



2350 W Marland Blvd Hobbs, NM 88240

Remediation Plan

January 17, 2020

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

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

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.

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. Once the excavations are complete Apache proposes that final 5 point bottom and wall composite samples be collected not to exceed 500 square feet. 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. Apache Corporation will complete remediation activities within 90 days of the date NMOCD and BLM approves the plan.

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

Submitted by;

Jeff Broom

Environmental Technician

Jeffrey.Broom@apachecorp.com

Cell# 432-664-4677

Off# 575-393-7106

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Received by: OGD-102502019 11:58 AM
Received by OGD: 1/17/2020 10:23:16 AM

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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)

<input checked="" type="checkbox"/> Crude Oil	Volume Released (3 Barrels)	Volume Recovered (1 Barrel)
<input checked="" type="checkbox"/> Produced Water	Volume Released (40 Barrels)	Volume Recovered (13 Barrels)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" 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

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


State of New Mexico
Oil Conservation Division

Incident ID	NRM1934740110
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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? 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

<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>Jeff Broom</u> Title: <u>Environmental Technician</u> Signature: <u></u> Date: <u>10/25/2019</u> Email: <u>Jeffrey.Broom@apachecorp.com</u> Telephone: <u>(432) 664-4677</u>
OCD Only Received by: <u>Ramona Marcus</u> Date: <u>12/13/2019</u>

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

Incident ID	NRM1934740110
District RP	1RP-5793
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?	<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 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	
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Application ID	

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Printed Name: JEFF BRUM Title: Environmental Tech
Signature: [Signature] Date: 1/17/20
email: Jeffrey.Brum@apache-superior.com Telephone: (432) 662-4677

OCD Only

Received by: [Signature] Date: _____

Incident ID	nRM1934740110
District RP	1RP-5793
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: Jeff Brown Title: Env. Tech
Signature: Jeff Brown Date: 1/17/20
email: Jeffrey.Brown@apachecorp.com Telephone: 732-664-4677

OCD Only

Received by: Cristina Eads Date: 03/16/2020

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

Signature: Cristina Eads Date: 03/16/2020

Coordinates

Please Select a Coordinate System and enter the coordinates:

