

Closure Report

January 30, 2020

Re: WBDU 91

API# 30-025-20311

Case # NRM1936553967

On October 31, 2019 a release occurred due to freezing temperatures caused a line to plug resulting in the loss of fluid. An initial C-141 was submitted and approved by NMOCD on December 31, 2019. The release (GPS Coordinates: 32.4725342, -103.1647568) is located north of Eunice, New Mexico in unit letter O section 16 township 21S range 37E. A groundwater survey was conducted utilizing the USGS and NMOSE wells of record. Analysis of the data points and elevation associated with the wells and release area elevation suggest that groundwater is 61 feet below ground surface.

The release area was excavated to depths of 6 inches to 1 foot. On December 9 and 10, 2019 final 5 point bottom and wall composite samples were collected not to exceed 200 square feet. All samples were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Laboratory results showed sample points B8, B9, B10 and W6 had TPH levels above table one standards for releases 51-100 feet to groundwater. On December 13, 2019 the sample areas for B8, B9, and B10 were further excavated to a depth of 1 foot and W6 was extend laterally and resampled not to exceed 200 square feet. All samples were submitted to a commercial laboratory for analysis of TPH and BTEX. Laboratory results were all below table one standards for releases 51-100 feet to groundwater. All excavated soil (84 cubic yards) was hauled to a NMOCD approved facility. The pad area was backfilled with clean imported caliche and the pasture area was backfilled with clean imported blow sand and contoured to the surrounding area. The pasture area will be reseeded with NMSLO approval of the Noxious Weed and Revegetation Plan attached in the document.

Apache Corporation has completed remediation activities in accordance with table one standards and reclamation requirements for the pasture area. Apache Corporation respectfully request that case # NRM1936553967 be closed.

Enclosed: C-141, Groundwater Data, Maps, Sample Data, Laboratory Analysis, Photo, and Noxious and Revegetation Plan

Received by OCD: 1/30/2020 1:35:42 PM

Submitted by;
Bruce Baker

Environmental Technician

larry.baker@apachecorp.com Cell# 432-631-6982 Off# 575-393-7106

Received by OCD: 1/30/2020 1:35:42 PM

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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Apache Corporation	OGRID 873
Contact Name: Bruce Baker	Contact Telephone: (432) 631-6982
Contact email: Larry.Baker@apachecorp.com	Incident # (assigned by OCD)
Contact Mailing Address: 2350 W. Marland Blvd, Hobbs, NM 88240	

Location of Release Source

Latitude: W 32.4725342

Longitude: N -103,1647568

(NAD 83 in decunal degrees to 5 decimal places)

Site Name: WBDU 91	Site Type: Well
Date Release Discovered: October 31, 2019	API # 30-025-20311

Unit Letter	Section	Township	Range	County
0	16	21S	37E	Lea

Surface Owner: State Federal Tribal Private (Name: Not Applicable)

Nature and Volume of Release

Crude Oil	Volume Released (.50 Barrel)	Volume Recovered (0 Barrels)
Produced Water	Volume Released (10.5 Barrels)	Volume Recovered (0 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		
Freezing temperatures	possibly caused a line to plug.	

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State of New Mexico Oil Conservation Division

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Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?	for what reason(s) does the responsible party consider this a major release?		
☐ Yes ⊠ No			
	on to the OCD? By whom? To whom? When and by what means (phone, email, etc)? 0/30/2019 by Bruce Baker, Senior Environmental Technician, Apache Corporation		
	Initial Response		
The responsible party must to	undertake the following actions immediately unless they could create a safety hazard that would result in injury		
The source of the release has b	peen stopped.		
☑ The impacted area has been seen.	cured to protect human health and the environment.		
Released materials have been o	contained via the use of berms or dikes, absorbent pads, or other containment devices.		
All free liquids and recoverable	e materials have been removed and managed appropriately.		
If all the actions described above h	ave <u>not</u> been undertaken, explain why:		
Dog 10 15 20 9 D (4) NMAC the r	esponsible party may commence remediation immediately after discovery of a release. If remediation		
has begun, please attach a narrativ	ve of actions to date. If remedial efforts have been successfully completed or if the release occurred the 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: Environmental Technician		
Signature:	Date: 11/4/2019		
Email: <u>Jeffrey.Broom@apachecor</u>	<u>p.com</u> Telephone: (432) 664-4677		
OCD Only			
Received by:	Date:		



State of New Mexico Oil Conservation Division

Incident ID	
District RP	
Facility ID	_
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	(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

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regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the failed to adequately investigate and remediate contamination that pose a threaddition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	offications and perform corrective actions for releases which may endanger off does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name: Bruce Baker Signature: Bruce Baker email: larry.baker@apachecorp.com	Title: Environmental Tech. SR. Date: 1-30-20 Telephone: 432-631-6982
OCD Only Page ived by:	Date
Received by:	Date:



State of New Mexico Oil Conservation Division

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Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following	items must be included in the closure report.
A scaled site and sampling diagram as described in 19.15.29.	11 NMAC
Photographs of the remediated site prior to backfill or photomust be notified 2 days prior to liner inspection)	s of the liner integrity if applicable (Note: appropriate OCD District office
Laboratory analyses of final sampling (Note: appropriate OD	C District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to report and/or file certa may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rehuman health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regul restore, reclaim, and re-vegetate the impacted surface area to the coaccordance with 19.15.29.13 NMAC including notification to the organization.	ations. The responsible party acknowledges they must substantially onditions that existed prior to the release or their final land use in OCD when reclamation and re-vegetation are complete.
Printed Name: Bruce Baker	Title: Environmental Tech SR.
Signature: Buce Balus	Date:/-30-20
Printed Name: Bruce Baker Signature: Bruce Baker email: larry. baker @ apachecorp.com	Telephone: 432-631-6982
OCD Only	
Received by:	Date:
	y of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible for regulations.
Closure Approved by:	Date:
Printed Name:	Title:

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National Water Information System: Web Interface

USGS	Water	Reso	urces

Data Category:	Geographic Area:		
Groundwater ~	New Mexico	▽ (GO

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- Full News

Groundwater levels for New Mexico

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Search Results -- 1 sites found

Agency code = usgs site_no list =

322810103092001

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 322810103092001 21S.37E.15.33421

