

October 27, 2020

Mr. Bradford Billings State of New Mexico Oil Conservation Division 1220 South St Francis Drive Santa Fe, NM 87505

RE:

1RP-4898 NEDU 218

Mr. Billings,

In compliance with 19.15.29.15(B) NMAC and the agreement submitted by Apache Corporation on November 8, 2018, Apache Corporation is submitting information related to closure for the release occurring December 14, 2017. Apache is respectfully submitting the closure report based on remediation and studies occurring in 2018 and 2019 that demonstrate the site meeting the requirements of the agency. Unless further information is requested by NMOCD, Apache Corporation considers this release closed.

If there are any questions, please feel free to contact me by telephone at 432-631-6982 or by e-mail at larry.baker@apachecorp.com.

Sincerely,

Larry Baker

Environmental Technician SR.

Apache Corporation

Larry Baker

Attachment: Closure Report Dated October 27, 2020



Closure Report

October 27, 2020

Re: NEDU 218 Case # 1RP-4898

On 12/14/2017 a release occurred due to a buried fiberglass line failed. The release (GPS: 32.5123389, -103.1364500) is located north of Eunice, New Mexico in unit letter C section 2 township 21S range 37E. A soil bore (GPS: 32.512232, -103.136606) was conducted to delineate the release to a depth of 60 feet. Water was not encounter during the soil bore demonstrating that the depth of groundwater beneath the release is greater than 50 feet. A remediation plan was submitted to OCD and approved on 3/9/2018.

The release area was excavated to depths of 6 to 10 feet. All excavated material was hauled to an OCD approved facility. A portion of the release was over a previous installed 20 mil liner. Three verticals were conducted in the areas outside the liner utilizing a track-hoe with samples collected in regular intervals. Vertical 1 was advanced to a depth of 27 feet. The South P/L vertical was advanced to a depth of 12 feet and the West Vertical was advanced to a depth of 12 feet. Final wall representative samples were collected. All samples were collected and submitted to a commercial laboratory. A 20 mil reinforced liner was installed along the bottom of the excavation and sown to the previous liner. A 10 inch casing was installed at vertical 1 in preparation for a future soil bore to be conducted to further delineate with depth. The liner was fused to the casing to ensure the integrity of the liner was not compromised. The excavation was backfilled with clean imported top soil to ground surface and contoured to the surrounding area. On 7/31/2019 a soil bore was conducted to a depth of 60 feet. All samples were collected and submitted to a commercial laboratory for analysis of chloride. The bore hole was plug with benonite to ground surface. Apache Corporation has complete remediation to below table one standards for releases 51-100 feet to groundwater and respectfully request event 1RP-4898 be closed.

Enclosed: C-141, Groundwater Data, Maps, Sample Data, Laboratory Results, Variance Request, and Photos.

Submitted by;

Environmental Technician larry.baker@apachecorp.com

Cell# 432-631-6982

Bruce Baker

Form C-141

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III $1000\ \mathrm{Rio}\ \mathrm{Brazos}\ \mathrm{Road},\ \mathrm{Aztec},\ \mathrm{NM}\ 87410$ District IV 1220 S St Francis Dr. Santa Fa. NM 97505