GCS_WGS_1984

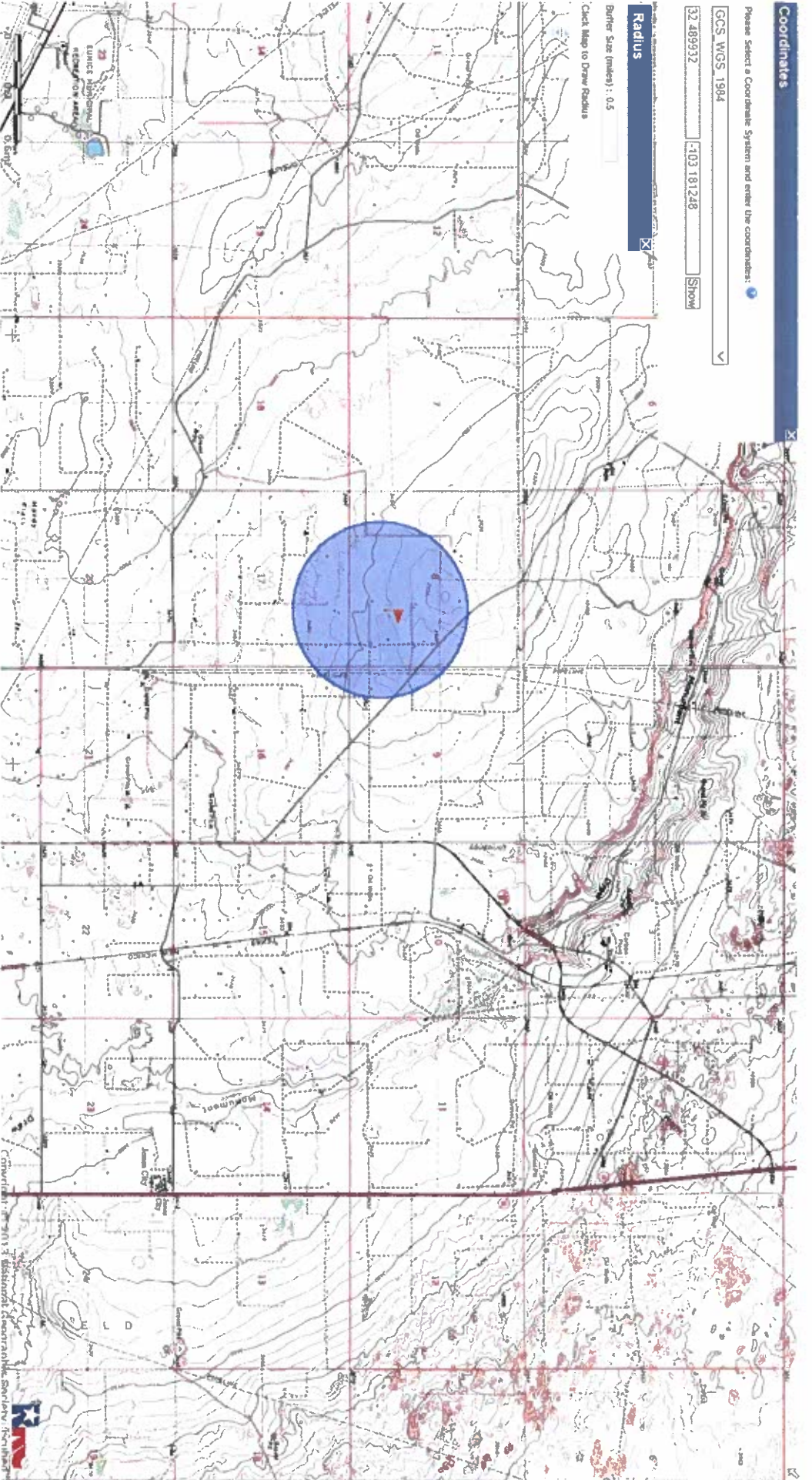
32 489932 -103 181248

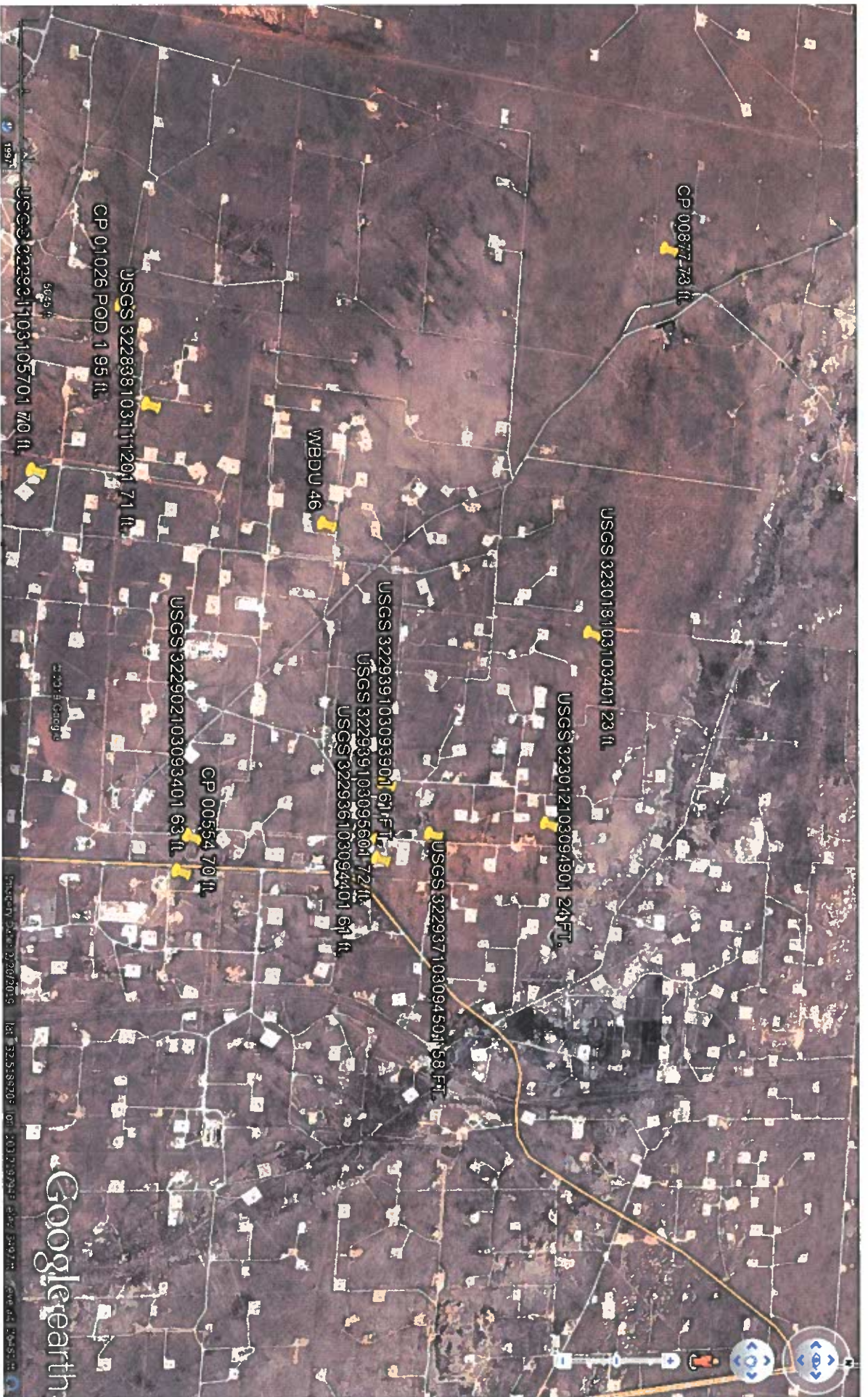
Show

Radius

Buffer Size (miles) : 0.5

Click Map to Draw Radius







New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)			(NAD83 UTM in meters)
Well Tag	POD Number	Q64 Q16 Q4 Sec Tws Rng	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 Rev 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

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POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)			
		(quarters are smallest to largest)		(NAD83 UTM in meters)	
Well Tag	POD Number	Q64 Q16 Q4 Sec Tws Rng	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 Rev 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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New Mexico Office of the State Engineer Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	CP 01026 POD1	1	1	3	17	21S	37E	669809	3594958 
<hr/>									
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	
<hr/>									
Water Bearing Stratifications:		Top	Bottom	Description					
		95	167	Sandstone/Gravel/Conglomerate					
<hr/>									

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New Mexico Office of the State Engineer Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)			
		(quarters are smallest to largest)		(NAD83 UTM in meters)	
Well Tag	POD Number	Q64 Q16 Q4	Sec Tws Rng	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

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.

