303 Veterans Airpark Lane Midland, TX 79705

Remediation Plan

August 31, 2020

Re: WBDU 46
API# 30-025-37020
Case # 1RP-5793

Background:

On 10/18/2019 a release occurred due to a failure on a back-pressure valve being plugged causing fluid to exit the stuffing box. An initial C-141 was submitted to NMOCD on 10/25/2019 and approved on 12/13/2019. The release is located north of Eunice, New Mexico (GPS 32.489932, -103.181248) in unit letter J, section 8, township 21S, and range 37E. A groundwater survey conducted utilizing USGS and NMOSE wells of record in this area indicates a depth of groundwater below the release at 70 feet. On 11/25/2019 three samples were collected ranging from surface to 4' in depth and submitted to a commercial laboratory for analysis of CL-, TPH, and BTEX. Additional delineation was completed at sample point 3 on 12/3/2019 at a depth of 5' and submitted to a commercial laboratory for analysis of TPH and BTEX. A remediation plan was submitted to OCD and denied on 3/16/2020 due to the area of northern portion of the release was not sampled.

On 3/18/2020 the northern portion samples were collected at surface and 1 foot at SP 4. All samples collected were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Horizontal surface 5 point composite samples were collected and submitted to a commercial laboratory for chlorides, TPH, and BTEX. On 8/20/2020 SP 1 was further delineated in one foot intervals to a depth of 6 feet. All samples were field titrated and representative samples were submitted to a commercial laboratory for analysis of chloride. SP2 was further delineated in one foot intervals to a depth of 12 feet. All samples were field titrated and representative samples were submitted to a commercial laboratory for analysis of chloride. SP 4 was further delineated to a depth of 2 feet and the sample collected was submitted to a commercial laboratory for analysis of TPH, and BTEX. Horizontal sample point HC6 was further delineated laterally and a sample was collected and submitted to a commercial laboratory for analysis of TPH, and BTEX.

Remediation Plan:

Apache proposes that the release area located on the lease pad (SP 1) be excavated to a depth of 1'. Apache proposes that the area of SP 2 be excavated to a depth 4 feet and the area of SP 3 be excavated to a depth of 5 feet. SP 4 be excavated to a depth of 2 feet. Once the excavations are complete Apache proposes that final 5 point bottom and wall composite samples be collected not to exceed 500 square feet. All final samples will be submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Once laboratory analysis meet table one standards for releases 51-100 feet to ground water the excavation will be

backfilled. If chloride values at the proposed excavation depths in the pasture exceed 1,000 mg/kg than a 20 mil reinforce liner will be installed.

All excavated material approximately 950 cubic yards will be hauled to an NMOCD approved facility. The excavation on the lease pad will be backfilled with clean imported caliche and the pasture will be backfilled with clean imported top soil and contoured to the surrounding area. The pasture will be seeded in accordance with the private surface landowner guidelines. Apache Corporation has been granted an extension by OCD until 2/11/2021 to complete remediation.

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

Submitted by;

Bruce Baker

Environmental Technician SR.
larry.baker@apachecorp.com
Cell# 432-631-6982
Off# 432-818-1000

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	NRM1934740110
District RP	1RP-5793
Facility ID	
Application ID	pRM1934740375

Release Notification

RPI3E-191025-C-1410

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)*
Contact Mailing Address: 2350 W. Marland Blvd, Hobbs, NM 88240	

Location of Release Source

Latitude: W 32.489932 Longitude: N -103.181248

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: WBDU 46	Site Type: Well
Date Release Discovered: October 18, 2019	API # *30-025-37020*

Unit Letter	Section	Township	Range	County
J	8	21S	37E	LEA

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: DECK*)

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (*3 Barrels*)	Volume Recovered (*1 Barrel*)
☒ Produced Water	Volume Released (*40 Barrels*)	Volume Recovered (*13 Barrels*)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☒ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Back-pressure valve plugged up and caused the production fluid to exit the stuffing box.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM1934740110
District RP	1RP-5793
Facility ID	
Application ID	pRM1934740375

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release is greater than 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Via email given to NM OCD by Bruce Baker, Senior Environmental Technician, Apache Corporation on 10/18/2019

Initial Response

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

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

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

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

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

Printed Name: Jeff Broom Title: Environmental Technician

Signature: Jeff Broom Date: 10/25/2019

Email: Jeffrey.Broom@apachecorp.com Telephone: (432) 664-4677

OCD Only

Received by: Ramona Marcus Date: 12/13/2019

Volume Calculation

739 cubic feet of soil contamination X 7.48 gallons per cubic foot = 5,527 gallons/42 gallons to a barrel= 131 barrels X .33 soil porosity= 43 barrels fluid in soil + 14 barrels recovered = 57 barrels total loss.

1RP-5793

State of New Mexico
Oil Conservation Division

Incident ID	NRM1934740110
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?	70' (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NRM1934740110
District RP	
Facility ID	
Application ID	

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: JEFF BROWN Title: Environmental Tech

Signature: Jeff Brown Date: 1/17/20

email: Jeffrey.Brown@apachecorp.com Telephone: (432) 664-4677

OCD Only

Received by: Cristina Eads Date: 08/31/2020

State of New Mexico
Oil Conservation Division

Incident ID	NRM1934740110
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: Larry Baker Title: Environmental Tech SR.

Signature: Larry Baker Date: 8/31/2020

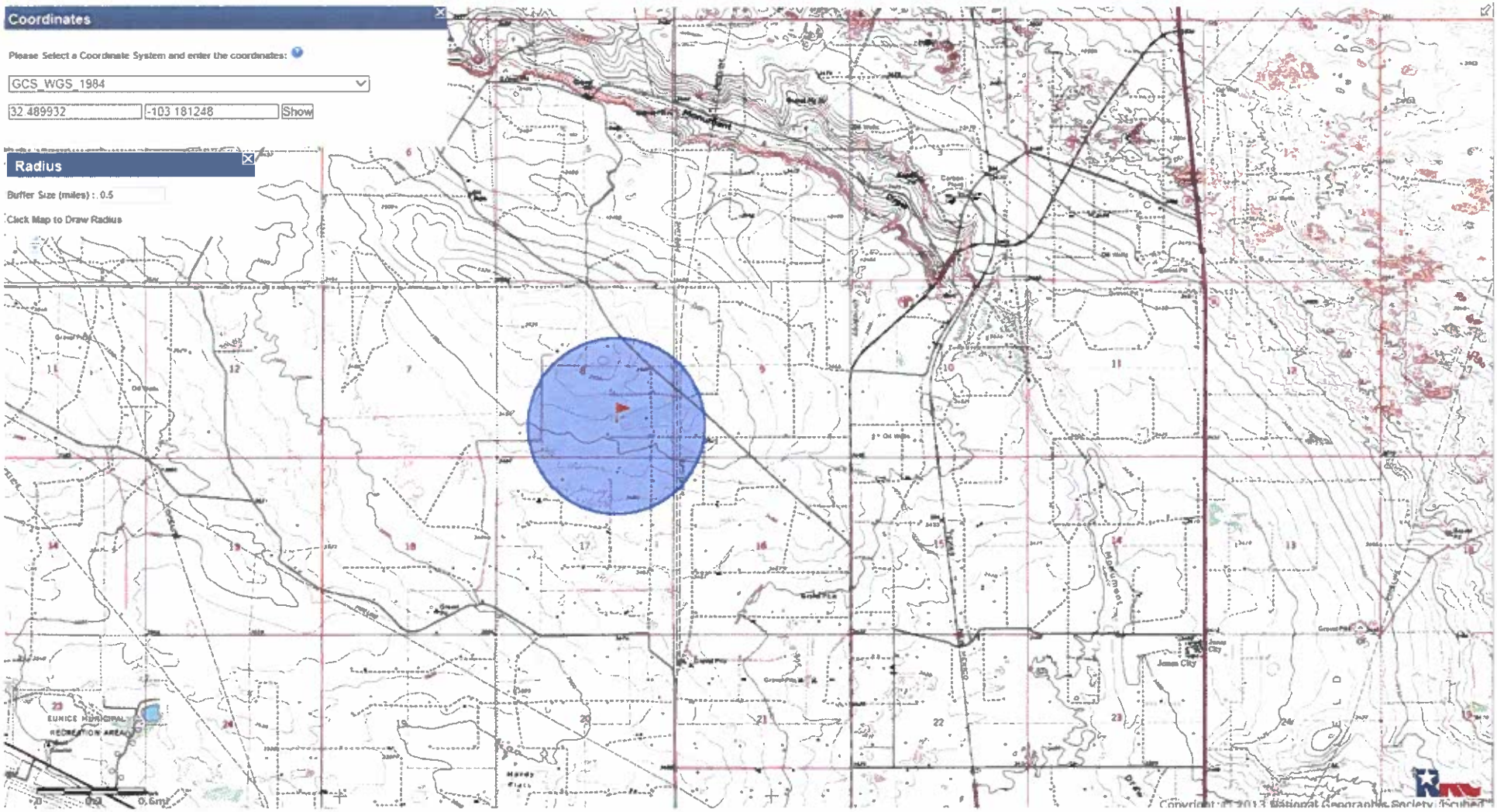
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Cristina Eads Date: 08/31/2020