Available data for this site Groundwater: Field measurements GO

Lea County, New Mexico

Hydrologic Unit Code 13070007

Latitude 32°28'10", Longitude 103°09'20" NAD27

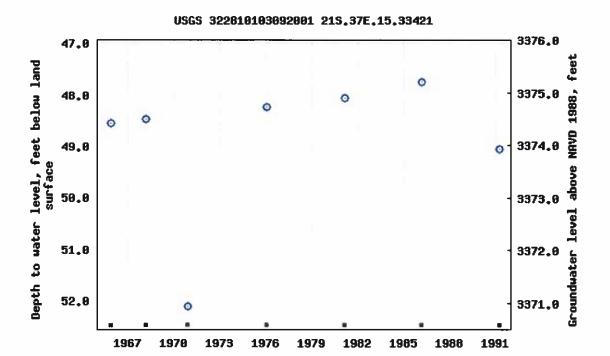
Land-surface elevation 3,423 feet above NAVD88

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

Output format	

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





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

Period of approved data

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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: 2020-01-29 15:51:48 EST

0.64 0.51 nadww01







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National Water Information System: Web Interface

USGS Water Resources

Data Category:	Geographic Area:	
Groundwater ~	New Mexico	✓ GO

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Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs site_no list =

322814103102601

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 322814103102601 21S.37E.21.11121

Available data for this site	Groundwater: Field measurements	~	GO
Lea County, New Mexico			

Hydrologic Unit Code 13070007

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

Land-surface elevation 3,462 feet above NAVD88

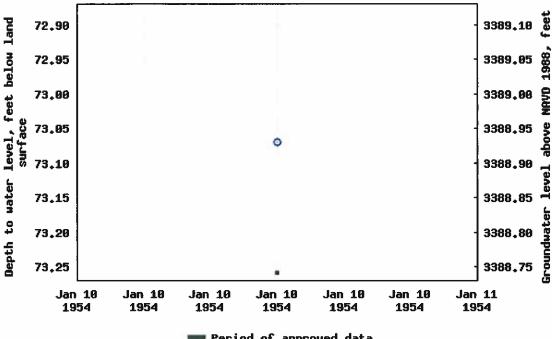
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



USGS 322814103102601 215.37E.21.11121



Period of approved data

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

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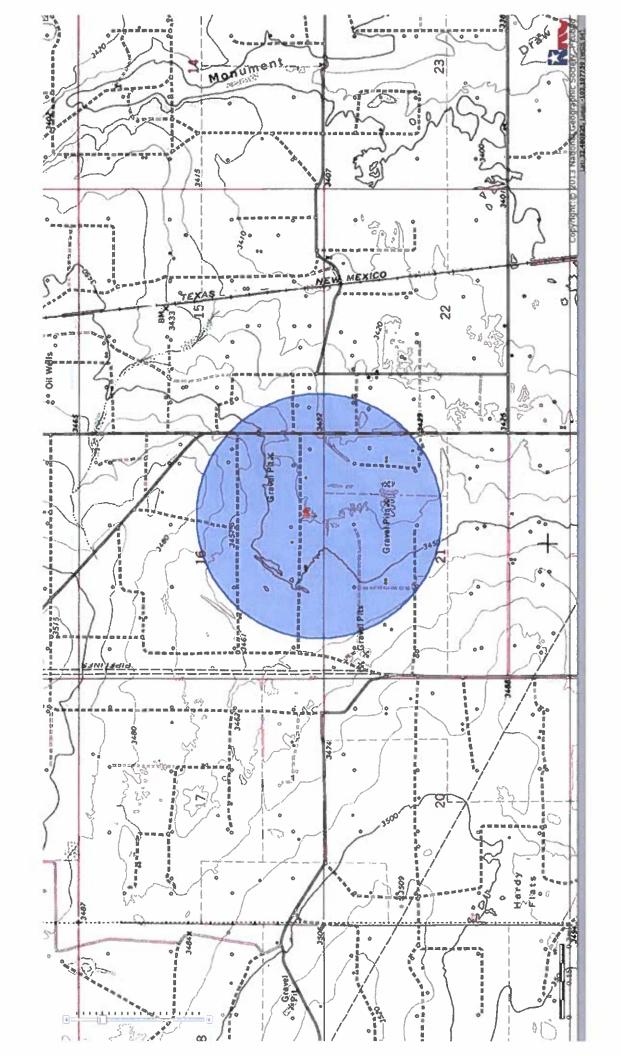
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer

Page Last Modified: 2020-01-29 15:57:56 EST

0.54 0.48 nadww01





Sample	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenzene	Total	Total	GRO	DRO	EXT DRO	GPS Coordinates
Date							Xylenes	BTEX				
					Wall	Wall Composite Samples	les					
												32.4724240, -
12/10/2019	W1		80	<0.050	0.12	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	103.1649490
												32.4724037, -
12/10/2019	W2		336	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	103.1649366
												32.4724402, -
12/10/2019	W3		16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	103.1649222
												32.4724577, -
12/10/2019	W4		16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	103.1649742
												32.4724885, -
12/10/2019	WS		288	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	117	15.9	103.1648528
												32.4725406, -
12/10/2019	W6		256	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	1130	432	103.1648421
12/13/2019	W6			<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
												32.4724846, -
12/10/2019	W7		32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	103.1648843
												32.4725242, -
12/10/2019	W8		48	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	173	80.4	103.1645812
												32.4725369, -
12/10/2019	W9		32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	103.1646061
												32.4724939, -
12/10/2019	W10		4	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<11.8	<10.0	103.1646141

