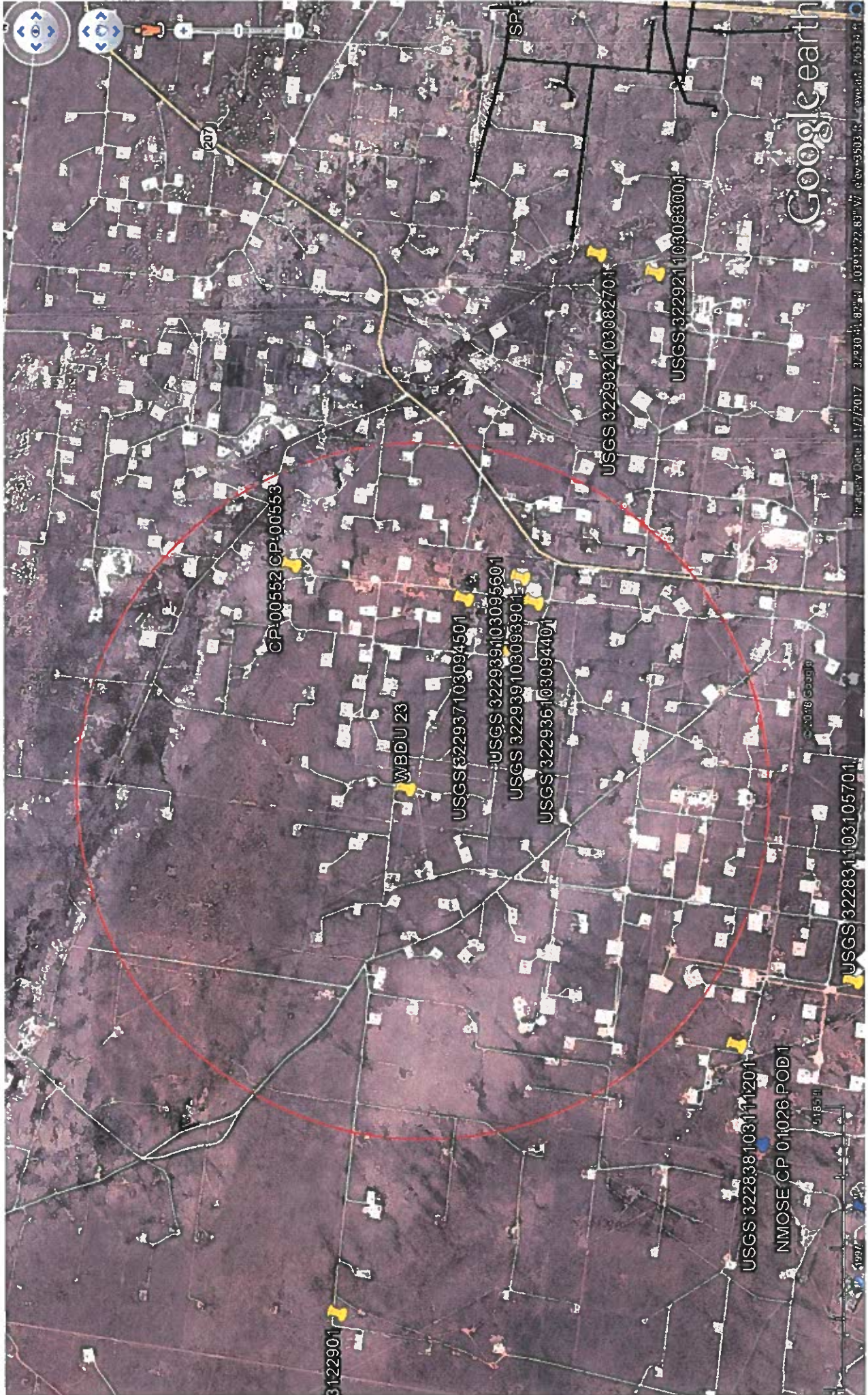
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public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

Printed Name: Bruce BAKER Title: Environmental Tech. SR.Signature: Bruce Baker Date: 11-20-18email: kenny.baker@apachecorp.com Telephone: 432-631-6982**OCD Only**