State of New Mexico **Energy Minerals and Natural Resources**

Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

1220 S. St. 11an	icis Di., Sain	a 1 e, 1901 6750.	,	Sa	anta Fe	e, NM 875	05					
			Rele	ease Notific	cation	and Co	rrective A	ction	ì			
						OPERA'	ГOR			al Report	П	Final Report
Name of Co	ompany A	pache Corpo	oration			Contact Br				1		<u>_</u>
		rland Street,	Hobbs, N	NM 88240			No. (432) 631-6					
Facility Nat	me NEDU	J 218				Facility Typ	e Injection W	ell				
Surface Ow	ner State			Mineral C	Owner S	State			API No	. 30-025-0)6484	
				LOCA	ATIO	N OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the	North/	South Line	Feet from the	East/V	West Line	County		
С	2	21S	37E	3546'		FNL	1700'	I	FWL	Lea		
	1			Latitude 32 /	5123380) I ongitude	e <u>-103.1364500</u>					
						OF REL						
Type of Rele	ase Produc	ced water		NAI	UKE		Release 240 bar	rrels	Volume F	Recovered	220 ba	rrels of
- 5 F						of produce			produced			
Source of Re	lease Fiber	glass line				Date and H 12/14/2017	Iour of Occurrence	e	Date and at 1:00 p.		covery	12/14/2017
Was Immedia	ate Notice (Yes [No Not R	equired	If YES, To Olivia Yu						
By Whom?	Bruce Bake	r				Date and H	Iour 12/15/2017	left me	ssage at 8:4	2 a.m. and v	/ia ema	ail at 8:49
Was a Water	course Read						lume Impacting t	the Wat	ercourse.			
] Yes ∑									
		em and Reme	·				CEIVED Olivia Yu		:51 am	, Dec 2	0, 2	017
				and vacuum truc	ks were	dispatched to	pick-up standing	fluid.				
		and Cleanup As in the pastu		ken.* orrective action p	plan wi	ll be submitt	ed in accordanc	ce with	NMOCD	regulations	s.	
regulations a public health should their or or the environ	ll operators or the envi operations h nment. In a	are required t ronment. The nave failed to	to report and acceptant adequately OCD accept	e is true and comp nd/or file certain r ce of a C-141 repo y investigate and r otance of a C-141	release nort by the emediat	otifications and NMOCD me contaminati	nd perform correct arked as "Final R on that pose a thr	ctive act eport" of eat to g	ions for rele loes not reli round water	eases which ieve the ope r, surface wa	may e rator o iter, hu	ndanger f liability ıman health
/	1	_					OIL CON	<u>SERV</u>	ATION	DIVISIO	<u>N</u>	
Signature:	Buc	e Ba	hen						M			
Printed Name	e: Bruce B	aker				Approved by	Environmental S	pecialis	t:			
Title: Enviro	onmental Te	echnician	$\underline{\hspace{1cm}}$			Approval Dat	12/20/20	17	Expiration	Date:		
E-mail Addre	ess: larry.b	oaker@apache	corp.com			Conditions of	Approval:			A ++ 0 -1 1	_/	/
Data: 12/1	10/2017		DI		002	see atta	ched directi	ve		Attached	∟y	

* Attach Additional Sheets If Necessary

Date: 12/19/2017

1RP-4898

Phone: (432) 631-6982

nOY1735437002

pOY1735437400

Received by OCD: 12/22/2020 11:31:04 AM
State of New Mexico
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Oil Conservation Division

		Page 4 of	96
Incident ID	NRM2006956155		
District RP			
Facility ID			
Annlination 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?	61-100 (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 ver contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	tical extents of soil
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 well. 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	ls.

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.

Received by OCD: 12/22/2020 11:31504 AM State of New Mexico
Page 4 Oil Conservation Division

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		- "8"	
Incident ID	NRM2006956155		
District RP			
Facility ID			1
Application ID			1

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 endang public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.					
Printed Name: Larry Baker	Title: Environmental Tech SR.				
Signature: Larry Baker	Date: 10/27/2020				
Signature: Larry Baker email: larry.baker@apachecorp.com	Telephone: 432-631-6982				
OCD Only					
Received by: Cristina Eads	Date:12/22/2020				

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Incident ID	NRM2006956155
District RP	
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 19.15.29.1	1 NMAC
✓ Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate ODG	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 certain may endanger public health or the environment. The acceptance of	ntions. The responsible party acknowledges they must substantially inditions that existed prior to the release or their final land use in DCD when reclamation and re-vegetation are complete.
Printed Name: Larry Baker	Title: Environmental Tech SR.
Signature: <u>Larry Baker</u> email: larry.baker@apachecorp.com	Date: 10/27/2020
email: larry.baker@apachecorp.com	Telephone: 432-631-6982
OCD Only	
Received by: Cristina Eads	Date: _12/22/2020
remediate contamination that poses a threat to groundwater, surface party of compliance with any other federal, state, or local laws and	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.
Closure Approved by: Justine 8	Date: 12/22/2020
Printed Name: Cristina Eads	Title: Environmental Specialist