				ļ.	Botton	Bottom Composite Samples	nples					
												32.4724718, -
12/9/2019	81	1,	368	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	103.1649507
												32.472531, -
12/9/2019	82	9	192	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	103.1649906
												32.4725151, -
12/9/2019	B3	.9	928	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	89.3	13.2	103.1648981
	:				109	•						32.4725389, -
12/9/2019	84	9	240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	218	28.3	103.1649102
												32.4725117, -
12/9/2019	85	9	260	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	93.8	12.6	103.1648713
												32.4725346, -
12/9/2019	B6	9	272	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	387	44.9	103.1648679
												32.4725004, -
12/9/2019	B7	9	448	<0.050	<0.050	0.116	0.386	0.502	15.8	340	51.6	103.1648166
												32.4725304, -
12/9/2019	B8	.9	336	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	1610	562	103.1648401
12/13/2019	B8	1,		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
						•						32.4725245, -
12/9/2019	68	.9	816	<0.050	<0.050	0.083	0.315	0.398	25.8	3180	963	103.1647646
12/13/2019	68	1,		<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
												32.4725001, -
12/9/2019	810	.9	968	<0.050	0.535	3.12	8.72	12.4	292	2460	435	103.1647482
12/13/2019	810	1,		<0.050	<0.050	<0.050	<0.150	008:0>	<10.0	<10.0	<10.0	
												32.4725041, -
12/9/2019	B11	9	912	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	288	57.8	103.1646694
	• • •	į	:						0		9	32.4725205, -
12/9/2019	B12		32	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	24.3	<10.0	103. Ib46694

Note: GPS points are taken at the middle composite sample







December 12, 2019

JEFFREY BROOM

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WBDU #91

Enclosed are the results of analyses for samples received by the laboratory on 12/09/19 16:30.

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/ga/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.

Celeg L. Keene

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 JEFFREY BROOM 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To:

(575) 393-2432

Received:

12/09/2019

Sampling Date:

12/09/2019

Reported:

12/12/2019

Sampling Type:

Soil

Project Name:

WBDU #91 NONE GIVEN

Sampling Condition:

Cool & Intact

Project Number: Project Location:

NOT GIVEN

Sample Received By:

Jodi Henson

Sample ID: B1 @ 1' 32.4724718 -103.1649507 (H904111-01)

BTEX 8021B	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIL	98.2	% 73 3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	<10.0	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	<10.0	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	112	% 41-142	?						
Surrogate: 1-Chlorooctadecane	119	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

any other clause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall be for incidental or consequential damages, including, without lamitation, business interruptions, loss of use, or loss of use, or loss of profits incurred by client, its subsidiants, affidates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratones.

Colog L. treens



Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/09/2019 12/12/2019

Reported: Project Name:

Project Number:

WBDU #91 NONE GIVEN NOT GIVEN Sampling Date:

12/06/2019

Sampling Type:

Soil Cool & Intact

Sampling Condition: Sample Received By:

Jodi Henson

Project Location:

Sample ID: B2 32.472531 -103.1649906 (H904111-02)

BTEX 80218	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	98.4	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	<10.0	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	< 10.0	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	105	% 41-142							
Surrogate: 1-Chlorooctadecane	113	% 37.6-14	7						

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Colony . trains



Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 12/09/2019

12/12/2019

Project Name: Project Number: WBDU #91 **NONE GIVEN** Sampling Date:

12/09/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Location:

NOT GIVEN

Sample ID: B3 32.4725151 -103.1648981 (H904111-03)

BTEX 8021B	mg/	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S % Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	<0.300	0.300	12/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL

97.8 %

73_3-129

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	89.3	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	13.2	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	107	% 41-142	•						

Surrogate: 1-Chlorooctadecane

120 %

37.6-147

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/09/2019

Sampling Date:

12/09/2019

Reported:

12/12/2019 WBDU #91

Sampling Type:

Soil

Project Name: Project Number: **NONE GIVEN**

Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Location:

NOT GIVEN

Sample ID: B4 32.4725389 -103.1649102 (H904111-04)

BTEX 8021B	mg/	/kg	Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	<0.300	0.300	12/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL

99.3 %

73.3-129

Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS %	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	12/10/2019	ND	432	108	400	0.00	QM-07
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	218	10.0	12/11/2019	ND	180	90.1	200	12,2	
EXT DRO >C28-C36	28.3	10.0	12/11/2019	ND					

Surrogate: 1-Chlorooctane

105 %

41-142

Surrogate: 1-Chlorooctadecane

124%

37.6-147

*=Accredited Analyte **Cardinal Laboratories**

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/09/2019

Sampling Date:

12/09/2019

Reported:

12/12/2019

Sampling Type:

Soil

Project Name: Project Number: WBDU #91 NONE GIVEN Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Location:

NOT GIVEN

Sample ID: B5 32.4725117 -103.1648713 (H904111-05)

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	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	< 0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	< 0.150	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	<0.300	0.300	12/11/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE	98.0 %	73.3-129
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· 15									
Chloride, SM4500CI-B	mg/kg		Analyzed By: AC		90 to 1911				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	93.8	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	12.6	10.0	12/11/2019	ND					

Surrogate: 1-Chlorooctane

106 %

41-142

Surrogate: 1-Chlorooctadecane

118%

37.6-147

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/09/2019

Sampling Date:

12/09/2019

Reported:

12/12/2019

Sampling Type:

Soil

Project Name: Project Number: WBDU #91 NONE GIVEN

Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Location:

NOT GIVEN

Sample ID: B6 32.4725346 -103.1648679 (H904111-06)

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	12/11/2019	ND	1.85	92.3	2.00	8. 94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIC	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	387	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	44.9	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	103 9	% 41-142							
Surrogate: 1-Chlorooctadecane	121	% 37.6-14	7						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/09/2019

Sampling Date:

12/09/2019

Reported:

12/12/2019

Sampling Type:

Soil

Project Name: Project Number: WBDU #91 NONE GIVEN Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Location:

NOT GIVEN

Sample ID: B7 32.4725004 -103.1648166 (H904111-07)

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	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	0.116	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	0.386	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	0.502	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	108	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	15.8	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	340	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	51.6	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	Ш	% 41-142	!						