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

Signature: Date: 10/28/2020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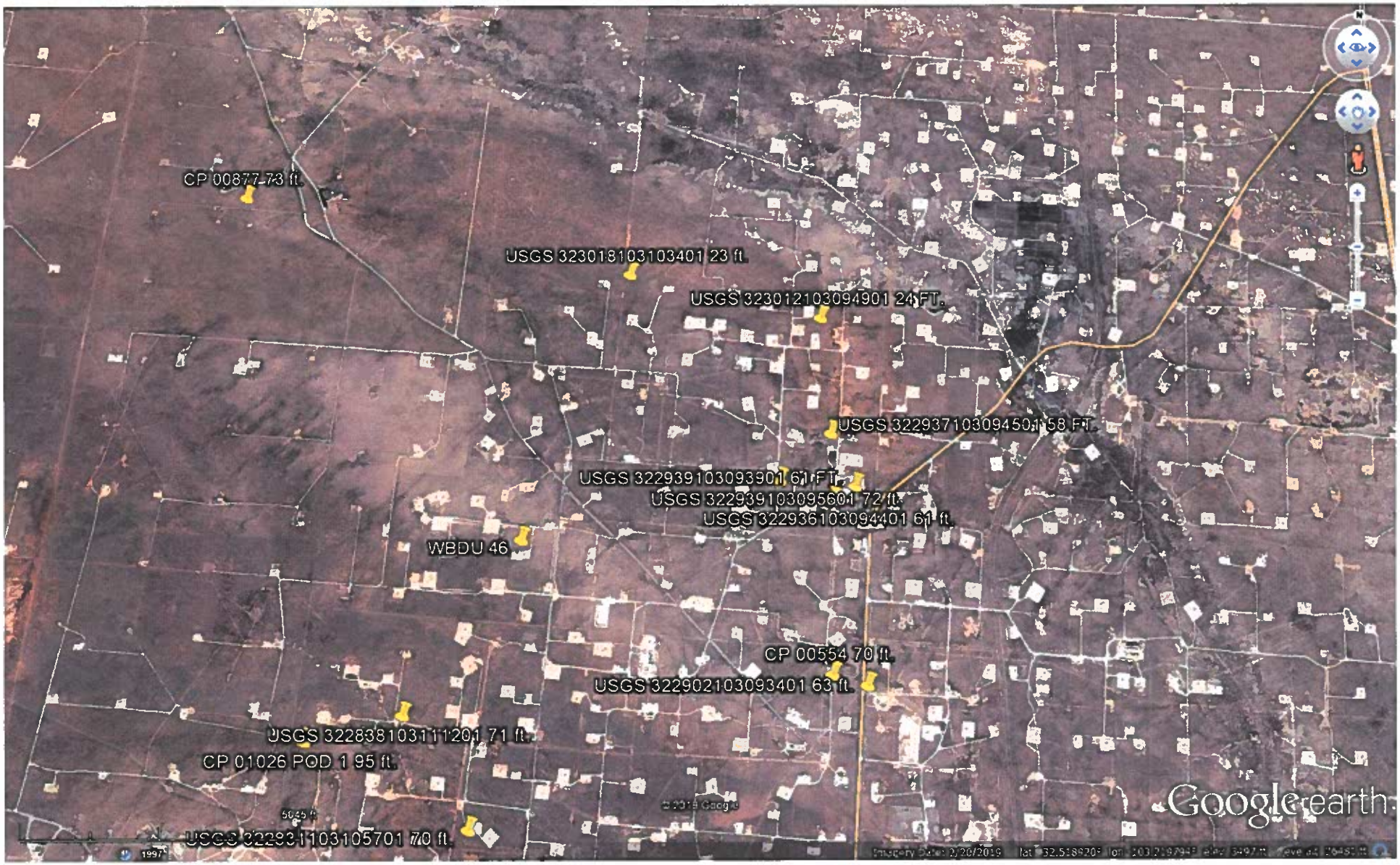
CP 00877 73 ft.
USGS 323018103103401 23 ft.
USGS 323012103094901 24 FT.
USGS 322937103094501 58 FT.
USGS 322939103093901 61 FT.
USGS 322939103095601 72 ft.
USGS 322936103094401 61 ft.
WBDU 46
CP 00554 70 ft.
USGS 322902103093401 63 ft.
USGS 322838103111201 71 ft.
CP 01026 POD 1 95 ft.
USGS 322931103105701 70 ft.
Google earth

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Twn	Rng	(NAD83 UTM in meters) X	Y	
	CP 00554	2	2	16	21S	37E		672744	3595610*	•

Driller License:	208	**Driller Company:**	VAN NOY, W.L.		
Driller Name:	VAN NOY, W.L.				
Drill Start Date:	06/01/1976	**Drill Finish Date:**	06/05/1976	**Plug Date:**	
Log File Date:	04/05/1977	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	5.00	**Depth Well:**	80 feet	**Depth Water:**	70 feet

Water Bearing Stratifications:	Top	Bottom	Description
	75	80	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	64	80

*UTM location was derived from PLSS - see Help

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64 Q16 Q4	Sec	Twn	Rng	(NAD83 UTM in meters) X	Y
	CP 00877		06	21S	37E	668920	3598153*

Driller License:	1044	**Driller Company:**	EADES WELL DRILLING & PUMP SERVICE		
Driller Name:	EADES, ALAN				
Drill Start Date:	02/26/1998	**Drill Finish Date:**	02/26/1998	**Plug Date:**	
Log File Date:	03/06/1998	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	35 GPM
Casing Size:	5.75	**Depth Well:**	150 feet	**Depth Water:**	73 feet

Water Bearing Stratifications:	Top	Bottom	Description
	73	148	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	130	150

*UTM location was derived from PLSS - see Help

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	CP 01026 POD1	1	1	3	17	21S	37E	669809	3594958

Driller License: 1626 **Driller Company:** TAYLOR, ROY ALLEN

Driller Name: TAYLOR, ROY ALLEN

Drill Start Date:	10/12/2009	**Drill Finish Date:**	10/14/2009	**Plug Date:**	
Log File Date:	10/23/2009	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	25 GPM
Casing Size:	5.14	**Depth Well:**	167 feet	**Depth Water:**	95 feet

Water Bearing Stratifications:	Top	Bottom	Description
	95	167	Sandstone/Gravel/Conglomerate

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64 Q16 Q4	Sec	Twn	Rng	(NAD83 UTM in meters) X	Y
	CP 00877		06	21S	37E	668920	3598153*

Driller License:	1044	**Driller Company:**	EADES WELL DRILLING & PUMP SERVICE		
Driller Name:	EADES, ALAN				
Drill Start Date:	02/26/1998	**Drill Finish Date:**	02/26/1998	**Plug Date:**	
Log File Date:	03/06/1998	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	35 GPM
Casing Size:	5.75	**Depth Well:**	150 feet	**Depth Water:**	73 feet

Water Bearing Stratifications:	Top	Bottom	Description
	73	148	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	130	150

*UTM location was derived from PLSS - see Help

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Agency code = usgs
site_no list =
- 322838103111201

Minimum number of levels = 1
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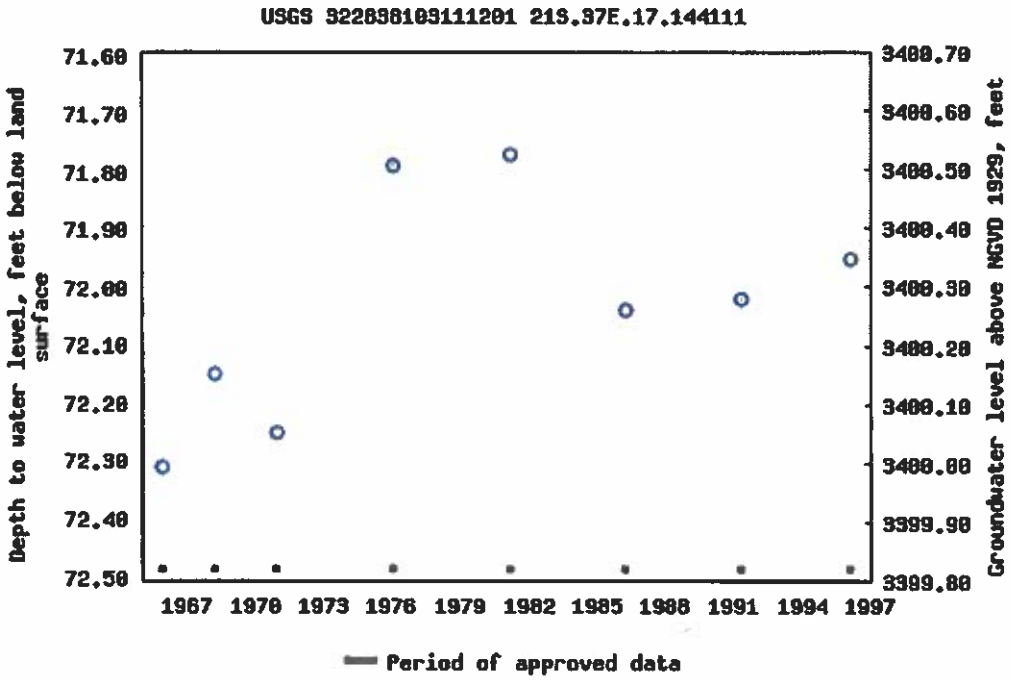
USGS 322838103111201 21S.37E.17.144111