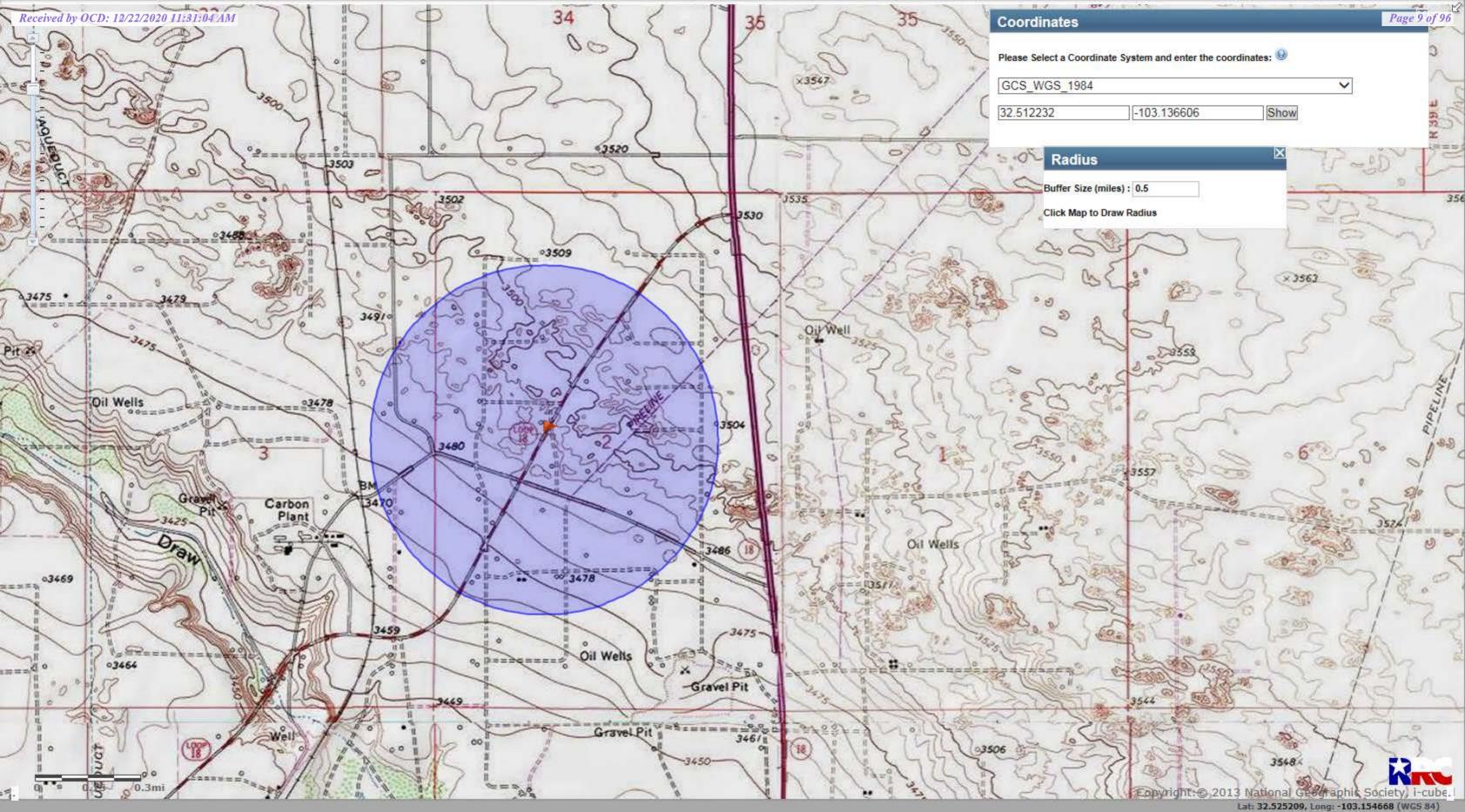
SCARBOROUGH DRILLING, INC.