Received by: _____ Date: _____

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

Signature: _____ Date: _____



CP:00552CP:00553

WB DU 23

USGS 322937103094501

USGS 322939103095601

USGS 322939103093901

USGS 322936103094401

USGS 322932103082701

USGS 322921103083001

USGS 322838103111201

NMOSE CP 01026 POD 1

USGS 322831103105701

Google Earth

Imagery Date: 11/17/2017 32.23044, 82.21103, 103.1222, 83.171, elev: 3503 ft, view: 265.54 ft



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- 322939103093901

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Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°29'39", Longitude 103°09'39" NAD27

Land-surface elevation 3,468 feet above NAVD88

The depth of the well is 90 feet below land surface.

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

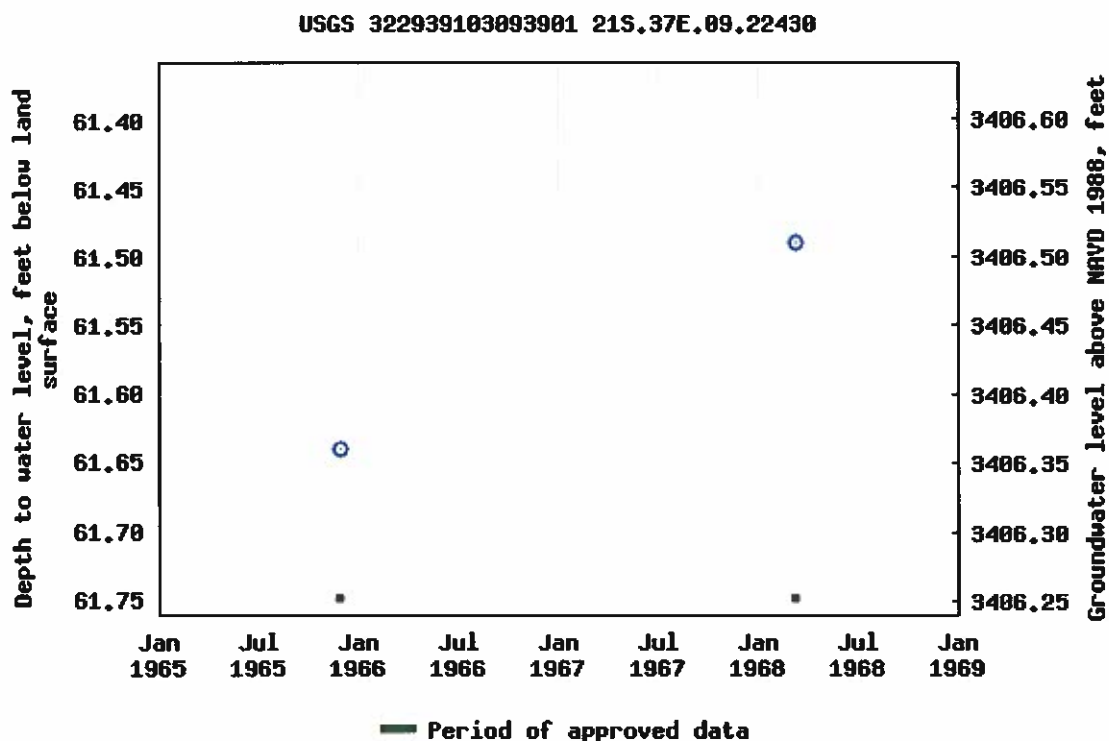
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1.73 1.49 nadww01



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USGS 322939103095601 21S.37E.09.214331

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Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°29'39", Longitude 103°09'56" NAD27

Land-surface elevation 3,482 feet above NAVD88

The depth of the well is 400 feet below land surface.

This well is completed in the Chinle Formation (231CHNL) local aquifer.