Surrogate: 1-Chlorooctadecane

131 %

37.6-147

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 12/09/2019

12/12/2019

Project Name:

WBDU #91 NONE GIVEN

Project Number: Project Location:

NOT GIVEN

Sampling Date:

12/09/2019

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: B8 32.4725304 -103.1648401 (H904111-08)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	102	% 73.3-12	19						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chłoride	336	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	1610	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	562	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	109	% 41-142	?						
Surrogate: 1-Chlorooctadecane	159	% 37.6-14	17						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 12/09/2019

12/12/2019

Project Name: Project Number: Project Location: WBDU #91

NONE GIVEN **NOT GIVEN**

Sampling Date:

12/09/2019

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: B9 32.4725245 -103.1647646 (H904111-09)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	0.083	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	0.315	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	0.398	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIC	110	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	816	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	25.8	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	3180	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	963	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	114 !	% 41-142	?						
Surrogate: 1-Chlorooctadecane	211	% 37.6-14	7						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/09/2019

Sampling Date:

12/09/2019

Reported:

12/12/2019 WBDU #91

Sampling Type:

Soil

Project Name:

WBDU #91 NONE GIVEN

Sampling Condition:

Cool & Intact

Project Number: Project Location:

NOT GIVEN

Sample Received By:

Jodi Henson

Sample ID: B10 32.4725001 -103.1647482 (H904111-10)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	0.535	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	3.12	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Totai Xylenes*	8.72	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	12.4	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIC	271	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS	-				S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	292	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	2460	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	435	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	163	% 41-142	?						
Surrogate: 1-Chlorooctadecane	178	% 37.6-14	7						

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any other cause whissoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be hable for moderital or consequential damages, including, without limitation, business interruptions, loss of use, or loss of use, or loss of profits incurred by client, its subsidiaries, affliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated realisms or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratones.

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/09/2019

Sampling Date:

12/09/2019

Reported:

12/12/2019

Sampling Type:

Soil

Project Name:

WBDU #91 NONE GIVEN

Sampling Condition: Sample Received By:

Cool & Intact Jodi Henson

Project Number: Project Location:

NOT GIVEN

Sample ID: B11 32.4725041 -103.1646694 (H904111-11)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIL	100	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC		_			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	912	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	288	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	57.8	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	108	% 41-142							
Surrogate: 1-Chlorooctadecane	123	% 37.6-14	7						

*=Accredited Analyte Cardinal Laboratories

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/09/2019

Sampling Date:

12/09/2019

Reported:

12/12/2019

Sampling Type:

Soil

Project Name:

WBDU #91 NONE GIVEN Sampling Condition:

Cool & Intact

Project Number: Project Location:

NOT GIVEN

Sample Received By:

Jodi Henson

Sample ID: B12 @ 11 32.4725205 -103.1646694 (H904111-12)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.85	92.3	2.00	8.94	
Toluene*	<0.050	0.050	12/11/2019	ND	1.78	89.1	2.00	8.91	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.80	90.1	2.00	8.93	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.45	90.8	6.00	9.14	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIC	98.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/10/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	176	88.2	200	9.83	
DRO >C10-C28*	24.3	10.0	12/11/2019	ND	180	90.1	200	12.2	
EXT DRO >C28-C36	<10.0	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	109	% 41-142	?						
Surrogate: 1-Chlorooctadecane	122	% 37.6-14	17						

Cardinal Laboratories

*=Accredited Analyte

any other clause whistores shall be deemed waved unless made in when and received by Cardinal within thinty [39] days after completion of the applicable service. In no event shall Cardinal be bable for moderal or consequential diamages, including, without limitation, business interruptions, loss of use, or loss of us

Cologic trans



Notes and Definitions

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 SM4500CI-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Received by OCD: 1/30/2020 1:35:42 PM

CARDINAL Laboratories

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

Company Name	H. H. S. V.		BILL TO	ANALYSIS	SIS REQUEST
Project Manage	Project Manager:		P.O. #:		
Address:			Company:		
City: Woldbos	State: W. Zip: 8804C		Attn:		
Phone #:	Fax#:		Address:		
Project #:	Project Owner:		City:		
Project Name:			State: Zip:		
Project Location	15 H 70807 11		Phone #:	-4-	
Sampler Name:	Sampler Name: John Ching Science JC.		Fax #:		
FOR LAB USE ONLY		MATRIX	PRESERV. SAMPLING		
	MOG	язт		1101	
Lab I.D.	Sample I.D.	AWQN 3TAW3 36	3SASE	(<u>Э</u>]	
H904111	#(G)\R	GROUI SOIL OIL OIL	отнен		
	81	/	3:52 12/9	/	
	-103.1649SO7				
7	K2 32.470531	" "	₹ :×	/ / /	
2	BS 32.4725151	/	1 3:36	/	
<u>ਹ</u>	4 Ru 32.4723389 C	/	3:38	/	
R	20 RI 1649108		- M		
		7	i i		

PLEASE NOTE: Lightly and Demages. Cardinal's liability and clerif's Exclusive nemely for any clean enemy electrochemical contract or but, shall be limited to the amount paid by the cleant to the analyses and any other cause windpower shall be deemed waved unless made in writing and rocked by Cardinal within 30 days after completion of the applicable served in no event shall Cardinal be liable for rocked and consequented demages, including without inmission business memuptoms, loss of use, or loss of profits incurred by client, its violatilities.

Bacteria (only) Sample Condition
Cool Intact Observed Temp. "C

|| Yes || Yes
|| No || No Corrected Temp. "C Verbal Result: Tes S No Add'l Phone #:

All Results are emailed. Please provide Email address: Sur / Resut Standard Rush Thermometer ID #97 Correction Factor + 0.4 °C Turnaround Time: REMARKS: CHECKED BY: Sample Condition
Cool Intact
Tes C Fes Observed Temp. 'C 4,5 Corrected Temp. "Cy Q Sampler - UPS - Bus - Other: Delivered By: (Circle One) Relingedished By: MARC Relinquished By:

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Received by OCD: 1/30/2020 1:35:42 PM

CARDINALLaboratories

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

Company Name	Company Name: Hour No		7/8	B/LL TO	ANALYSIS REQUEST	
Project Manage	Project Manager: Literal Brecon		P.O. #:			
Address:	0		Company:			
city: Holobs	State: July Zip:	07788:	Attn:			
Phone #:	Tax #:		Address:			-
Project #:	Project Owner:		City:			, - ,
Project Name:			State: Z	Zip:		
Project Locatio	Project Location: WBDU #91.		Phone #:			
Sampler Name:	The June cont.		Fax #:	<i>(</i> -		
FOR LAB USE ONLY		MATRIX	PRESERV.	SAMPLING		
	allois		,	<i>1-4</i> 		
Lab I.D.	Sample I.D.	AWGW TAW3	BASE 1000	<u>+'</u>	(3)	
Hapalli	∀ ¥(Đ)	ово	OTHE ACIDIA OTHE	DATE TIME	<u>(</u> <u>2</u>)	
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	12007 17 10 FC) 1		; ;		
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	_	ph				
01	JO 810 32.4725001	/		3:50		
	103 104 1884					