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site_no list =

- 322838103111201

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USGS 322838103111201 21S.37E.17.144111

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Groundwater: Field measurements

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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.

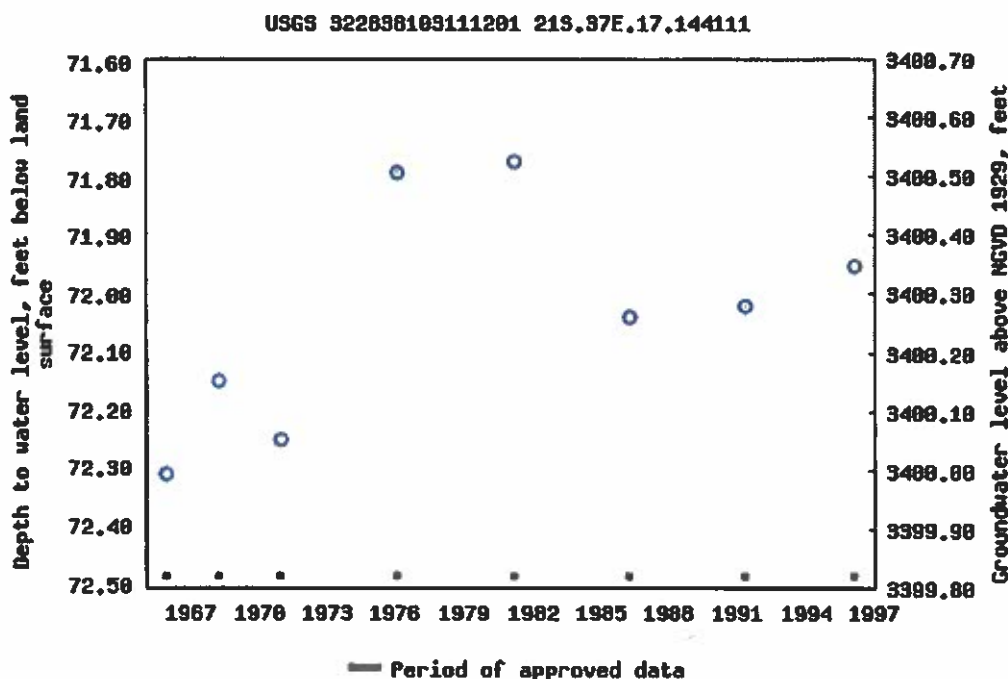
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Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°29'02", Longitude 103°09'34" NAD27

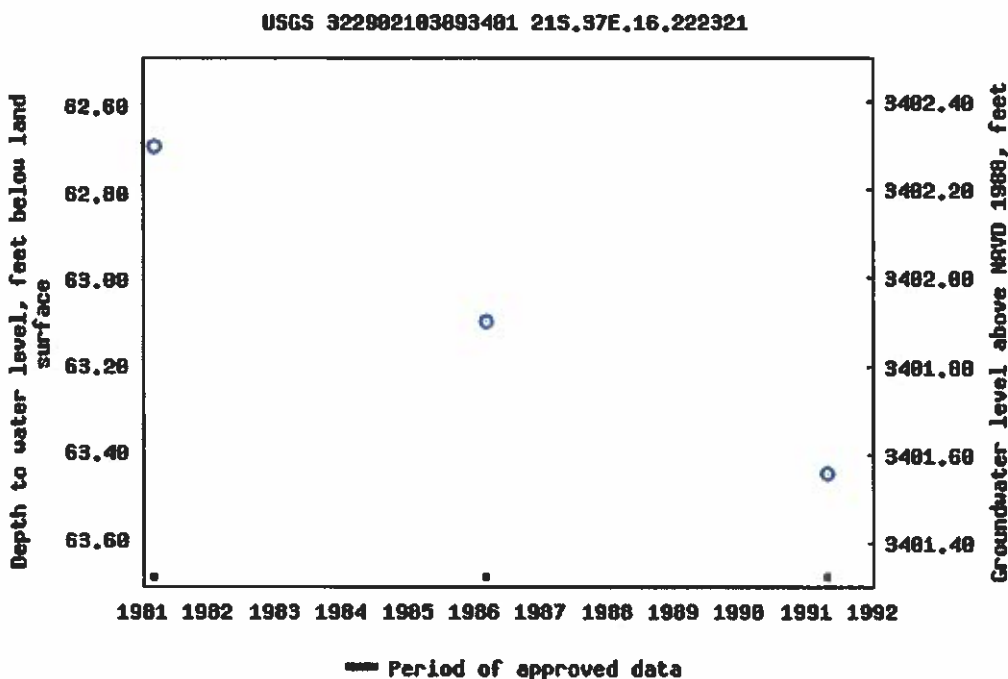
Land-surface elevation 3,465 feet above NAVD88

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.