TEST HOLES • WATER WELLS
P.O. Box 305 - Ph. 806-872-3285 or 872-9349
LAMESA, TEXAS 79331
2001 South Hwy. 87

Lourson

WELL LOG

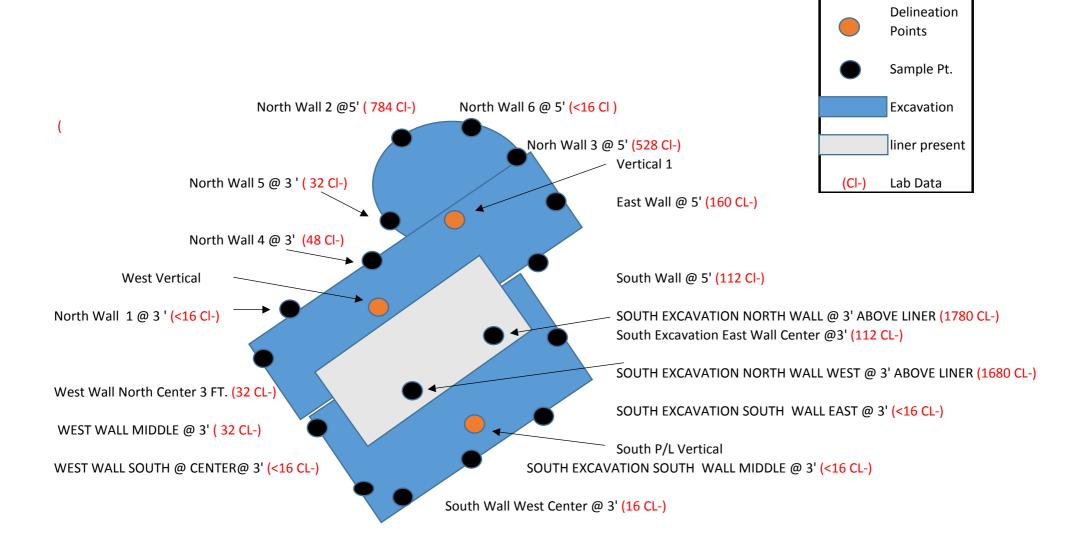
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KEY

Vertical

NEDU 218 sample diagram updated 3-8-2018



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Delineation Samples

				De	elineation S	amples	_				
Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenz ene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
2/7/2018	Vertical 1	11'	1200	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
		13'	1800	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0
		15'	2040	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0
		17'	1840								
		19'	928								
		21'	1960								
		23'	960								
		25'	576								
		27'	800								
	South P/L										
3/22/2018	Vertical	9'	224	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
		10'	80	<0.050	<0.050	<0.050	<0.150	< 0.300	<10.0	<10.0	<10.0
		11'	160	<0.050	<0.050	<0.050	<0.150	< 0.300	<10.0	<10.0	<10.0
		12'	160	<0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
4/4/2018	West Vertical	7'	1230	<0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
		8'	1570	<0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
		9'	1490	<0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
		10'	624	< 0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
		11'	48.0	<0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
		12'	48.0	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0
	· · · · · · · · · · · · · · · · · · ·		1	T	Wall Sam	i	1	1	1	1	
	NORTH WALL 3		528	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	NORTH WALL 2		784	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	SOUTH WALL 3		112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
2/27/2018			160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	NORTH WALL										
3/7/2018	1 @ 3'	3'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	NORTH WALL										
3/7/2018	4 @ 3'	3'	48.0	<0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	NORTH WALL										
3/7/2018	5@ 3'	3'	32.0	<0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	NORTH WALL										
3/7/2018	6 @ 5'	5'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	WEST WALL										
	NORTH										
3/29/2018		3'	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	SOUTH WALL										
	WEST CENTER										
3/29/2018	@ 3'	3'	16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	WEST WALL										
3/29/2018		3'	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
3/23/2010	_		32.0	\0.030	VO.030	\0.030	\0.130	\0.300	10.0	\10.0	10.0
	WEST WALL										
2/20/2040	SOUTH @	21	.16.0	.0.050	.0.050	.0.050	.0.450	.0.200	40.0	.40.0	40.0
3/29/2018	CENTER@ 3'	3'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	South										
	Excavation										
4/3/2018	East Wall 3'	3'	112	< 0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	SOUTH										
	EXCAVATION										
	NORTH WALL										
	@ 3' ABOVE										
4/3/2018	LINER	3'	1780	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	6011711										
	SOUTH										
	EXCAVATION										
	NORTH WALL										
4/2/2010	WEST @ 3'	21	4.000	40.0F0	c0.050	40.0E0	-0.450	40.000	40.0	-40.0	-10.0
4/3/2018	ABOVE LINER	3'	1680	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	South										
	Excavation										
4/4/22:=	South Wall	61	400	0.075	0.055	0.075	0.155	0.000	40.0	40.5	40.0
4/4/2018	East 3'	3'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	South										
	Excavation										
	South Wall		Ī	Ī	Ī	Ī	Ī			Ī	1
4/4/2018	Middle 3'	3'	<16.0	< 0.050	<0.050	<0.050	<0.150	< 0.300	<10.0	<10.0	<10.0