PLAKE NOTE: Liability and Damaigus, Cardena's liability and client's cucleoner remody for any client or who where based in contract or loct, shall be limited to the amount paid by the client's to-defend with a client's cucleoner and any other cucleoner washer of defended unless made in whiting and received by Cardener within a Cardener within a Cardener and any of the cucleoner of the contraction of the contraction of the contraction of the contraction of the cucleoner of shall contract the contraction of the cucleoner of shall contract the cucleoner of shall contract

Verbal Result: F Yes & No Add'I Phone #: All Results are emailed. Please provide Email address: REMARKS:	/	CHEGKED BY: Tumaround Time: Standard N Bacteria (only) Sample Condition	Thermometer ID #97 Yet Yet Yes Connection Earths +0.4 °C Yet Yet
101		CHECKED BY:	Z S
od Musson—		Sample Condition	Tes Yes
Type: 50 Coeived By: Date: Boeived By:	Time:	Observed Temp. °C 4.5	Corrected Temp. *C 4,9
Julinatished Bv: Refinquished Bv:		Delivered By: (Circle One)	Sampler - UPS - Bus - Other:

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Received by OCD: 1/30/2020 1:35:42 PM

CARDINALLaboratories

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

Company Name		BILL TO ANALYSIS REQUEST	181
Project Manage	F CONTROLL	P.O.#:	
Address:	Address:	Company:	
City: Marchy	State: NAZip:\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Attn:	
Phone #:	L	Address:	
Project #:	t Owner:	City:	
Project Name:		State: Zip:	
Project Location	Project Location: WBDL # 91	Phone #:	
Sampler Name:),		
FOR LAB USE ONLY	MATRIX	PRESERV. SAMPLING	
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Lab I.D.	TAW3	SOOL BASE	
Hapun	пояэ	ACIDA OTHE TIME	
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PLEASE NOTE: Liability and Damagos. Cardenal's labelity and chert's exclosive remody for any claim artering wherbir beside in contract or rior, shall be immed to the amount part for the amount part of the application amounts from the properties and any other cause whateverer shall be deemed watered united and roomed by Cardenal within 30 days after completion of the application amounts shall Cardenal be labeled for exclosing or consequential demages, proteining without landation, business retemptants, loss of use or loss of profits increased by calculations.

Bacteria (only) Sample Condition
Cool intact Observed Temp.
□ Yes □ Yes
□ No □ No Corrected Temp. you say of the above stated respons or otherwise

Verbal Results:

Ail Results are emailed. Please provide Email address: Ence! Results 20 Standard Thermometer ID #97 Correction Factor + 0.4 °C Turnaround Time: REMARKS CHECKED BY: Sample Condition
Cool Intact
Fee Dres Sceived By: Observed Temp 'C 4.9 Corrected Temp. C 4.9 Time: Sampler - UPS - Bus - Other: Delivered By: (Circle One) Relinquished By:

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

Observed Temp. *C Corrected Temp. *C





December 12, 2019

JEFFREY BROOM **APACHE CORP - HOBBS** 2350 W. MARLAND BLVD.

RE: WBDU #91

HOBBS, NM 88240

Enclosed are the results of analyses for samples received by the laboratory on 12/10/19 12:57.

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/ga/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.

Celeg L. Keine

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 JEFFREY BROOM 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To:

To: (575) 393-2432

I GA TO.

Sampling Date:

12/10/2019

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Number: NONE GIVEN
Project Location: NOT GIVEN

Received: Reported:

Project Name:

Sample ID: W 1 32.4724240 -103.1649490 (H904123-01)

12/10/2019

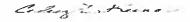
12/12/2019

WBDU #91

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.92	95.9	2.00	1.51	
Toluene*	0.120	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	< 0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	< 0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	98.6	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	12/11/2019	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
DRO >C10-C28*	<10.0	10.0	12/11/2019	ND	181	90.4	200	9.81	
EXT DRO >C28-C36	<10.0	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	110 9	6 41-142	?						
Surrogate: 1-Chloroactadecane	118 9	6 37.6-14	7						

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Analytical Results For:

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

(575) 393-2432 Fax To:

Received: Reported: 12/10/2019 12/12/2019

Project Name: Project Number: Project Location:

WBDU #91 NONE GIVEN **NOT GIVEN**

Sampling Date:

Sampling Type: Soil

Sampling Condition: Sample Received By: Cool & Intact

12/10/2019

Jodi Henson

Sample ID: W 2 32.4724037 -103.1649366 (H904123-02)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.92	95.9	2.00	1.51	
Toluene*	<0.050	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	99.9	% 73.3-12	9						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	12/11/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
DRO >C10-C28*	<10.0	10.0	12/11/2019	ND	181	90.4	200	9.81	
EXT DRO >C28-C36	<10.0	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	110	% 41-142	?						
Surrogate 1-Chlorooctadecane	117	% 37.6-14	17						

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Analytical Results For:

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

(575) 393-2432 Fax To:

Received: Reported: 12/10/2019 12/12/2019

Project Name: Project Number:

WBDU #91 NONE GIVEN **NOT GIVEN**

Sampling Date:

Sampling Type: Soil

Sampling Condition: Sample Received By: Cool & Intact

12/10/2019

Jodi Henson

Project Location:

Sample ID: W 3 32.4724402 -103.1649222 (H904123-03)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.92	95.9	2.00	1.51	
Toluene*	<0.050	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	99.8	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	12/11/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
DRO >C10-C28*	<10.0	10.0	12/11/2019	ND	181	90.4	200	9.81	
EXT DRO >C28-C36	<10.0	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	109	% 41-142	?						
Surrogate: 1-Chlorooctadecane	115	% 37.6-14	7						

*=Accredited Analyte Cardinal Laboratories

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 12/10/2019 12/12/2019 Sampling Date: Sampling Type: 12/10/2019 Soil

Project Name:

WBDU #91 NONE GIVEN Sampling Condition:

Cool & Intact

Project Number: Project Location:

NOT GIVEN

Sample Received By:

Jodi Henson

Sample ID: W 4 32.4724577 -103.1649742 (H904123-04)