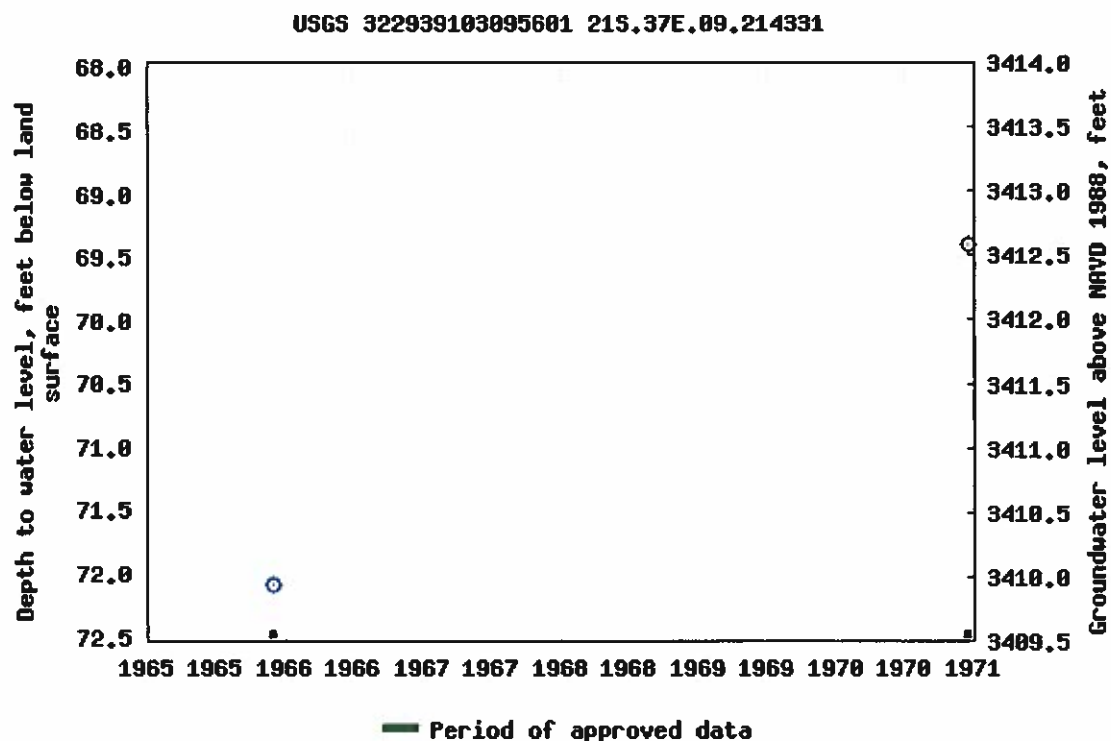
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USGS 322936103094401 21S.37E.09.241213

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Groundwater: Field measurements ▼

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Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°29'36", Longitude 103°09'44" NAD27

Land-surface elevation 3,472 feet above NAVD88

The depth of the well is 90 feet below land surface.