Available data for this site: Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°28'50", Longitude 103°11'14" NAD27
Land-surface elevation 3,472.30 feet above NGVD29
The depth of the well is 96 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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- 322902103093401

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USGS 322902103093401 21S.37E.16.222321

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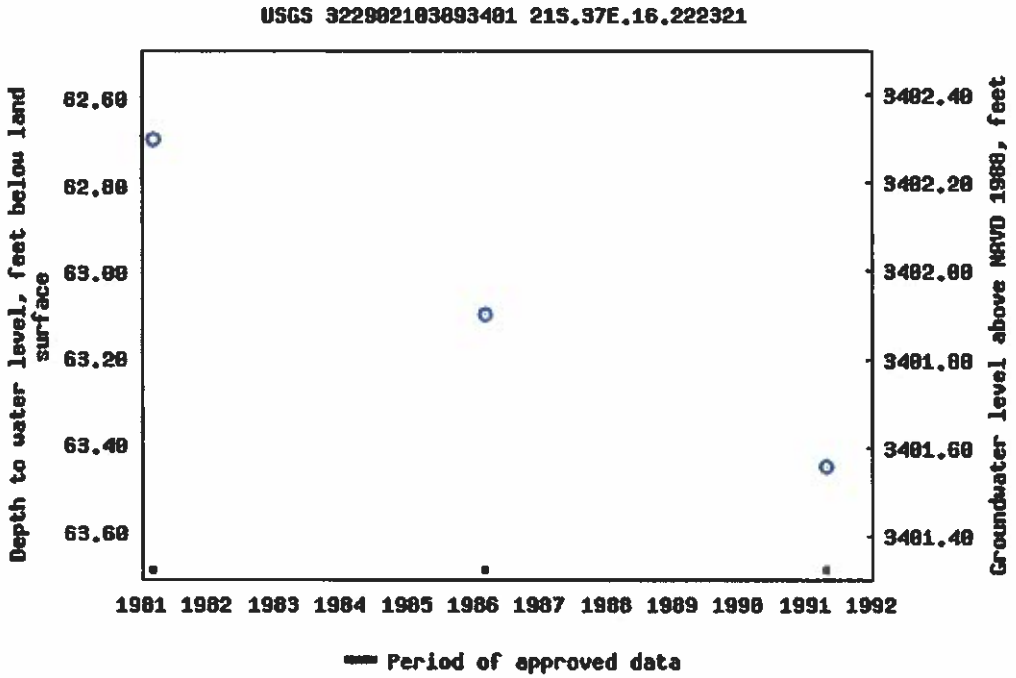
Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°29'02", Longitude 103°09'34" NAD27
Land-surface elevation 3,465 feet above NAVD88
The depth of the well is 80 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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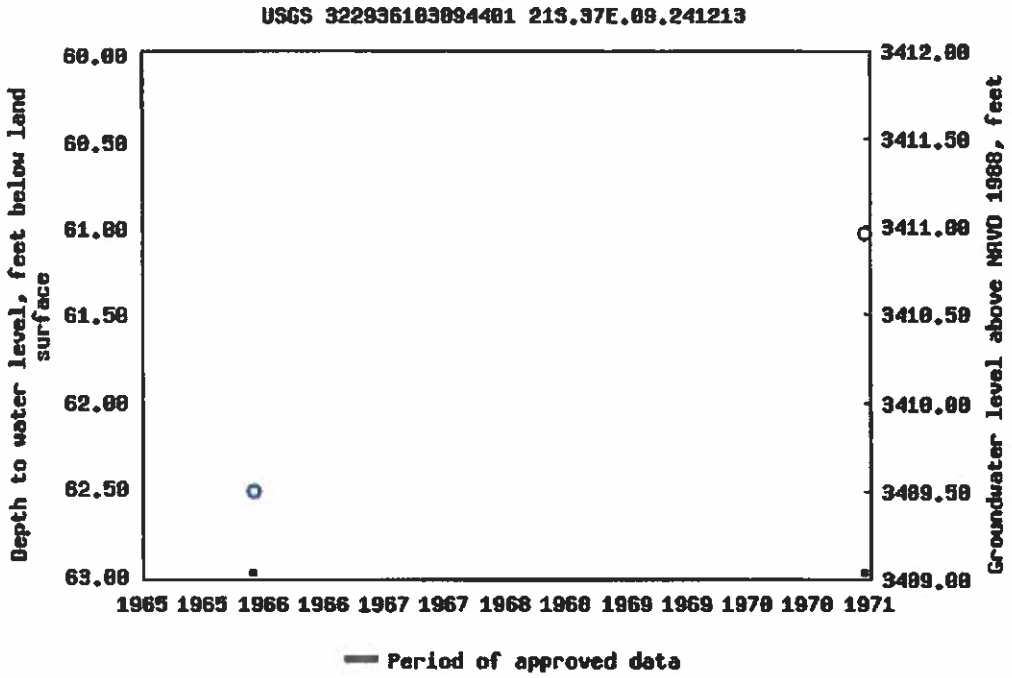
Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°29'36", Longitude 103°09'44" NAD27
Land-surface elevation 3,472 feet above NAVD88
The depth of the well is 90 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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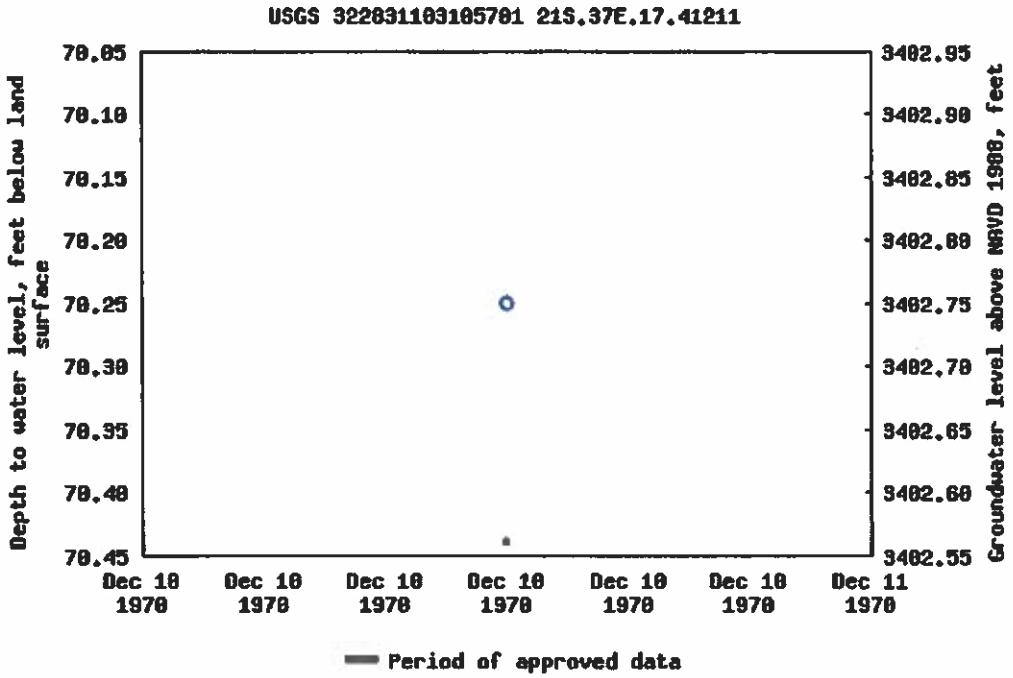
Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°28'31", Longitude 103°10'57" NAD27
Land-surface elevation 3,473 feet above NAVD88
The depth of the well is 120 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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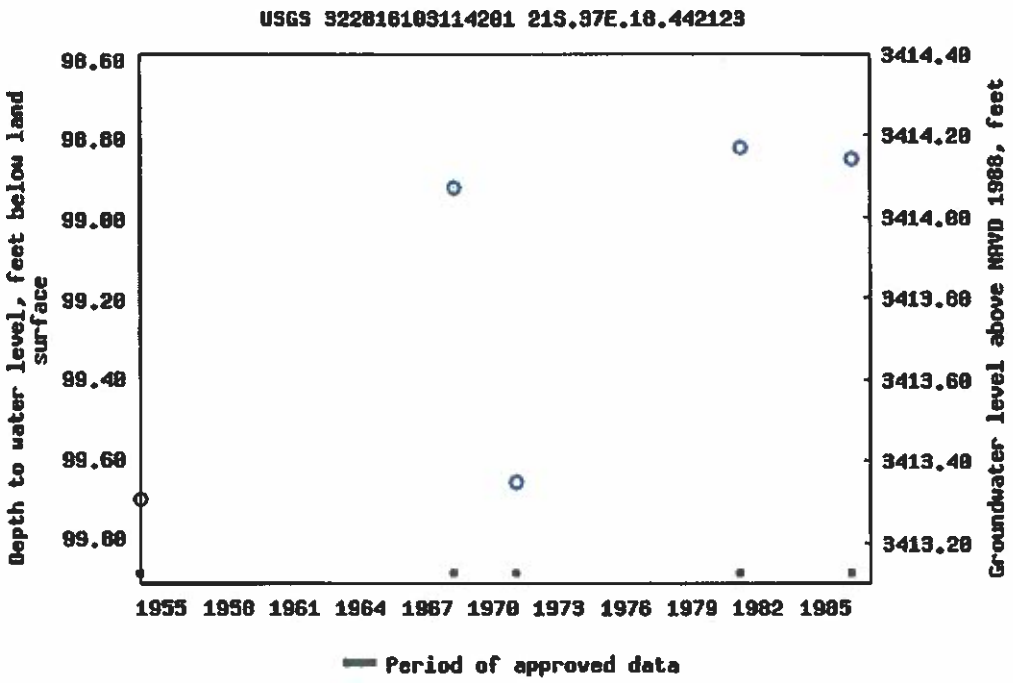
Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°28'16", Longitude 103°11'42" NAD27
Land-surface elevation 3,513 feet above NAVD88
The depth of the well is 125 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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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: 2020-01-16 16:02:03 EST
0.55 0.49 nadww01