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Lea County, New Mexico

Hydrologic Unit Code 13070007

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

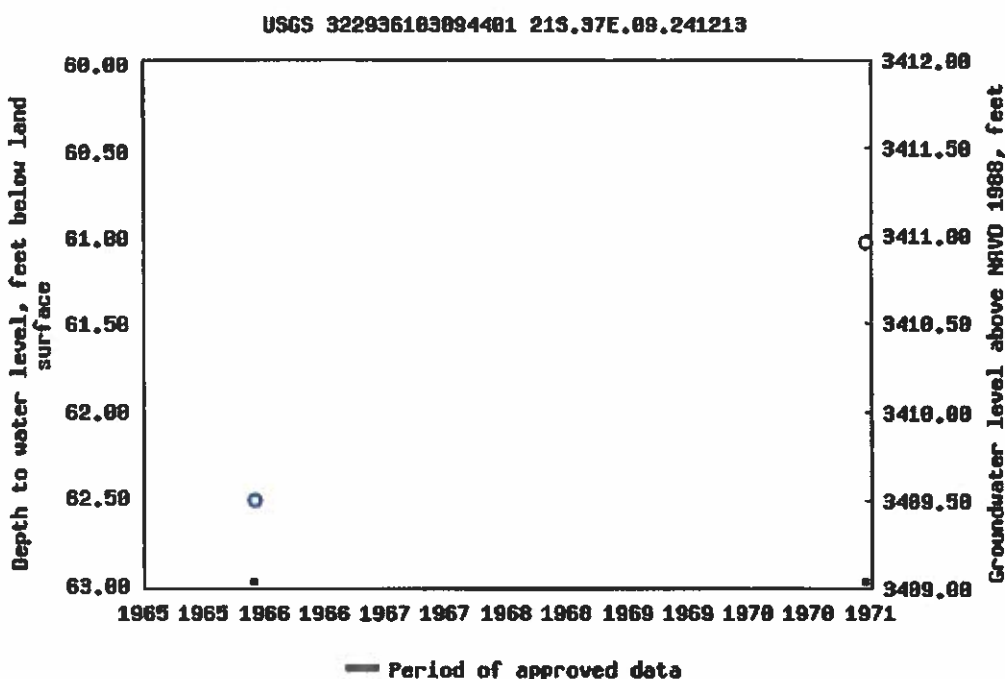
Land-surface elevation 3,472 feet above NAVD88

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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Lea County, New Mexico

Hydrologic Unit Code 13070007

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

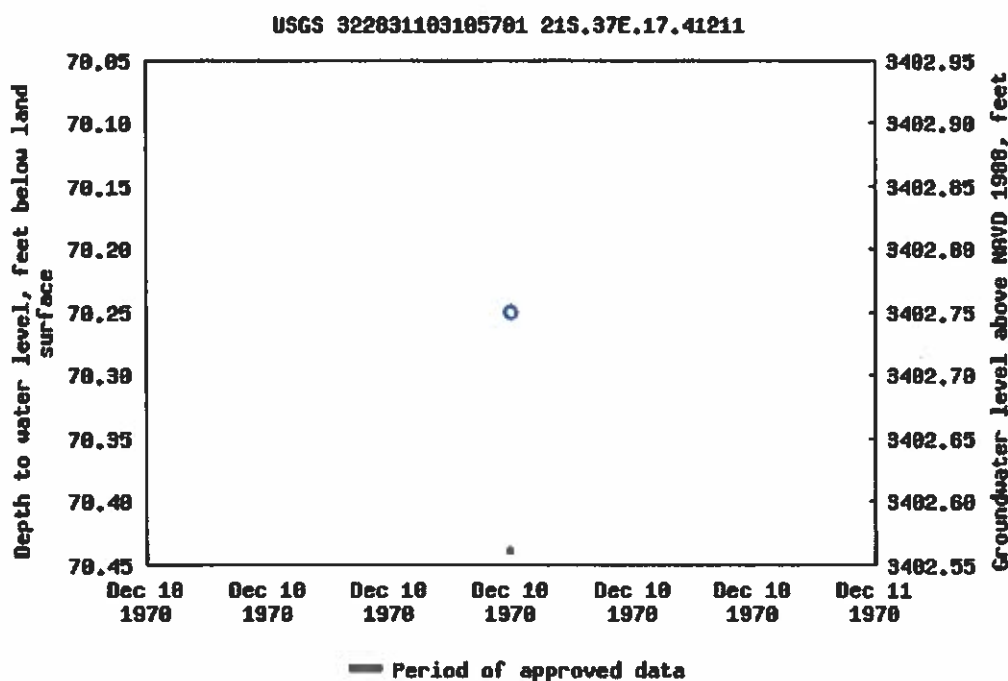
Land-surface elevation 3,473 feet above NAVD88