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

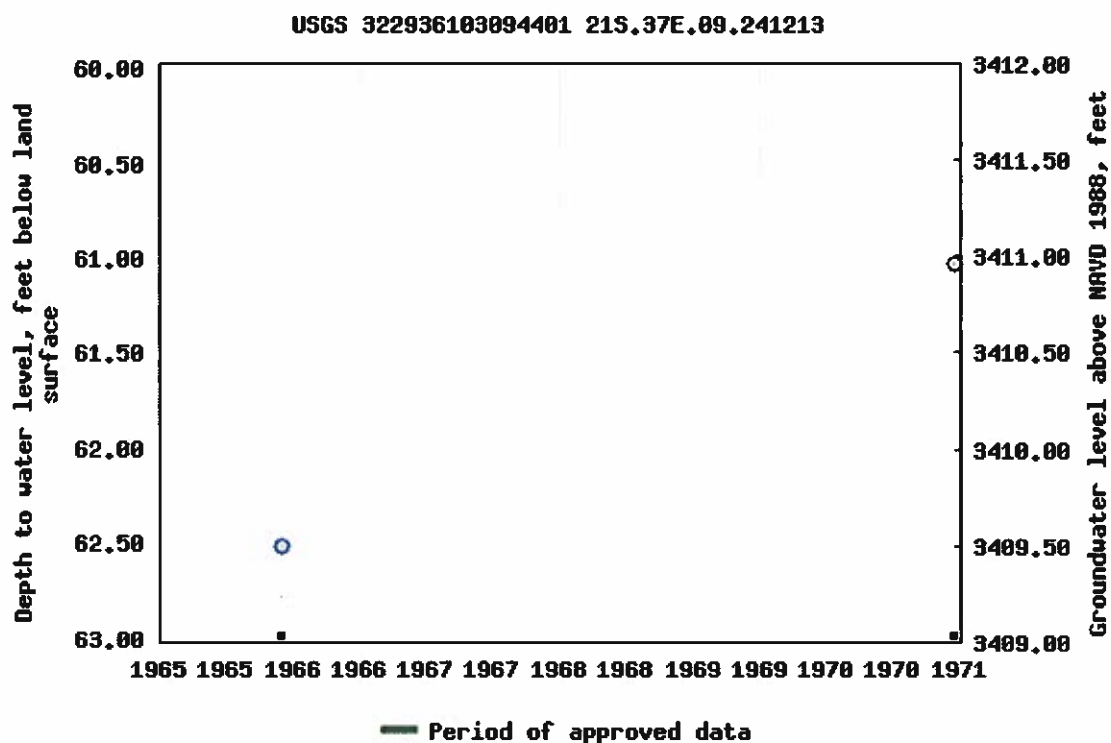
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1.64 1.47 nadww01



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Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°29'49", Longitude 103°09'45" NAD27

Land-surface elevation 3,466.60 feet above NGVD29

The depth of the well is 90 feet below land surface.

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

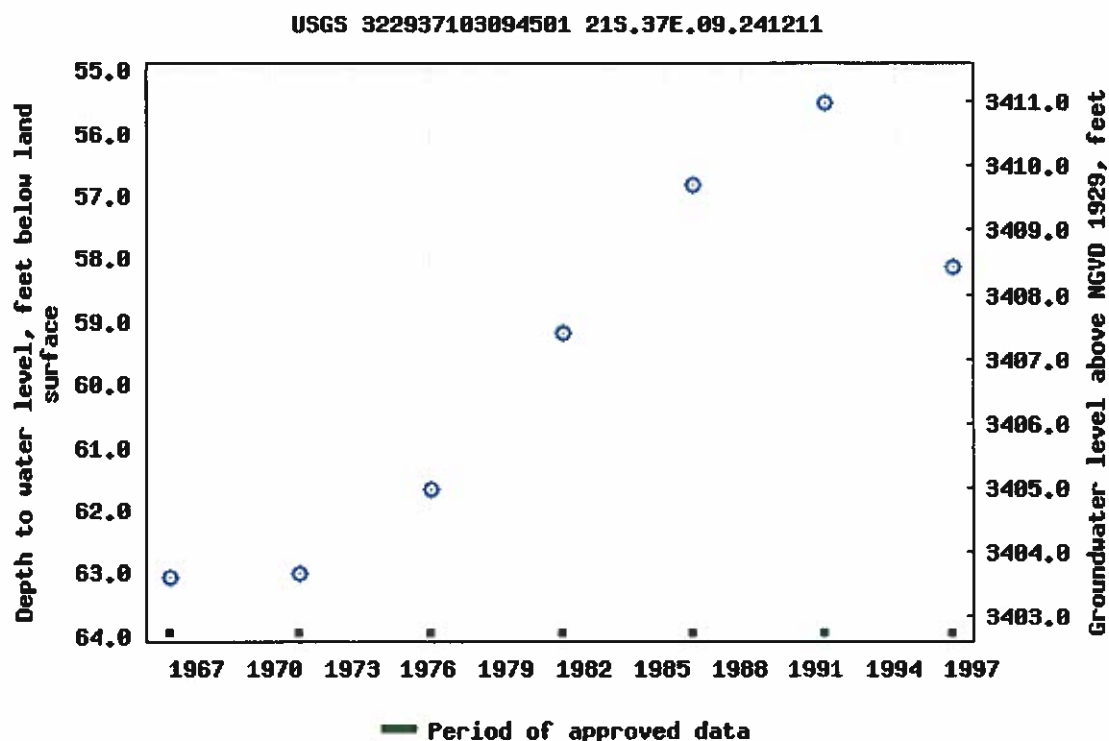
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1.3 1.17 nadww01