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Agency code = usgs
site_no list =
- 323018103103401

Minimum number of levels = 1
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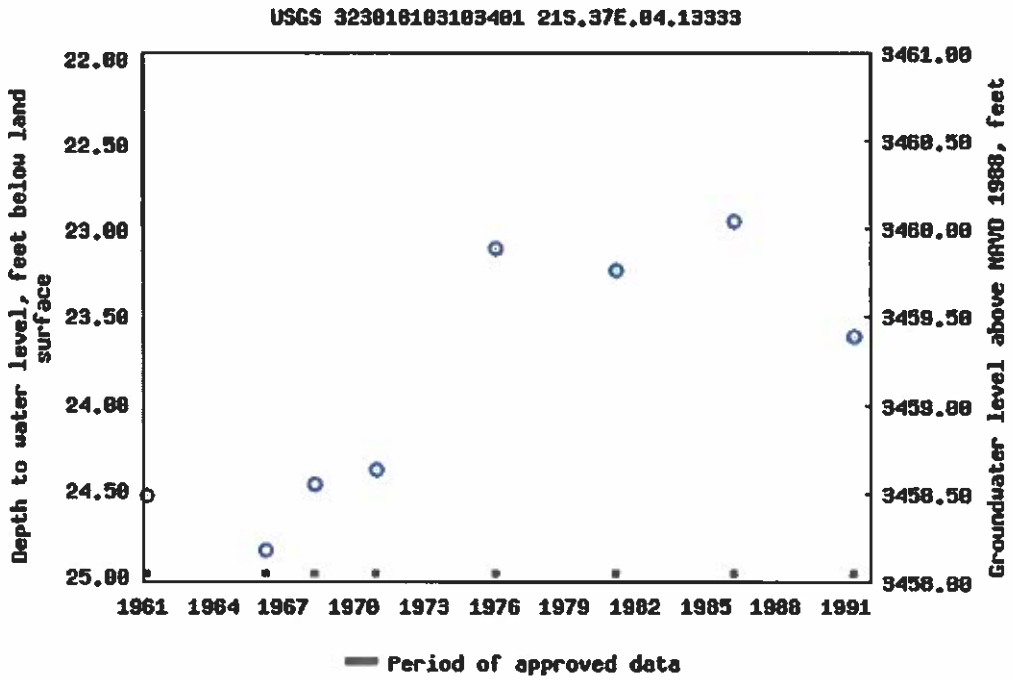
USGS 323018103103401 21S.37E.04.13333

Available data for this site | Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°30'18", Longitude 103°10'34" NAD27
Land-surface elevation 3,483 feet above NAVD88
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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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: 2020-01-16 16:13:50 EST
0.54 0.49 nadww01

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Agency code = usgs
site_no list =
- 323012103094901

Minimum number of levels = 1
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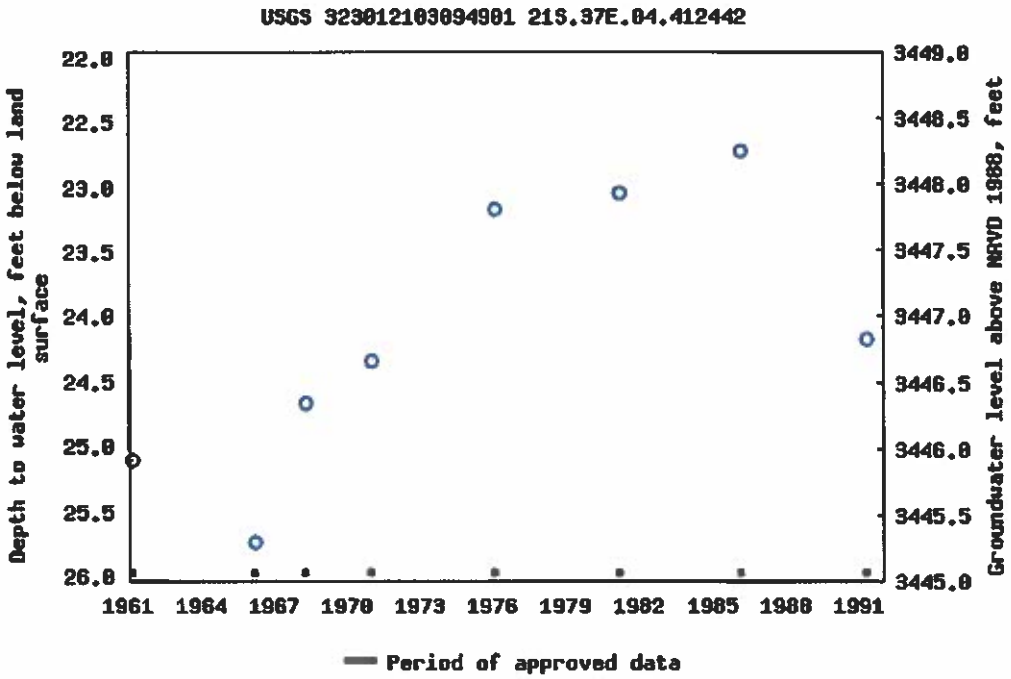
USGS 323012103094901 21S.37E.04.412442

Available data for this site | Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°30'12", Longitude 103°09'49" NAD27
Land-surface elevation 3,471 feet above NAVD88
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



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USA.gov

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

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Agency code = usgs
site_no list =
- 322939103095601

Minimum number of levels = 1
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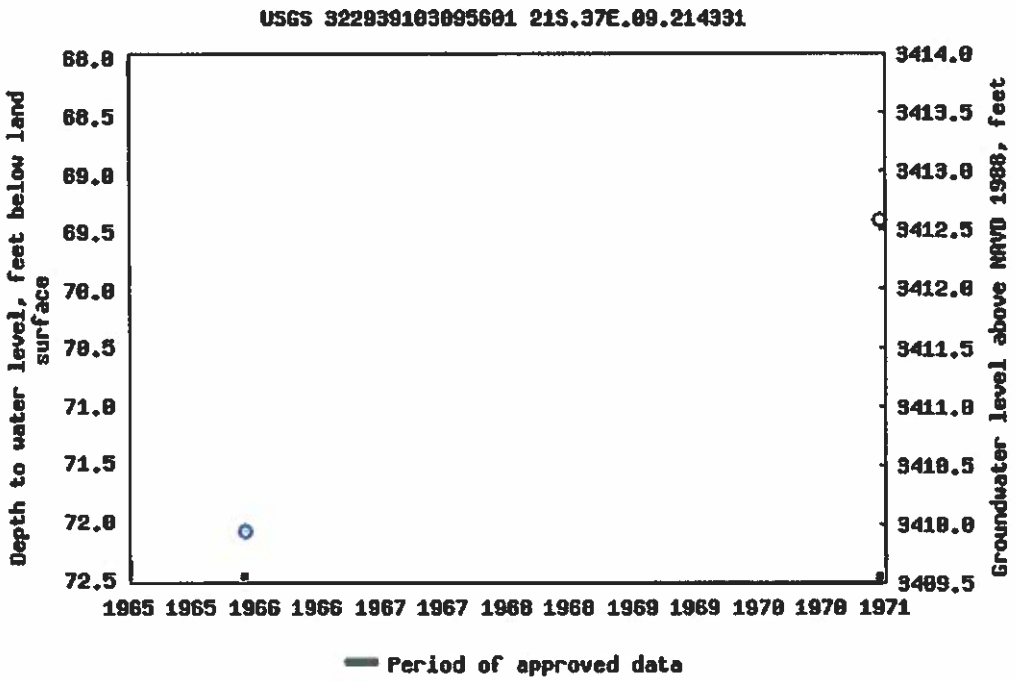
USGS 322939103095601 21S.37E.09.214331

Available data for this site | Groundwater: Field measurements | GO

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.