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

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

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Agency code = usgs

site_no list =

- 322816103114201

Minimum number of levels = 1

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USGS 322816103114201 21S.37E.18.442123

Available data for this site

Groundwater. Field measurements ▼

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Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°28'16", Longitude 103°11'42" NAD27

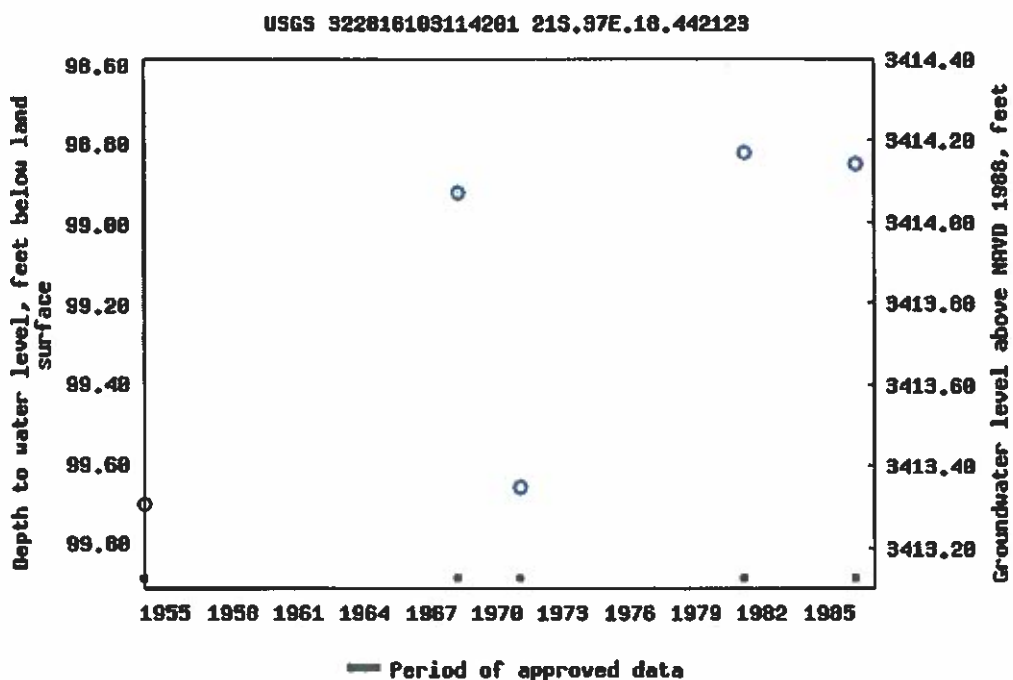
Land-surface elevation 3,513 feet above NAVD88

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.

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Tab-separated data
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Title: Groundwater for New Mexico: Water Levels

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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

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Lea County, New Mexico

Hydrologic Unit Code 13070007

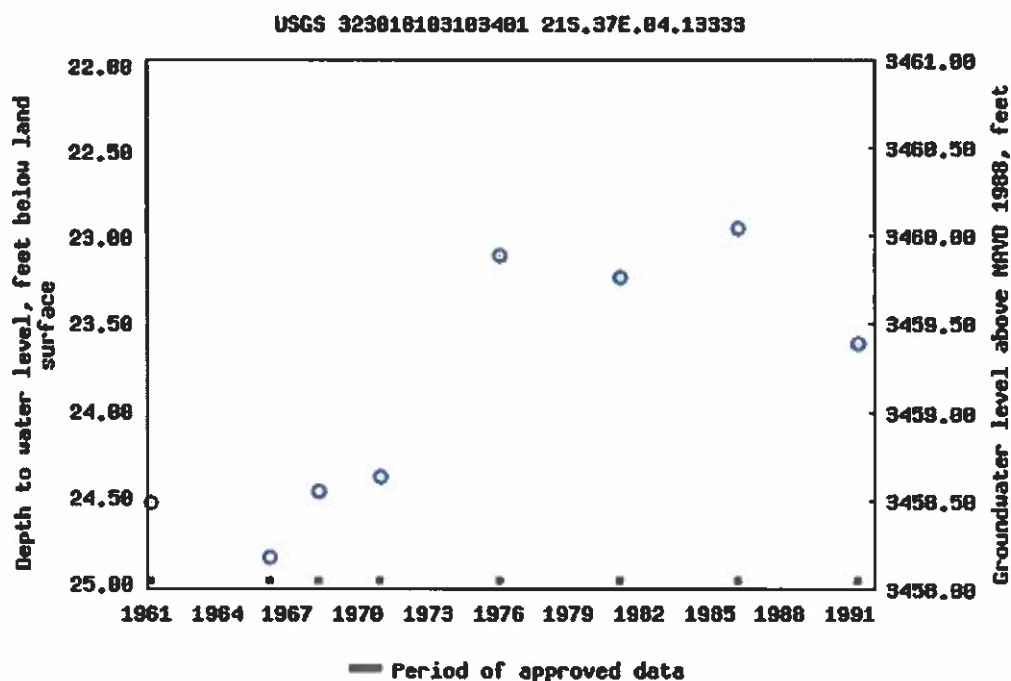
Latitude 32°30'18", Longitude 103°10'34" NAD27

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

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Tab-separated data
Graph of data
Reselect period



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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

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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.