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

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 6	Q 4	Q 1	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00552		CP	LE	2	4	04	21S	37E		672700	3598022*	1448	90	75	15
CP 00553		CP	LE	2	4	04	21S	37E		672700	3598022*	1448	90	75	15

Average Depth to Water: 75 feet

Minimum Depth: 75 feet

Maximum Depth: 75 feet

Record Count: 2

UTM NAD83 Radius Search (in meters):

Easting (X): 671508

Northing (Y): 3597199

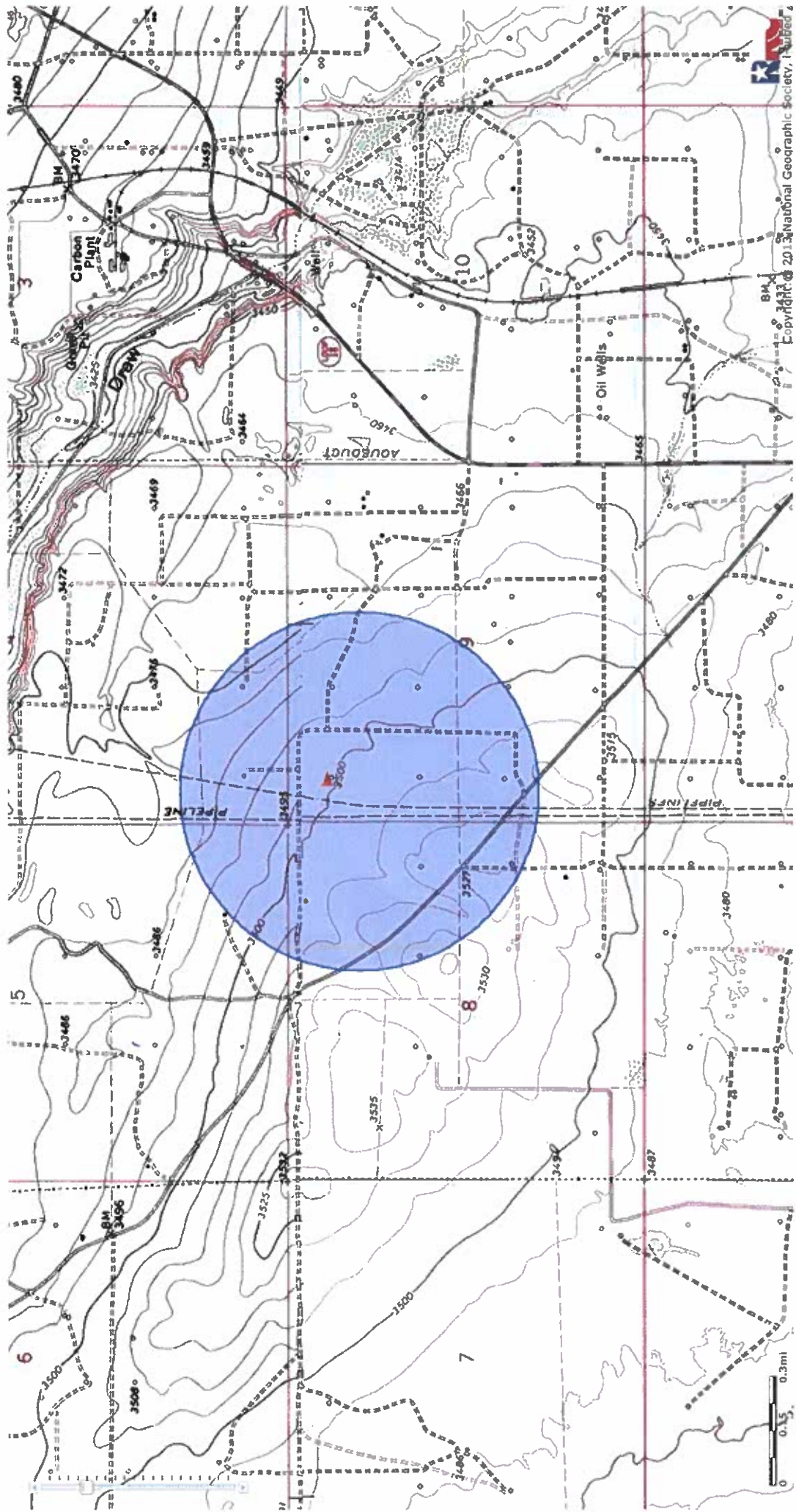
Radius: 2000

*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.

11/20/18 10:14 AM

WATER COLUMN/ AVERAGE
DEPTH TO WATER





Google earth

SP 1 32.4988666 -103.1743455

Depth	Field CL	Lab CL	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTX	GRO	DRO	EXT DRO
Surface	1,619	1730	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
1'	920									
2'	794									
3'	403	432	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
4'	188	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10

SP 2 32.4992122 -103.1741829

6"	476		<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
1'	1,018	1180	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
2'	666	608	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
3'	356									

SP 3 32.4998337 -103.1741323

6"	1,483	1630	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
1'	264	128	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10

SP 4 32.5001716 -103.1741111

6"	744	832	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
1'	306	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10

SP 5 32.5002440 -103.1735908

6"	323	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
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SP 6 32.5008429 -103.1719888

6"	580	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
1'	403	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10

SP 7 32.5013504 -103.1719100

6"	6,053	8530	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10
1'	672									
1'	269	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10	<10	<10



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

October 05, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WBDU #23

Enclosed are the results of analyses for samples received by the laboratory on 10/02/18 16:25.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

 Received: 10/02/2018
 Reported: 10/05/2018
 Project Name: WBDU #23
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 10/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 1 @ SURFACE (H802789-01)

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	10/03/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 79.1 % 69.8-142

Chloride, SM4500CI-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1730	16.0	10/03/2018	ND	352	88.0	400	12.8	

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	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 83.9 % 41-142

Surrogate: 1-Chlorooctadecane 79.7 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 1 @ 3' (H802789-02)