Output formats

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



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Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322939103093901

Minimum number of levels = 1
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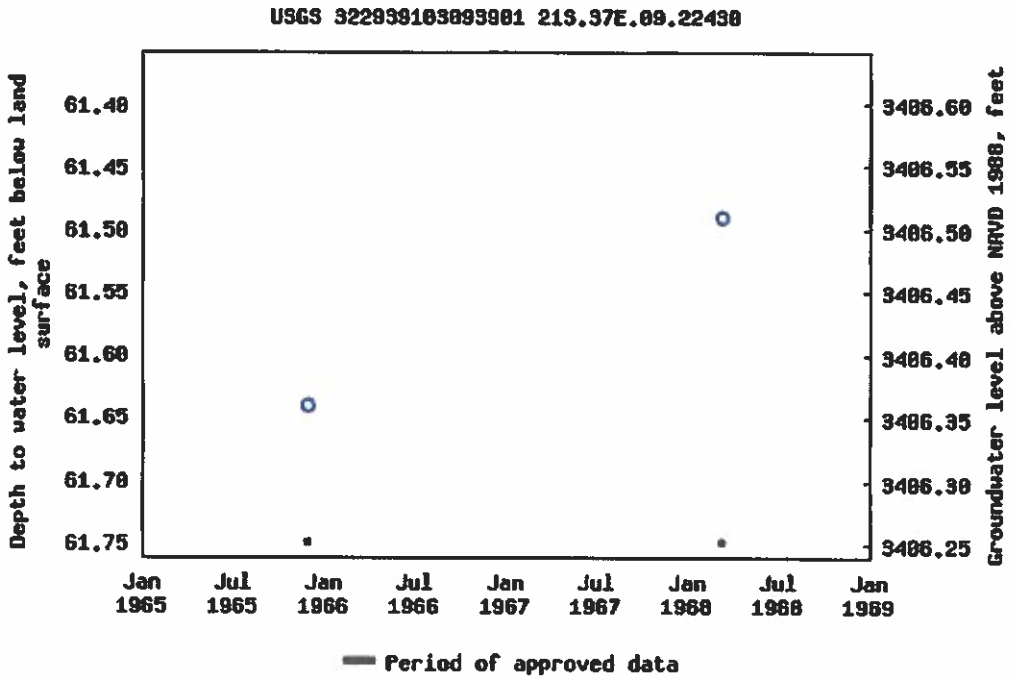
USGS 322939103093901 21S.37E.09.22430

Available data for this site: Groundwater: Field measurements | GO

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.

Output formats

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



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Agency code = usgs
site_no list =
- 322937103094501

Minimum number of levels = 1
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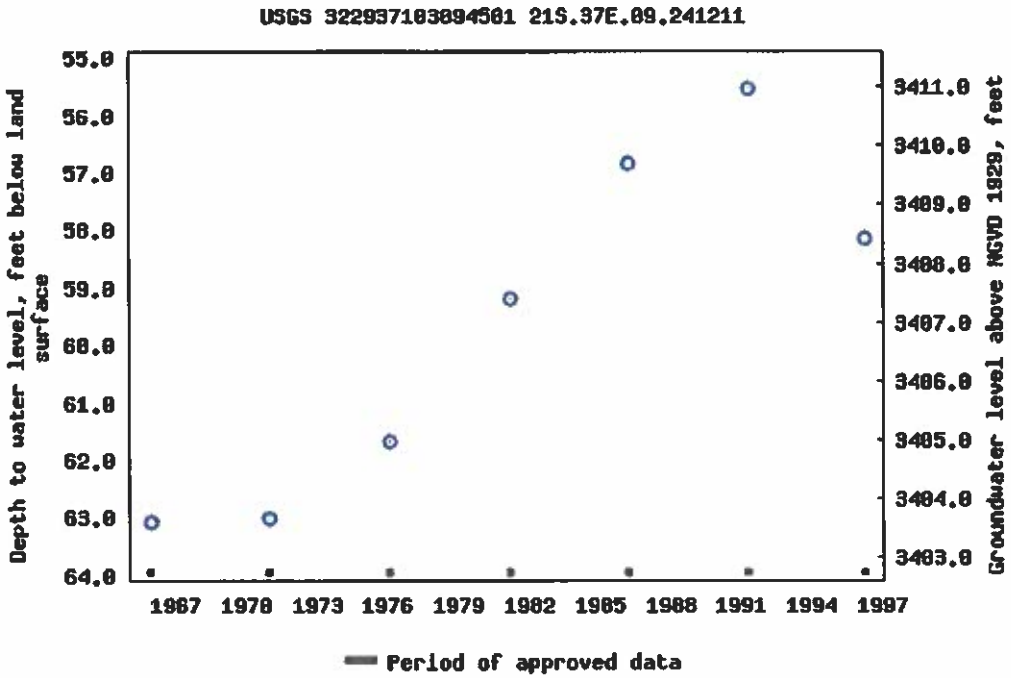
USGS 322937103094501 21S.37E.09.241211

Available data for this site: Groundwater: Field measurements | GO

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.

Output formats

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



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0.54 0.48 nadww01


HC1
SP4
WBDU 46
WBDU 46
HC6
HC2
SP1
HC5
SP2
HC3
SP3
HC4
© 2020 Google
100 ft
Google earth

Sample Date	Sample ID	Depth	Chloride Field	Chloride Lab	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
11/25/2019	SP1	S	N/A	19200	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	154	26.5	32.489613, -103.181143
11/25/2019		1'	N/A	6000	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
8/20/2020		2'	1012	944									
8/20/2020		3'	1065										
8/20/2020		4'	678	752									
8/20/2020		5'	1128										
8/20/2020		6'	445	480									
11/25/2019	SP2	S	N/A	2800	<0.050	<0.050	0.658	3.77	4.42	560	21100	3700	32.489377, -103.181328
11/25/2019		2'	N/A	3080	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
11/25/2019		4'	N/A	5120	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	25.5	<10.0	
8/20/2020		5'	2137										
8/20/2020		6'	2108	1760									
8/20/2020		7'	2612										
8/20/2020		8'	1293	368									
8/20/2020		9'	1211										
8/20/2020		10'	1358	976									
8/20/2020		11'	1056										
8/20/2020		12'	297	256									
11/25/2019	SP3	S	N/A	304	<0.050	<0.050	0.694	2.75	3.45	251	5930	872	32.489356, -103.181450
11/25/2019		2'	N/A	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	16.3	<10.0	
11/25/2019		4'	N/A	272	<0.050	<0.050	0.327	1.24	1.57	80.2	1080	126	
12/3/2019		5'	N/A	N/A	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
3/18/2020	SP 4	S	N/A	8530	<0.050	<0.050	0.128	1.33	1.46	188	16800	3600	
3/18/2020		1'	N/A	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	286	56	
8/20/2020		2'	N/A		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	41.2	14.5	
3/18/2020	HC1	S	N/A	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.490110, -103.181280
3/18/2020	HC2	S	N/A	96	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	73.9	15.7	32.489775, -103.181151
3/18/2020	HC3	S	N/A	48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.489420, -103.181353
3/18/2020	HC4	S	N/A	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.489223, -103.181545
3/18/2020	HC5	S	N/A	32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.489613, -103.181472
3/18/2020	HC6	S	N/A	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	173	26.8	32.489865, -103.181258
8/20/2020	HC6	S	N/A		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.489847, -103.181297

CARDINAL Laboratories

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

December 02, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WBDU #46

Enclosed are the results of analyses for samples received by the laboratory on 11/25/19 15:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	11/25/2019	Sampling Date:	11/25/2019
Reported:	12/02/2019	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ SURFACE 32.489613-103.181143 (H903999-01)