BTEX 8021B	mg/	'kg	Analyze	d By: MS		<u> </u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.92	95.9	2.00	1.51	
Toluene*	<0.050	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIC	99.9	% 73,3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	12/11/2019	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
DRO >C10-C28*	<10.0	10.0	12/11/2019	ND	181	90.4	200	9.81	
EXT DRO >C28-C36	<10.0	10.0	12/11/2019	ND					
Surrogate: 1-Chloroociane	114	% 41-142	?						
Surrogate: 1-Chlorooctadecane	121	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/10/2019 12/12/2019 Sampling Date: Sampling Type: 12/10/2019

Soil

Reported: Project Name:

WBDU #91

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

NOT GIVEN

Sample ID: W 5 32.4724885 -103.1648528 (H904123-05)

BTEX 8021B	mg/	kg	Anaiyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.92	95.9	2.00	1.51	
Toluene*	<0.050	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	103	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	12/11/2019	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
DRO >C10-C28*	117	10.0	12/11/2019	ND	181	90.4	200	9.81	
EXT DRO >C28-C36	15.9	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	118	% 41-142	?						
Surrogate: 1-Chlorooctadecane	130	% 37.6-14	7						

*=Accredited Analyte **Cardinal Laboratories**

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 12/10/2019 12/12/2019

Project Name: Project Number: Project Location: WBDU #91 **NOT GIVEN**

NONE GIVEN

Sampling Date:

Sampling Type:

Sampling Condition: Sample Received By: 12/10/2019 Soil

Cool & Intact

Jodi Henson

Sample ID: W 6 32.4725406 -103.1648421 (H904123-06)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.92	95.9	2.00	1.51	
Toluene*	<0.050	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	100 5	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BŚ	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	12/11/2019	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
DRO >C10-C28*	1130	10.0	12/11/2019	ND	181	90.4	200	9.81	
EXT DRO >C28-C36	432	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	118	% 41-142							
Surrogate: 1-Chlorooctadecane	156	% 37.6-14	7						

*=Accredited Analyte **Cardinal Laboratories**

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 12/10/2019 12/12/2019

Project Name:

WBDU #91 Project Number: NONE GIVEN Project Location: **NOT GIVEN**

Sampling Date:

Sampling Type: Soil Sampling Condition:

Sample Received By:

Cool & Intact

12/10/2019

Jodi Henson

Sample ID: W 7 32.4724846 -103.1648843 (H904123-07)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0,050	12/11/2019	ND	1.92	95.9	2.00	1.51	
Toluene*	<0.050	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	< 0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIL	1019	6 73.3-12	9						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/11/2019	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
DRO >C10-C28*	<10.0	10.0	12/11/2019	ND	181	90.4	200	9.81	
EXT DRO >C28-C36	<10.0	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	86.2	% 41-142	!						
Surrogate: 1-Chlorooctadecane	92.0	% 37.6-14	7						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 12/10/2019 12/12/2019

Project Name: Project Number: Project Location: WBDU #91 NONE GIVEN **NOT GIVEN**

Sampling Date:

12/10/2019

Sampling Type:

Soil Cool & Intact

Sampling Condition:

Sample Received By:

Jodi Henson

Sample ID: W 8 32.4725242 -103.1645812 (H904123-08)

BTEX 80218	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.92	95.9	2,00	1.51	
Toluene*	<0.050	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	99.5	% 73.3-12	9						
Chloride, SM4500CI-8	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	12/11/2019	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					<u></u>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
DRO >C10-C28*	173	10.0	12/11/2019	ND	181	90.4	200	9.81	
EXT DRO >C28-C36	80.4	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	112 5	% 41-142							
Surrogate: 1-Chlorooctadecane	133 9	% 37.6-14	7						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Analyzed By: MS

Received:

12/10/2019 12/12/2019 Sampling Date: Sampling Type: 12/10/2019

Soil

Reported:

BTEX 8021B

WBDU #91

Sampling Condition:

Cool & Intact

Project Name: Project Number:

NONE GIVEN

mg/kg

Sample Received By:

Jodi Henson

Project Location:

NOT GIVEN

Sample ID: W 9 32.4725369 -103.1646061 (H904123-09)

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2019	ND	1.92	95.9	2.00	1.51	
Toluene*	<0.050	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	97.7	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/11/2019	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
GRO C6-C10* DRO >C10-C28*	<10.0 <10.0	10.0 10.0	12/11/2019 12/11/2019	ND ND	177 181	88.5 90.4	200 200	9.44 9.81	

Surrogate: 1-Chlorooctane 115% 41-142 Surrogate: 1-Chlorooctadecane 122 % 37.6-147

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

12/10/2019 12/12/2019 Sampling Date:

12/10/2019

Reported:

Sampling Type:

Soil

Project Name: Project Number: WBDU #91 NONE GIVEN Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Location:

NOT GIVEN

Sample ID: W 10 32.4724939 -103.1646141 (H904123-10)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	12/11/2019	ND	1.92	95.9	2.00	1.51	
Toluene*	<0.050	0.050	12/11/2019	ND	1.87	93.7	2.00	1.50	
Ethylbenzene*	<0.050	0.050	12/11/2019	ND	1.91	95.6	2.00	1.10	
Total Xylenes*	<0.150	0.150	12/11/2019	ND	5.80	96.7	6.00	0.950	
Total BTEX	<0.300	0.300	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	97.5	% 73.3-12	9						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	12/11/2019	ND	416	104	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2019	ND	177	88.5	200	9.44	
DRO >C10-C28*	11.8	10.0	12/11/2019	ND	181	90.4	200	9.81	
EXT DRO >C28-C36	<10.0	10.0	12/11/2019	ND					
Surrogate: 1-Chlorooctane	116 9	% 41-142							
Surrogate: 1-Chlorooctadecane	124 9	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST