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	10/03/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 80.7 % 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	432	16.0	10/03/2018	ND	352	88.0	400	12.8	

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	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 84.8 % 41-142

Surrogate: 1-Chlorooctadecane 79.5 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 1 @ 4' (H802789-03)

BTEX 8021B		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 79.9 % 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	10/03/2018	ND	352	88.0	400	12.8	

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	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 79.0 % 41-142

Surrogate: 1-Chlorooctadecane 74.4 % 37.6-147

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Coley D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 2 @ 1' (H802789-04)

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	10/03/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 79.6 % 69.8-142

Chloride, SM4500CI-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1180	16.0	10/03/2018	ND	352	88.0	400	12.8	

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	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 83.1 % 41-142

Surrogate: 1-Chlorooctadecane 78.7 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 2 @ 3' (H802789-05)

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	10/03/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/03/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/03/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/03/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 80.5 % 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	608	16.0	10/03/2018	ND	352	88.0	400	12.8	

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	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

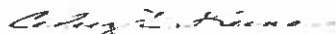
Surrogate: 1-Chlorooctane 84.0 % 41-142

Surrogate: 1-Chlorooctadecane 80.1 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 3 @ 6" (H802789-06)

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	10/04/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/04/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/04/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/04/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 80.1 % 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	1630	16.0	10/03/2018	ND	416	104	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 83.4 % 41-142

Surrogate: 1-Chlorooctadecane 77.8 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 3 @ 1' (H802789-07)

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	10/04/2018	ND	2.09	105	2.00	1.78	
Toluene*	<0.050	0.050	10/04/2018	ND	1.97	98.6	2.00	1.81	
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	1.93	96.6	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/04/2018	ND	5.80	96.7	6.00	2.90	
Total BTEX	<0.300	0.300	10/04/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 79.3 % 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	128	16.0	10/03/2018	ND	416	104	400	3.77	