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	11/26/2019	ND	1.87	93.5	2.00	2.08	
Toluene*	<0.050	0.050	11/26/2019	ND	1.79	89.6	2.00	2.31	
Ethylbenzene*	<0.050	0.050	11/26/2019	ND	1.82	91.2	2.00	2.28	
Total Xylenes*	<0.150	0.150	11/26/2019	ND	5.52	92.0	6.00	2.42	
Total BTEX	<0.300	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID 99.7 % 73.3-129

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**19200**	16.0	11/27/2019	ND	400	100	400	7.69	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/26/2019	ND	214	107	200	2.34	
DRO >C10-C28*	**154**	10.0	11/26/2019	ND	208	104	200	1.59	
EXT DRO >C28-C36	**26.5**	10.0	11/26/2019	ND					

Surrogate: 1-Chlorooctane 79.8 % 41-142

Surrogate: 1-Chlorooctadecane 83.5 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	11/25/2019	Sampling Date:	11/25/2019
Reported:	12/02/2019	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 1' (H903999-02)

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	11/26/2019	ND	1.87	93.5	2.00	2.08	
Toluene*	<0.050	0.050	11/26/2019	ND	1.79	89.6	2.00	2.31	
Ethylbenzene*	<0.050	0.050	11/26/2019	ND	1.82	91.2	2.00	2.28	
Total Xylenes*	<0.150	0.150	11/26/2019	ND	5.52	92.0	6.00	2.42	
Total BTEX	<0.300	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**6000**	16.0	11/27/2019	ND	400	100	400	7.69	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/26/2019	ND	214	107	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/26/2019	ND	208	104	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	11/26/2019	ND					

Surrogate: 1-Chlorooctane *86.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *83.2 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

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BRUCE BAKER
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Fax To: (575) 393-2432

Received:	11/25/2019	Sampling Date:	11/25/2019
Reported:	12/02/2019	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ SURFACE 32.489377-103.181328 (H903999-03)

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	11/26/2019	ND	1.87	93.5	2.00	2.08	
Toluene*	<0.050	0.050	11/26/2019	ND	1.79	89.6	2.00	2.31	
Ethylbenzene*	**0.658**	0.050	11/26/2019	ND	1.82	91.2	2.00	2.28	
Total Xylenes*	**3.77**	0.150	11/26/2019	ND	5.52	92.0	6.00	2.42	
Total BTEX	**4.42**	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID 229 % 73.3-129

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2800**	16.0	11/27/2019	ND	400	100	400	7.69	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**560**	50.0	11/27/2019	ND	214	107	200	2.34	
DRO >C10-C28*	**21100**	50.0	11/27/2019	ND	208	104	200	1.59	
EXT DRO >C28-C36	**3700**	50.0	11/27/2019	ND					

Surrogate: 1-Chlorooctane 184 % 41-142

Surrogate: 1-Chlorooctadecane 540 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	11/25/2019	Sampling Date:	11/25/2019
Reported:	12/02/2019	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 2' (H903999-04)

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	11/26/2019	ND	1.87	93.5	2.00	2.08	
Toluene*	<0.050	0.050	11/26/2019	ND	1.79	89.6	2.00	2.31	
Ethylbenzene*	<0.050	0.050	11/26/2019	ND	1.82	91.2	2.00	2.28	
Total Xylenes*	<0.150	0.150	11/26/2019	ND	5.52	92.0	6.00	2.42	
Total BTEX	<0.300	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3080**	16.0	11/27/2019	ND	400	100	400	7.69	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/26/2019	ND	214	107	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/26/2019	ND	208	104	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	11/26/2019	ND					

Surrogate: 1-Chlorooctane *85.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *83.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	11/25/2019	Sampling Date:	11/25/2019
Reported:	12/02/2019	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 4' (H903999-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/26/2019	ND	1.87	93.5	2.00	2.08	
Toluene*	<0.050	0.050	11/26/2019	ND	1.79	89.6	2.00	2.31	
Ethylbenzene*	<0.050	0.050	11/26/2019	ND	1.82	91.2	2.00	2.28	
Total Xylenes*	<0.150	0.150	11/26/2019	ND	5.52	92.0	6.00	2.42	
Total BTEX	<0.300	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *127 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5120**	16.0	11/27/2019	ND	416	104	400	3.77	QM-07

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	11/26/2019	ND	214	107	200	2.34	
DRO >C10-C28*	<10.0	10.0	11/26/2019	ND	208	104	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	11/26/2019	ND					

Surrogate: 1-Chlorooctane *84.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *81.8 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	11/25/2019	Sampling Date:	11/25/2019
Reported:	12/02/2019	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ SURFACE 32.489356-103.181450 (H903999-06)

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	11/26/2019	ND	1.87	93.5	2.00	2.08	
Toluene*	<0.050	0.050	11/26/2019	ND	1.79	89.6	2.00	2.31	
Ethylbenzene*	**0.694**	0.050	11/26/2019	ND	1.82	91.2	2.00	2.28	
Total Xylenes*	**2.75**	0.150	11/26/2019	ND	5.52	92.0	6.00	2.42	
Total BTEX	**3.45**	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL *152 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	11/27/2019	ND	416	104	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*	**251**	50.0	11/27/2019	ND	214	107	200	2.34	
DRO >C10-C28*	**5930**	50.0	11/27/2019	ND	208	104	200	1.59	
EXT DRO >C28-C36	**872**	50.0	11/27/2019	ND					

Surrogate: 1-Chlorooctane *122 %* *41-142*

Surrogate: 1-Chlorooctadecane *234 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	11/25/2019	Sampling Date:	11/25/2019
Reported:	12/02/2019	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 2' (H903999-07)

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	11/26/2019	ND	1.87	93.5	2.00	2.08	
Toluene*	<0.050	0.050	11/26/2019	ND	1.79	89.6	2.00	2.31	
Ethylbenzene*	<0.050	0.050	11/26/2019	ND	1.82	91.2	2.00	2.28	
Total Xylenes*	<0.150	0.150	11/26/2019	ND	5.52	92.0	6.00	2.42	
Total BTEX	<0.300	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	11/27/2019	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/27/2019	ND	214	107	200	2.34	
DRO >C10-C28*	**16.3**	10.0	11/27/2019	ND	208	104	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	11/27/2019	ND					

Surrogate: 1-Chlorooctane *76.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *72.5 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	11/25/2019	Sampling Date:	11/25/2019
Reported:	12/02/2019	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 4' (H903999-08)

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	11/26/2019	ND	1.87	93.5	2.00	2.08	
Toluene*	<0.050	0.050	11/26/2019	ND	1.79	89.6	2.00	2.31	
Ethylbenzene*	**0.327**	0.050	11/26/2019	ND	1.82	91.2	2.00	2.28	
Total Xylenes*	**1.24**	0.150	11/26/2019	ND	5.52	92.0	6.00	2.42	
Total BTEX	**1.57**	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	11/27/2019	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**80.2**	10.0	11/27/2019	ND	214	107	200	2.34	
DRO >C10-C28*	**1080**	10.0	11/27/2019	ND	208	104	200	1.59	
EXT DRO >C28-C36	**126**	10.0	11/27/2019	ND					

Surrogate: 1-Chlorooctane *93.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *104 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

		BILL TO	
Company Name:	Apache	P.O. #:	
Project Manager:	Jeff Broom	Company:	
Address:		Attn:	
City:	Hobbs	State: NM Zip: 88240	Address:
Phone #:	Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:		Phone #:	
Project Location:	WBDU #46	Fax #:	
Sampler Name:	Jose Quesada		

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE	ICE / COOL	OTHER :	DATE	TIME	Cl	BTEX	ExT TPH
H403999																	
1	Sp1 Surface 32.489413 -103.181143	G	1			1					1		11/25	1:32pm	1	1	1
2	Sp1@1'	G	1			1					1		11/25	1:34pm	1	1	1
3	Sp2 Surface 32.489377 -103.181328	G	1			1					1			2:20pm	1	1	1
4	Sp2@2	G	1			1					1			2:22pm	1	1	1
5	Sp2@4'	G	1			1					1			2:24pm	1	1	1
6	Sp3 Surface 32.489356 -103.181450	G	1			1					1			3:06	1	1	1
7	SP3 2'	G	1			1					1			3:09	1	1	1

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

Relinquished By:	Date: 11/25/19 Time: 5:45	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
			All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		
Delivered By: (Circle One)	Observed Temp. °C 3.2	Sample Condition Cool Intact	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected Temp. °C 3.6	☑ Yes ☑ Yes ☐ No ☐ No	Turnaround Time: Standard ☑ Rush ☐
			Thermometer ID #97 Correction Factor +0.4 °C
			Bacteria (only) Sample Condition Cool Intact Observed Temp. °C ☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

FORM-006 R 3.0

2

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Apache
Project Manager:	Jeff Broom
Address:	
City:	Hobbs
State:	NM
Zip:	88240
Phone #:	
Fax #:	
Project #:	
Project Owner:	
Project Name:	
Project Location:	WBDU #46
Sampler Name:	Jose Quesada