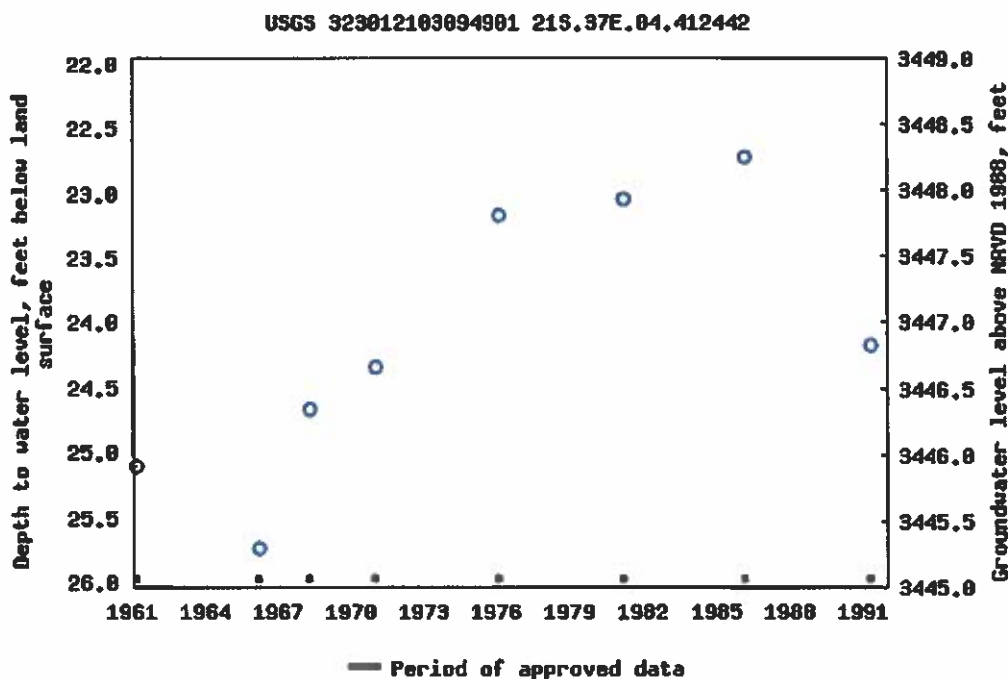
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0.64 0.48 nadww01



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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

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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.

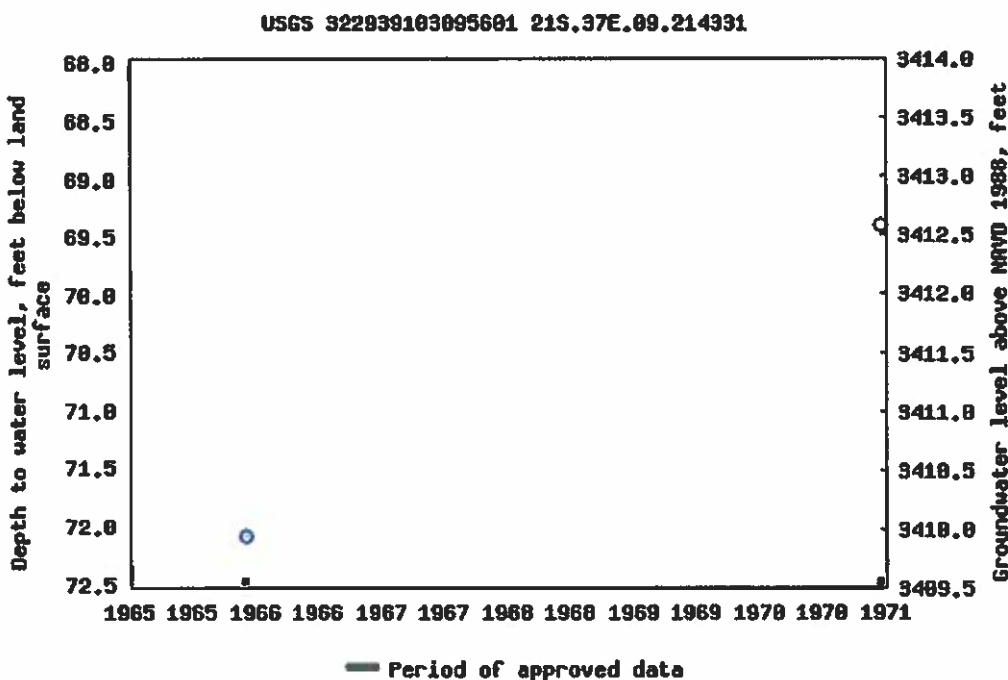
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0.7 0.63 nadww01



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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 ▼

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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.