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					


Surrogate: 1-Chlorooctane 77.4 % 41-142

Surrogate: 1-Chlorooctadecane 72.0 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 4 @ 1' (H802789-09)

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	10/04/2018	ND	2.30	115	2.00	1.53	
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60	
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31	
Total BTEX	<0.300	0.300	10/04/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 79.7 % 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	288	16.0	10/03/2018	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 79.3 % 41-142

Surrogate: 1-Chlorooctadecane 75.5 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 5 @ 6" (H802789-10)

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	10/04/2018	ND	2.30	115	2.00	1.53	
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60	
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31	
Total BTEX	<0.300	0.300	10/04/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 80.0 % 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	10/03/2018	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

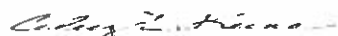
Surrogate: 1-Chlorooctane 72.2 % 41-142

Surrogate: 1-Chlorooctadecane 67.3 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 6 @ 6" (H802789-11)

BTX 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	10/04/2018	ND	2.30	115	2.00	1.53	
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60	
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31	
Total BTX	<0.300	0.300	10/04/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 82.6 % 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	10/03/2018	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

Surrogate: 1-Chlorooctane 87.9 % 41-142

Surrogate: 1-Chlorooctadecane 82.0 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 6 @ 1' (H802789-12)

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	10/04/2018	ND	2.30	115	2.00	1.53	
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60	
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31	
Total BTEX	<0.300	0.300	10/04/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 80.3 % 69.8-142

Chloride, SM4500CI-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	10/03/2018	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2018	ND	187	93.7	200	2.12	
DRO >C10-C28*	<10.0	10.0	10/03/2018	ND	197	98.4	200	2.58	
EXT DRO >C28-C36	<10.0	10.0	10/03/2018	ND					

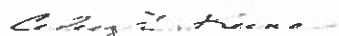
Surrogate: 1-Chlorooctane 90.1 % 41-142

Surrogate: 1-Chlorooctadecane 85.1 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 7 @ 6" (H802789-13)

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	10/04/2018	ND	2.30	115	2.00	1.53	
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60	
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31	
Total BTEX	<0.300	0.300	10/04/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 81.0 % 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	8530	16.0	10/03/2018	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/04/2018	ND	183	91.5	200	0.255	
DRO >C10-C28*	<10.0	10.0	10/04/2018	ND	172	86.1	200	2.63	
EXT DRO >C28-C36	<10.0	10.0	10/04/2018	ND					

Surrogate: 1-Chlorooctane 85.6 % 41-142

Surrogate: 1-Chlorooctadecane 78.9 % 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: 10/02/2018
Reported: 10/05/2018
Project Name: WBDU #23
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 10/02/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: VERTICAL 7 @ 2' (H802789-14)

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	10/04/2018	ND	2.30	115	2.00	1.53	
Toluene*	<0.050	0.050	10/04/2018	ND	2.18	109	2.00	1.95	
Ethylbenzene*	<0.050	0.050	10/04/2018	ND	2.17	108	2.00	1.60	
Total Xylenes*	<0.150	0.150	10/04/2018	ND	6.47	108	6.00	1.31	
Total BTEX	<0.300	0.300	10/04/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 80.7 % 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	10/03/2018	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/04/2018	ND	183	91.5	200	0.255	
DRO >C10-C28*	<10.0	10.0	10/04/2018	ND	172	86.1	200	2.63	
EXT DRO >C28-C36	<10.0	10.0	10/04/2018	ND					

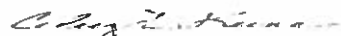
Surrogate: 1-Chlorooctane 80.3 % 41-142

Surrogate: 1-Chlorooctadecane 75.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- 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

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

+ Cardinal cannot prevent verbal rhyming Place for written rhyming in (K7E) 202, 222

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

Cardinal cannot accept verbal change. Please for written change to 15751 202,2326