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	GI	BTEX	EXT TPH									
H903999-8	SP3@4'	G	1			1					1		11/25	3:10	1	1	1									

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

Relinquished By:	Date: 11/25/19 Time: 15:43	Received By: Jodi Henson	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address:
Relinquished By:	Date: Time:	Received By:	REMARKS:
Delivered By: (Circle One)	Observed Temp. °C 3.2	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected Temp. °C 3.0		Turnaround Time: Standard ☑ Rush ☐
			Thermometer ID #97 Correction Factor +0.4 °C
			Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No; Observed Temp. °C; Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

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CARDINAL Laboratories

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

December 06, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WBDU #46

Enclosed are the results of analyses for samples received by the laboratory on 12/03/19 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	12/03/2019	Sampling Date:	12/03/2019
Reported:	12/06/2019	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 5' (H904038-01)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/03/2019	ND	1.80	89.8	2.00	6.14	
Toluene*	<0.050	0.050	12/03/2019	ND	1.74	86.8	2.00	6.30	
Ethylbenzene*	<0.050	0.050	12/03/2019	ND	1.76	88.1	2.00	6.81	
Total Xylenes*	<0.150	0.150	12/03/2019	ND	5.33	88.9	6.00	6.89	
Total BTEX	<0.300	0.300	12/03/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID 99.5 % 73.3-129

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/03/2019	ND	196	98.1	200	2.70	
DRO >C10-C28*	<10.0	10.0	12/03/2019	ND	203	102	200	0.582	
EXT DRO >C28-C36	<10.0	10.0	12/03/2019	ND					

Surrogate: 1-Chlorooctane 97.6 % 41-142

Surrogate: 1-Chlorooctadecane 98.7 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Apache
Project Manager: Jeff Broom
Address:
City: Hobbs State: NM Zip:
Phone #: Fax #:
Project #: Project Owner:
Project Name:
Project Location: WBDU # 46
Sampler Name: Jose Quezada

BILL TO
P.O. #:
Company:
Attn:
Address:
City:
State: Zip:
Phone #:
Fax #:

FOR LAB USE ONLY				MATRIX							PRESERV.		SAMPLING		ANALYSIS REQUEST	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER		ACID/BASE	ICE / COOL	OTHER	DATE	TIME	Ext TPH	BTEX
H204038-1	sp3@5'	G	1			1						1		12/3	8:21AM	1	1

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

Relinquished By: Date: 12/3/2020 Received By:
Time: 11:20
Relinquished By: Date: Received By: Jodi Henson
Time:

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:
Observed Temp. °C 4.1
Corrected Temp. °C 4.5
Sample Condition: Cool: Yes / No; Intact: Yes / No
CHECKED BY: (Initials)

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:

REMARKS: E-Mail Results

Turnaround Time: Standard ☑ Rush ☐
Thermometer ID #97
Correction Factor +0.4 °C
Bacteria (only) Sample Condition: Cool: ☐ Yes ☐ No; Intact: ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

FORM-006 R 3.0

CARDINAL Laboratories

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

March 24, 2020

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WBDU #46

Enclosed are the results of analyses for samples received by the laboratory on 03/18/20 14:44.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2020	Sampling Date:	03/18/2020
Reported:	03/24/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ SURFACE (H000849-01)

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	03/23/2020	ND	1.92	96.1	2.00	1.23	
Toluene*	<0.050	0.050	03/23/2020	ND	1.96	98.1	2.00	1.33	
Ethylbenzene*	**0.128**	0.050	03/23/2020	ND	2.02	101	2.00	1.35	
Total Xylenes*	**1.33**	0.150	03/23/2020	ND	5.92	98.6	6.00	1.50	
Total BTEX	**1.46**	0.300	03/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *179 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8530**	16.0	03/19/2020	ND	400	100	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*	**188**	50.0	03/19/2020	ND	203	102	200	1.21	
DRO >C10-C28*	**16800**	50.0	03/19/2020	ND	205	102	200	1.32	
EXT DRO >C28-C36	**3600**	50.0	03/19/2020	ND					

Surrogate: 1-Chlorooctane *175 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *626 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2020	Sampling Date:	03/18/2020
Reported:	03/24/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 1' (H000849-02)

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	03/23/2020	ND	1.92	96.1	2.00	1.23	
Toluene*	<0.050	0.050	03/23/2020	ND	1.96	98.1	2.00	1.33	
Ethylbenzene*	<0.050	0.050	03/23/2020	ND	2.02	101	2.00	1.35	
Total Xylenes*	<0.150	0.150	03/23/2020	ND	5.92	98.6	6.00	1.50	
Total BTEX	<0.300	0.300	03/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	03/19/2020	ND	400	100	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	03/20/2020	ND	203	102	200	1.21	
DRO >C10-C28*	**286**	10.0	03/20/2020	ND	205	102	200	1.32	
EXT DRO >C28-C36	**56.0**	10.0	03/20/2020	ND					

Surrogate: 1-Chlorooctane *88.7 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *93.3 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

		BILL TO	
Company Name:	Apache Corporation	P.O. #:	
Project Manager:	Bruce Baker	Company:	
Address:		Attn:	
City:	State: Zip:	Address:	
Phone #:	Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:	WBDU 46	Phone #:	
Project Location:	WBDU 46	Fax #:	
Sampler Name:	J. Brown		

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	CL -	BTEX	EXT. TPH									
H000849																										
1	SP4 @ Surface												3/18/20	1342	✓	✓	✓									
2	SP4 @ 1'												3/18/20	1334	✓	✓	✓									

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

Relinquished By: Jeff Brown	Date: 3/18/20 Time: 1444	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address:
Relinquished By:	Date: Time:	Received By:	REMARKS: Standard
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 2.3 Corrected Temp. °C	Sample Condition Cool ☑ Yes Intact ☑ Yes ☐ No ☐ No	CHECKED BY: (Initials) TO
Turnaround Time: Standard ☑ Rush ☐ Thermometer ID #97 Correction Factor +0.4 °C	Bacteria (only) Sample Condition Cool ☐ Yes Intact ☐ Yes ☐ No ☐ No	Observed Temp. °C Corrected Temp. °C	

FORM-006 R 3.0

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

March 23, 2020

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WBDU #46

Enclosed are the results of analyses for samples received by the laboratory on 03/18/20 14:46.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2020	Sampling Date:	03/18/2020
Reported:	03/23/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HC 1 (H000848-01)

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	03/20/2020	ND	1.86	92.9	2.00	7.57	
Toluene*	<0.050	0.050	03/20/2020	ND	1.87	93.7	2.00	8.06	
Ethylbenzene*	<0.050	0.050	03/20/2020	ND	1.89	94.6	2.00	8.76	
Total Xylenes*	<0.150	0.150	03/20/2020	ND	5.48	91.3	6.00	8.55	
Total BTEX	<0.300	0.300	03/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/19/2020	ND	400	100	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	03/19/2020	ND	203	102	200	1.21	
DRO >C10-C28*	<10.0	10.0	03/19/2020	ND	205	102	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	03/19/2020	ND					

Surrogate: 1-Chlorooctane *81.4 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *83.4 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2020	Sampling Date:	03/18/2020
Reported:	03/23/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HC 2 (H000848-02)

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	03/20/2020	ND	1.86	92.9	2.00	7.57	
Toluene*	<0.050	0.050	03/20/2020	ND	1.87	93.7	2.00	8.06	
Ethylbenzene*	<0.050	0.050	03/20/2020	ND	1.89	94.6	2.00	8.76	
Total Xylenes*	<0.150	0.150	03/20/2020	ND	5.48	91.3	6.00	8.55	
Total BTEX	<0.300	0.300	03/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	03/19/2020	ND	400	100	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	03/19/2020	ND	203	102	200	1.21	
DRO >C10-C28*	**73.9**	10.0	03/19/2020	ND	205	102	200	1.32	
EXT DRO >C28-C36	**15.7**	10.0	03/19/2020	ND					

Surrogate: 1-Chlorooctane *86.7 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *97.2 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2020	Sampling Date:	03/18/2020
Reported:	03/23/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HC 3 (H000848-03)

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	03/20/2020	ND	1.86	92.9	2.00	7.57	
Toluene*	<0.050	0.050	03/20/2020	ND	1.87	93.7	2.00	8.06	
Ethylbenzene*	<0.050	0.050	03/20/2020	ND	1.89	94.6	2.00	8.76	
Total Xylenes*	<0.150	0.150	03/20/2020	ND	5.48	91.3	6.00	8.55	
Total BTEX	<0.300	0.300	03/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	03/19/2020	ND	400	100	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	03/19/2020	ND	203	102	200	1.21	
DRO >C10-C28*	<10.0	10.0	03/19/2020	ND	205	102	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	03/19/2020	ND					

Surrogate: 1-Chlorooctane *82.6 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *82.6 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2020	Sampling Date:	03/18/2020
Reported:	03/23/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HC 4 (H000848-04)