101 East Marland, Hobbs, NM 88240

Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Relinquished By:	PLEASE MOVE: LUDINY AND CHRISTOPS IN A CARRYS INCIDENTS IN TO EVENT SHALL CARDINAL DE INCIDENTS IN THE OUT OF OUT OF THE OUT OUT OF THE OUT OF THE OUT OF THE OUT OUT OF THE OUT OF THE OUT	5	ר	. W	, ,	3		H904173	Lab I.D.	FOR LAB USE ONLY	Project Location: Sampler Name:	Project Name:	Project #:	Phone #:	city: Holobs	Address:	Project Manager:	Company Name:
(Circle One)		Byingh	y and Conneger, Cardina a hading those for regitgence of Cardinal be flable for recolorsing out of or related to the		-103 -103	E J	- F		ξ		Sar		e: Jay C				05		ME JUHN	ne: /1/04/1 ~
Observed Te	Time:	Date:	readness and care toward the performance and any other cases without the my seem to any other cases of the care manages. All claims in reducing these for registering and any other cases whiteselvener shall be determed watered unless makes in withing and managed as service. In no event shall Cardinal be liable for incidental or consequential damages, including without lamations, business mamuplants, loss of use settliates or successors arranging of or related to the partnership of services hereunds up Cardinal, registered of whether such claims is based up.		encolmi Lesperh	82. 4724402	103. 1649366	103.164 gudo	उप्रतम्भावम्		Sample I.D.		ا#عالة الأطالة		Project Owner:	Fax #:	State:	7	, 300000 ,	~
Observed Temp. °C 2, 2 Corrected Temp. °C 246	71	57 R	to tensory that any clean is entiry entered to be considered to the control of th	30 C \	0	0		2	0	# CON	B OR COM	đР			Owner:		State: JULL Zip: 88240		>	000-2-10
Sample Condition Cool Intact Pres Pres		M. A	hiers made in white and recover business memoritars, loss of us of whether such claim is bested	/		/) 11=3			WAST SOIL OIL SLUDG OTHE		MATRIX	Ph Fa	St	City:	Ad		Cc	P.O.	
CHECKED BY		uson	med by Cardinal within 30 da flues or loss of profits incurre and sporting of the above so	/	/	/	, ,		12/10	OTHE DATE	COOL	PRESERV. S	1	State: Zip:	Ŋ	Address:	Attn:	Company:	0. #	BILL T
Turnaround Time: Thermometer ID #97 Correction Factor + 0.4 °C		All Results are emailed.	use or mean year enters pass of the comparison of the applicable use, or loss of profits incurred by client its subsidiaries, and gives any of the above stated reasons or otherwise. If you any of the above stated reasons or otherwise.	9:16	4:14	2	; 6	5	10 g.ng \	TE TIME		SAMPLING								70
ne: Standard Rush #97 r + 0.4 °C			TYPE NO.	1	/	/		/	//		T TP	H								
	?	Please provide Email address:	Add'i Phone #								and the second s								P3-304	ANALYSIS RE
Bacteria (only) Sample Condition Cool Intact Observed Temp. *C Yes Yes No No Corrected Temp. *C																				REQUEST
o o						-						2 (40 (40)		re.						

Corrected Temp. °C

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL

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

[373] 330-K340 1 70 (374) 330-K416		
Company Name: A DOW M.	BILL TO	ANALYSIS REQUEST
Project Manager: JARAN Broom	P.O. #:	
	Company:	
tiv: Hobbs State: N.M. Zip: 98240	Attn:	
Fax #:	Address:	
Project #: Project Owner:	City:	
Project Name:	State: Zip:	
Project Location: WBOU #91	Phone #:	
Sampler Name: Jou China Library	Fax #:	
	X PRESERV SAMPLING	6
ATER		TPH (
TAINE	R BASE:	
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1 2 00 00 00 00 00 00 00 00 00 00 00 00 0	9	9.24
10 w10 32.4724934	1 9	9:26
	contract or tort, shall be limbed to the amount paid by th rang and received by Cardinal within 30 days after comp aptions, loss of use, or loss of profits incurred by client, if	closed for the personnel of the personnel of the applicable is subsidiaries.
Relinquished By: ///////////////////////////////////	(10 Recalived By: Verbal Res	Verbai Result: ☐ Yes 및 No Add'l Phone #: All Results are emailed. Please provide Email address:
Relinquished By: Date: Retrieved By:	Surson RE	REMARKS: Emmi Results
Time:		
	n CHECKED BY:	Turnaround Time: Standard N Bacteria (only) Sample Condition Rush Cool Intact Observed Temp. *C
Sampler - UPS - Bus - Other: Corrected Temp. °C 2.6	NA NA	o ga

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m cardinal}$ cannot accept verbal changes. Please email changes to celey keene@cardinallabsnm.com



December 18, 2019

JEFFREY BROOM **APACHE CORP - HOBBS** 2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: WBDU #91

Enclosed are the results of analyses for samples received by the laboratory on 12/13/19 12:05.

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.

Celeg D. Keine

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 JEFFREY BROOM 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To:

(575) 393-2432

Received:

12/13/2019

Reported: Project Name:

12/18/2019 **WBDU #91**

Project Number: Project Location: NONE GIVEN NOT GIVEN

Sampling Date:

12/13/2019

Sampling Type: Sampling Condition: Soil Cool & Intact

Sample Received By:

Tamara Oldaker

Sample ID: B8 32.4725304 -103.1648401 (H904177-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					_
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2019	ND	1.99	99.3	2.00	7.30	
Toluene*	<0.050	0.050	12/17/2019	ND	1.98	98.9	2.00	6.84	
Ethylbenzene*	<0.050	0.050	12/17/2019	ND	2.00	100	2.00	7.58	
Total Xylenes*	<0.150	0.150	12/17/2019	ND	5.84	97.3	6.00	7.66	
Total BTEX	<0.300	0.300	12/17/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIL	97.8	% 73.3-12	9						
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2019	ND	218	109	200	0.138	
DRO >C10-C28*	<10.0	10.0	12/13/2019	ND	221	110	200	1.03	
EXT DRO >C28-C36	<10.0	10.0	12/13/2019	ND					
Surrogate: 1-Chlorooctane	112 9	% 41-142							
Surrogate: 1-Chlorooctadecane	119 9	% 37.6-14	7						

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*=Accredited Analyte

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Analytical Results For:

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

(575) 393-2432

Fax To:

Sampling Date:

12/13/2019

Received: Reported: 12/13/2019 12/18/2019

Sampling Type:

Soil

Project Name: Project Number:

WBDU #91 NONE GIVEN Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Project Location:

NOT GIVEN

Sample ID: B9 32.4725245 -103.1647646 (H904177-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2019	ND	1.99	99.3	2.00	7.30	
Toluene*	<0.050	0.050	12/17/2019	ND	1.98	98.9	2.00	6.84	
Ethylbenzene*	<0.050	0.050	12/17/2019	ND	2.00	100	2.00	7.58	
Total Xylenes*	<0.150	0.150	12/17/2019	ND	5.84	97.3	6.00	7.66	
Total BTEX	<0.300	0.300	12/17/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIC	98.3	6 73.3-12	9						
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/13/2019	ND	218	109	200	0.138	
DRO >C10-C28*	<10.0	10.0	12/13/2019	ND	221	110	200	1.03	
EXT DRO >C28-C36	<10.0	10.0	12/13/2019	ND					
Surrogate: 1-Chlorooctane	117 9	6 41-142							
Surrogate: 1-Chlorooctadecane	123 9	6 37.6-14	7						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 12/13/2019 12/18/2019

Project Name:

Project Number:

Project Location:

WBDU #91 **NOT GIVEN**

NONE GIVEN

Sampling Date:

Sampling Type: Soil

Sampling Condition: Sample Received By: 12/13/2019

Cool & Intact

Tamara Oldaker

Sample ID: B10 32.4725001 -103.1647482 (H904177-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2019	ND	1.99	99.3	2.00	7.30	
Toluene*	<0.050	0.050	12/17/2019	ND	1.98	98.9	2.00	6.84	
Ethylbenzene*	<0.050	0.050	12/17/2019	ND	2.00	100	2.00	7.58	
Total Xylenes*	<0.150	0.150	12/17/2019	ND	5.84	97.3	6.00	7.66	
Total BTEX	<0,300	0,300	12/17/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	99.15	% 73.3-12	9						
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/14/2019	ND	218	109	200	0.138	
DRO >C10-C28*	<10.0	10.0	12/14/2019	ND	221	110	200	1.03	
EXT DRO >C28-C36	<10.0	10.0	12/14/2019	ND					
Surrogate: 1-Chlorooctane	119 %	6 41-142							
Surrogate: 1-Chlorooctadecane	1249	6 37.6-14	7						

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Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 12/18/2019

Project Name: Project Number:

Project Location:

WBDU #91

12/13/2019

NONE GIVEN **NOT GIVEN**

Sampling Date:

Sampling Type:

12/13/2019

Soil

Sampling Condition: Sample Received By: Cool & Intact

Tamara Oldaker

Sample ID: W 6 32.4725406 -103.1648421 (H904177-04)

BTEX 8021B	mg/l	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/17/2019	ND	1.83	91.4	2.00	9.80	
Toluene*	<0.050	0.050	12/17/2019	ND	1.79	89.7	2.00	10.8	
Ethylbenzene*	<0.050	0.050	12/17/2019	ND	1.82	91.2	2.00	10.3	
Total Xylenes*	< 0.150	0.150	12/17/2019	ND	5.29	88.2	6.00	10.4	
Total BTEX	<0.300	0.300	12/17/2019	ND					
Surrogate: 4-Bromofluorobenzene (PIE	101 %	6 73.3-12	9						
TPH 8015M	mg/l	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	< 10.0	10.0	12/14/2019	ND	218	109	200	0.138	
DRO >C10-C28*	<10.0	10.0	12/14/2019	ND	221	110	200	1.03	
EXT DRO >C28-C36	<10.0	10.0	12/14/2019	ND					
Surrogate: 1-Chlorooctane	117%	6 41-142							
Surrogate: 1-Chlorooctadecane	123 %	37.6-14	7						

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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 SM4500CI-8 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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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	BILL TO ANALYSIS REQUEST
Project Manager: Jefter Brown	
Address:	Company:
City: Wololos State: J. J. Zip: 88840	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: (UBDU #GI	Phone #:
Sampler Name: , Val. Ohn Schools Of.	Fax #:
	PRESERV SAMPLING
Lab I.D. Sample I.D. AB OR (C)OM NTAINERS UNDWATER TEWATER	R: BASE: COOL
# COI	OTHE ACID/ OTHE OTHE DATE
158 32.472530V	121310:6 Ha. S.
289 32: 4725845 C	107811/
5 810 32 4725001	10:30 /
1 JOHNSEIN ES 9 M	/ ついじね / /
-103. 1648491	
PLEASE NOTE: Lubsilly and Damages. Cardinal's liability and client's exclusive remoty for any claim eithing whether based in contract or inc. 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 waved 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 claim, its subsidiances,	ct or fort, shall be limited to the amount paid by the client for the and received by Carderal within 30 days after completion of the applicable i, loss of use, or loss of profits incurred by claim, los subscripines.
Redinduished BY: Date: 7 Received BY: Verbal Res	n s based upon any of the above stated respons or otherwise Veribal Result: □ Yes □ No Add'l Phone #:

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

Q

Sampler - UPS - Bus - Other: Delivered By: (Circle One)

Corrected Temp. *C 5.7 Observed Temp. C 5.3

Sample Condition
Cool Intact
Pres Pres

CHECKED BY: (Initials) 0

Turnaround Time:

Standard N

Bacteria (only) Sample Condition
Cool Intact Observed Temp. °C

Yes Yes
No Corrected Temp. °C

Corrected Temp. °C

Thermometer ID #97
Correction Factor + 0.4 °C

FORIM-000 R 3.0

Relinquished By

L Time: 1 12/077 Received By:

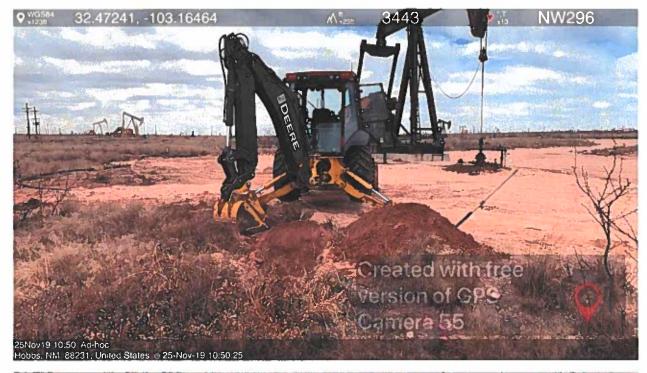
Time:

Date: 2

REMARKS: (End)

Kusults

WBDU Excavation Photos





WBDU Excavation Photos







WBDU 91
NRM1936553967
Revegetation
And
Noxious Weed Plan

Revegetation Plan:

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

Noxious Weed Plan:

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