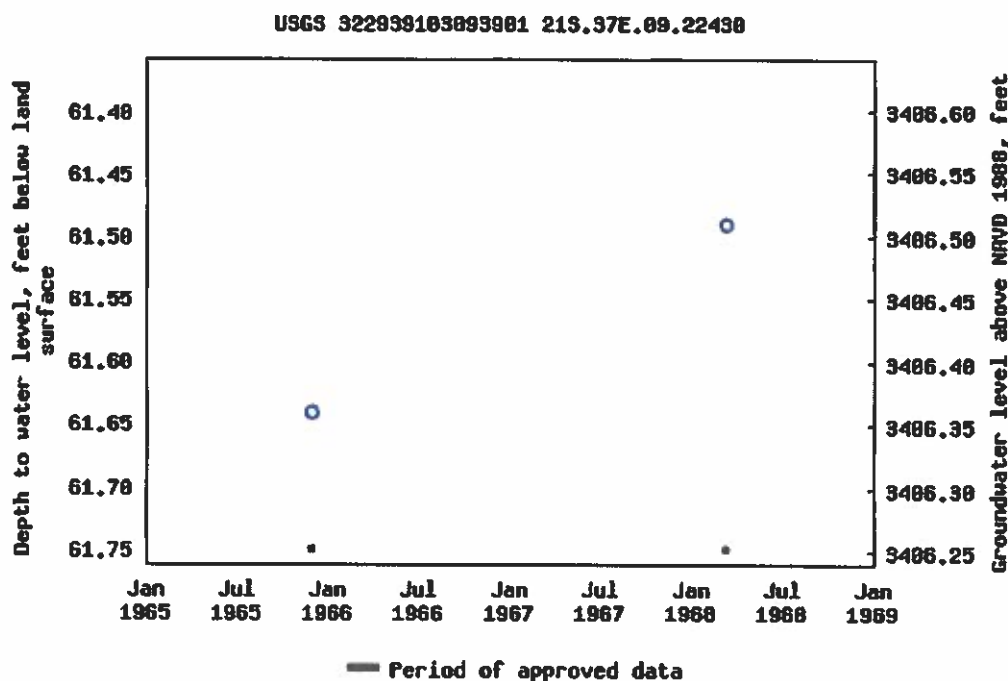
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0.53 0.48 nadww01





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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

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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.

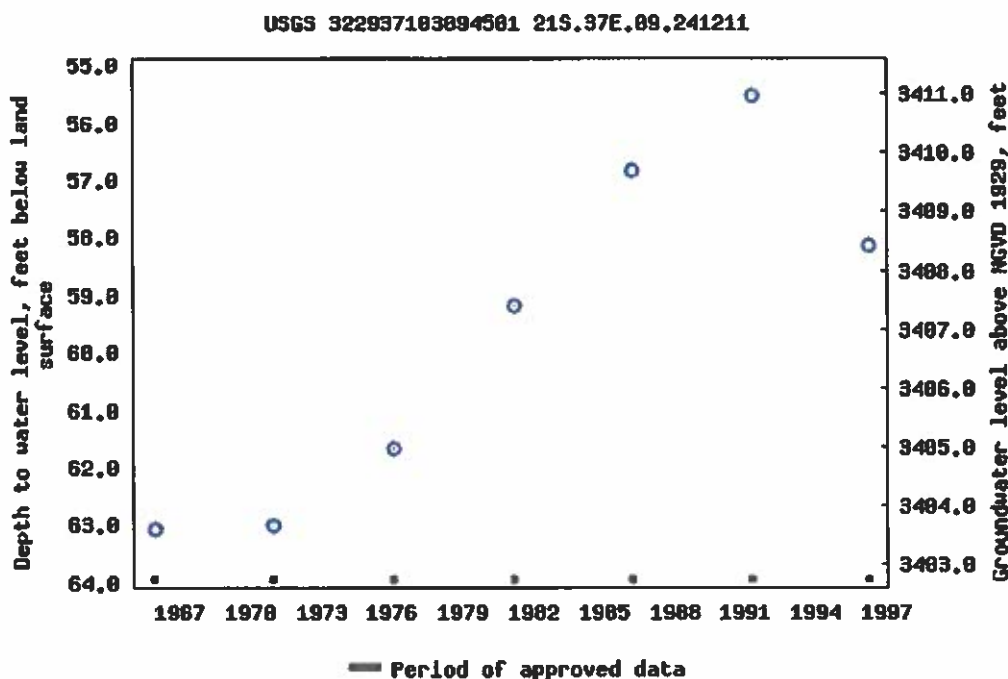
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Title: Groundwater for New Mexico: Water Levels

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0.54 0.48 nadww01





WBDU 46 Delineation

Map ID	Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
SP1	11/25/2019	SP1 @ Surface	5	19200	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	154	26.5	32.489613, -103.181143
	11/25/2019	SP1 @ 1'	1'	6000	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
SP2	11/25/2019	SP2 @ Surface	5	2800	<0.050	<0.050	0.658	3.77	4.42	560	21100	3700	32.489377, -103.181328
	11/25/2019	SP2 @ 2'	2'	3080	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
	11/25/2019	SP2 @ 4'	4'	5120	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	25.5	<10.0	
SP3	11/25/2019	SP3 @ Surface	5	304	<0.050	<0.050	0.694	2.75	3.45	251	5930	872	32.489356, -103.181450
	11/25/2019	SP3 @ 2'	2'	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	16.3	<10.0	
	11/25/2019	SP3 @ 4'	4'	272	<0.050	<0.050	0.327	1.24	1.57	80.2	1080	126	
	12/3/2019	SP3 @ 5'	5'	N/A	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	