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	03/20/2020	ND	1.86	92.9	2.00	7.57	
Toluene*	<0.050	0.050	03/20/2020	ND	1.87	93.7	2.00	8.06	
Ethylbenzene*	<0.050	0.050	03/20/2020	ND	1.89	94.6	2.00	8.76	
Total Xylenes*	<0.150	0.150	03/20/2020	ND	5.48	91.3	6.00	8.55	
Total BTEX	<0.300	0.300	03/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/19/2020	ND	400	100	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	03/19/2020	ND	203	102	200	1.21	
DRO >C10-C28*	<10.0	10.0	03/19/2020	ND	205	102	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	03/19/2020	ND					

Surrogate: 1-Chlorooctane *86.6 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *86.2 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2020	Sampling Date:	03/18/2020
Reported:	03/23/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HC 5 (H000848-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/20/2020	ND	1.98	98.8	2.00	1.06	
Toluene*	<0.050	0.050	03/20/2020	ND	2.00	99.8	2.00	0.907	
Ethylbenzene*	<0.050	0.050	03/20/2020	ND	2.04	102	2.00	0.373	
Total Xylenes*	<0.150	0.150	03/20/2020	ND	5.95	99.2	6.00	0.462	
Total BTEX	<0.300	0.300	03/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	03/19/2020	ND	400	100	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	03/19/2020	ND	203	102	200	1.21	
DRO >C10-C28*	<10.0	10.0	03/19/2020	ND	205	102	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	03/19/2020	ND					

Surrogate: 1-Chlorooctane *88.8 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *89.3 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/18/2020	Sampling Date:	03/18/2020
Reported:	03/23/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: HC 6 (H000848-06)

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	03/20/2020	ND	1.98	98.8	2.00	1.06	
Toluene*	<0.050	0.050	03/20/2020	ND	2.00	99.8	2.00	0.907	
Ethylbenzene*	<0.050	0.050	03/20/2020	ND	2.04	102	2.00	0.373	
Total Xylenes*	<0.150	0.150	03/20/2020	ND	5.95	99.2	6.00	0.462	
Total BTEX	<0.300	0.300	03/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/19/2020	ND	400	100	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	03/19/2020	ND	203	102	200	1.21	
DRO >C10-C28*	**173**	10.0	03/19/2020	ND	205	102	200	1.32	
EXT DRO >C28-C36	**26.8**	10.0	03/19/2020	ND					

Surrogate: 1-Chlorooctane *86.6 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *92.7 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

		BILL TO	
Company Name:	Apache Corporation	P.O. #:	
Project Manager:	Bruce Baker	Company:	
Address:		Attn:	
City:	State: Zip:	Address:	
Phone #:	Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:	WBDU 46	Phone #:	
Project Location:	WBDU 46	Fax #:	
Sampler Name:	J. Brown		

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	CL -	BTEX	EXT. TPH										
H000848																											
1	HC1	C											3/18/20	1319	✓	✓	✓										
2	HC2	C												1324	✓	✓	✓										
3	HC3	C												1326	✓	✓	✓										
4	HC4	C												1328	✓	✓	✓										
5	HC5	C												1330	✓	✓	✓										
6	HC6	C											3/18/20	1332	✓	✓	✓										

Relinquished By: Josh Brown	Date: 3/18/20 Time: 1446	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address:
			REMARKS: Standard

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 2.3 Corrected Temp. °C	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials) TO	Turnaround Time: Standard ☑ Rush ☐ Thermometer ID #97 Correction Factor + 0.4 °C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.0

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

August 26, 2020

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WBDU #46

Enclosed are the results of analyses for samples received by the laboratory on 08/20/20 15:32.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/20/2020	Sampling Date:	08/20/2020
Reported:	08/26/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 2' (H002198-01)

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	08/22/2020	ND	2.09	105	2.00	1.71	
Toluene*	<0.050	0.050	08/22/2020	ND	2.07	104	2.00	1.77	
Ethylbenzene*	<0.050	0.050	08/22/2020	ND	2.06	103	2.00	1.48	
Total Xylenes*	<0.150	0.150	08/22/2020	ND	5.97	99.5	6.00	1.61	
Total BTEX	<0.300	0.300	08/22/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *73.3-129*

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	08/25/2020	ND	204	102	200	3.62	
DRO >C10-C28*	**41.2**	10.0	08/25/2020	ND	200	100	200	4.82	
EXT DRO >C28-C36	**14.5**	10.0	08/25/2020	ND					

Surrogate: 1-Chlorooctane *95.6 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *99.0 %* *42.2-156*

Sample ID: SP 2 @ 6' (H002198-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1760**	16.0	08/24/2020	ND	416	104	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	08/20/2020	Sampling Date:	08/20/2020
Reported:	08/26/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 8' (H002198-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**368**	16.0	08/24/2020	ND	416	104	400	3.77	

Sample ID: SP 2 @ 10' (H002198-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**976**	16.0	08/24/2020	ND	416	104	400	3.77	

Sample ID: SP 2 @ 12' (H002198-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	08/24/2020	ND	416	104	400	3.77	

Sample ID: SP 1 @ 2' (H002198-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**944**	16.0	08/24/2020	ND	416	104	400	3.77	

Sample ID: SP 1 @ 4' (H002198-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**752**	16.0	08/24/2020	ND	416	104	400	3.77	

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Analytical Results For:

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

Received:	08/20/2020	Sampling Date:	08/20/2020
Reported:	08/26/2020	Sampling Type:	Soil
Project Name:	WBDU #46	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 6' (H002198-08)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**480**	16.0	08/24/2020	ND	416	104	400	3.77	

Sample ID: HC 6 (H002198-09)

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	08/22/2020	ND	2.09	105	2.00	1.71	
Toluene*	<0.050	0.050	08/22/2020	ND	2.07	104	2.00	1.77	
Ethylbenzene*	<0.050	0.050	08/22/2020	ND	2.06	103	2.00	1.48	
Total Xylenes*	<0.150	0.150	08/22/2020	ND	5.97	99.5	6.00	1.61	
Total BTEX	<0.300	0.300	08/22/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *73.3-129*

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	08/25/2020	ND	204	102	200	3.62	
DRO >C10-C28*	<10.0	10.0	08/25/2020	ND	200	100	200	4.82	
EXT DRO >C28-C36	<10.0	10.0	08/25/2020	ND					

Surrogate: 1-Chlorooctane *99.6 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *103 %* *42.2-156*

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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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Apache Corporation
Project Manager:	Bruce Baker
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	Project Owner:
Project Name:	WBDU 46
Project Location:	WBDU 46
Sampler Name:	J. Brown

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	CL	BTEX	Ext. TPH
H002198																	
1	SP4 @ 2'												8/21/20	1140		✓	✓
2	SP2 @ 6'													1305	✓		
3	SP2 @ 8'													1307	✓		
4	SP2 @ 10'													1309	✓		
5	SP2 @ 12'													1311	✓		
6	SP1 @ 2'													1412	✓		
7	SP1 @ 4'													1414	✓		
8	SP1 @ 6'												8/20/20	1416	✓		
9	HC 6												8/20/20	1233		✓	✓

Relinquished By:	Date: 8/20/20	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1532		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 4.6	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials) TO.	Turnaround Time: Standard ☑ Rush ☐
	Corrected Temp. °C			Thermometer ID #113 Correction Factor None

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No; Observed Temp. °C; Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

WBOU 46 8/20/20

Sand Caliche SP2 @ 5'

10.2/30.3 = 2.97 = .72 = 2,137

Sand caliche SP4 @ 2' @ 1140

SP2 @ 6'

10.5/30.0 = 2.85 = .74 = 2,108 1305

SAND Caliche SP2 @ 7'

10.2/30.3 = 2.97 = .88 = 2,612

1307

SAND Caliche SP2 @ 8'

10.2/30.0 = 2.94 = .44 = 1,293

SAND Caliche SP2 @ 9'

10.0/30.3 = 3.03 = .40 = 1,211

Sandy Caliche SP2 @ 10'

1309

10.0/30.2 = 3.02 = .45 = 1,358

caliche HC6 @ 1233

caliche SP2 @ 11'

1311

10.2/30.0 = 3.02 = .35 = 1,056

caliche SP2 @ 12'

10.1/30.1 = 2.98 = .10 = 297 ✓

Caliche SP1 @ 2'

1412

10.1/30.1 = 2.98 = .34 = 1,012

caliche SP1 @ 3'

1351

10.2/30.2 = 2.96 = .36 = 1,065

Sandy Caliche SP1 @ 4'

1414

10.2/30.1 = 2.95 = .23 = 678 ✗

Sandy Calcrete SP1 @ 5'

10.1/30.0 = 2.97 = .38 = 1,128

Sandy calcrete SP1 @ 6' 1416

10.1/30.0 = 2.97 = .15 = 445

SP1 @ 7'

10.3/30.1 = = =