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 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: 11/25/2019
Reported: 12/02/2019
Project Name: WBDU #46
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/25/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

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

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	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 BTX	<0.300	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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

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Celey D. Keene, Lab Director/Quality Manager



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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
 Reported: 12/02/2019
 Project Name: WBDU #46
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/25/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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 (PIE) 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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Analytical Results For:

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

Received: 11/25/2019
 Reported: 12/02/2019
 Project Name: WBDU #46
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/25/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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		S-06				
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									

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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Analytical Results For:

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

Received: 11/25/2019
 Reported: 12/02/2019
 Project Name: WBDU #46
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/25/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

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	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 BTX	<0.300	0.300	11/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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

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Celey D. Keene, Lab Director/Quality Manager



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
 Reported: 12/02/2019
 Project Name: WBDU #46
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/25/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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 (PIE) 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

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Celey D. Keene, Lab Director/Quality Manager



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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
 Reported: 12/02/2019
 Project Name: WBDU #46
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/25/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

BTEX 80218	mg/kg	Analyzed By: MS						S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	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 (PIE) 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

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Celey D. Keene, Lab Director/Quality Manager



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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
 Reported: 12/02/2019
 Project Name: WBDU #46
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/25/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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 (PIE) 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

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Celey D. Keene, Lab Director/Quality Manager



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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
 Reported: 12/02/2019
 Project Name: WBDU #46
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/25/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

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	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 (PIE) 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

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Celey D. Keene, Lab Director/Quality Manager



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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

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Apex</i> Project Manager: <i>Jeff Brown</i> Address: City: <i>Hobbs</i> State: <i>NM</i> Zip: <i>88240</i> Phone #: Fax #: Project #: Project Owner: Project Name: Project Location: <i>WBDU #46</i> Sampler Name: <i>Base Reseal</i>		P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Fax #:	
FOR LAB USE ONLY		BILL TO	
Lab I.D. Sample I.D.		MATRIX (G) RAB OR (C) COMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE ICE / COOL OTHER:	
DATE TIME		SAMPLING	
1 <i>SP1 Surface 32.489613</i> <i>-103.181143</i> 2 <i>SP1 01'</i> <i>SP2 Surface 32.489377</i> <i>-103.181328</i> 3 <i>SP2 02'</i> <i>SP2 04'</i> 4 <i>SP3 Surface 32.489356</i> <i>-103.181450</i> 5 <i>SP3 01'</i> 6 <i>SP3 02'</i> 7 <i>SP3 03'</i>		DATE TIME <i>11/25</i> <i>1:53pm</i> <i>11/25</i> <i>1:54pm</i> <i>2:20pm</i> <i>2:22pm</i> <i>2:24pm</i> <i>3:04</i> <i>3:04</i>	
Relinquished By: <i>See Above</i> Relinquished By: <i>See Above</i> Date: <i>11/25/19</i> Time: <i>15:43</i> Received By: <i>See Above</i> Date: <i>11/25/19</i> Time: <i>15:43</i> Received By: <i>See Above</i>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: Remarks:	
Delivered By: (Circle One) Observed Temp. °C <i>3.2</i> Sample Condition Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Thermometer ID #97 Correction Factor +0.4 °C		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) Sample Condition Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Observed Temp. °C Corrected Temp. °C	

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2

Company Name: <i>Apache Self Broom</i> Project Manager: <i>Self Broom</i> Address: City: <i>Hobbs</i> State: <i>NM</i> Zip: <i>87210</i> Phone #: Fax #: Project #: Project Owner: Project Name: Project Location: <i>WBDU #44</i> Sampler Name: <i>Jose Quezada</i>		P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Fax #:	
FOR LAB USE ONLY		BILL TO	
Lab I.D. <i>H903499</i> <i>8 SP3041</i>		ANALYSIS REQUEST	
Sample I.D. (G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER ACID/BASE: ICE / COOL OTHER:		PRESERV. SAMPLING DATE TIME <i>11/25</i> <i>3:10</i>	
Relinquished By: <i>Jose Quezada</i> Date: <i>11/25/19</i> Received By: <i>Jose Quezada</i> Date: <i>11/25/19</i> Time: <i>3:10</i>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: REMARKS:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C <i>3.2</i> Corrected Temp. °C <i>3.0</i> Sample Condition <input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No Checked By: <i>[Signature]</i> Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #97 Correction Factor + 0.4 °C Bacteria (only) Sample Condition <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No Observed Temp. °C Corrected Temp. °C	

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



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 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



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
 Reported: 12/06/2019
 Project Name: WBDU #46
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 12/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

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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

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