Table 1 Confirmation Soil Sample Analytical Data Summary Apache Corporation, NEDU 218 Lea County, New Mexico 32° 30' 44.10 North 103° 08' 11.80 West

Page 1 of 1

Sample	Depth	Collection	Status	Benzene	BTEX	C6 - C12	C12 - C28	C28 - C35	TPH	Chloride
	(Feet)	Date		(mg/Kg	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
Remediation	Level:			10	50		1	•	100	600
BH-1	15	02/28/2019	In-Situ							678
	20	02/28/2019	In-Situ							848
	25	02/28/2019	In-Situ							1170
	30	02/28/2019	In-Situ							1120
	31	02/28/2019	In-Situ							1250
	40	7/31/2019	In-Situ							1670
	45	7/31/2019	In-Situ							1120
	50	7/31/2019	In-Situ							1810
	55	7/31/2019	In-Situ							1350
	60	7/31/2019	In-Situ			200 (11)				272

Notes: analysis performed by Permian Basin Environmental Lab, Midland, Texas by EPA 300 (chloride)

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

<: denotes concentration less than analytical method reporting limit



February 12, 2018

BRUCE BAKER APACHE CORP - HOBBS 2350 W. MARLAND BLVD.

RE: NEDU #218

HOBBS, NM 88240

Enclosed are the results of analyses for samples received by the laboratory on 02/07/18 17:04.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab accredited accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab accredited 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.

Celey 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 BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To:

(575) 393-2432

Received:

02/07/2018

Sampling Date:

02/07/2018

Reported:

02/12/2018

Sampling Type:

Soil

Project Name: Project Number: NEDU #218 NEDU #218 Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Project Location:

NONE GIVEN

Sample ID: VERTICAL 1 @ 11' (H800402-01)

BTEX 8021B	mg/l	(g	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/09/2018	ND	1.75	87.4	2.00	23.7	
Toluene*	<0.050	0.050	02/09/2018	ND	1.77	88.5	2.00	22.3	
Ethylbenzene*	<0.050	0.050	02/09/2018	ND	1.76	87.9	2.00	23.4	
Total Xylenes*	<0.150	0.150	02/09/2018	ND	5.25	87.5	6.00	22.5	
Total 8TEX	<0.300	0.300	02/09/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIC	113 %	72-148							
Chloride, SM4500CI-B	mg/l	«g	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	02/09/2018	ND	416	104	400	3.77	
TPH 8015M	mg/l	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	02/11/2018	ND	161	80.6	200	12.9	
DRO >C10-C28*	<10.0	10.0	02/11/2018	ND	183	91.3	200	18.5	
EXT DRO >C28-C36	<10.0	10.0	02/11/2018	ND					
Surrogate: 1-Chlorooctane	102 %	41-142							
Surrogate: 1-Chlorooctadecane	99.29	6 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

any other cause whatsoever shall be detend wahed unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, butiness incomposed, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, nagardless of whether such





Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

02/07/2018

Sampling Date:

02/07/2018

Reported:

RTFY 8031B

02/12/2018

Sampling Type:

Soil

Project Name: Project Number: NEDU #218 NEDU #218

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Project Location:

NONE GIVEN

Sample ID: VERTICAL 1 @ 13' (H800402-02)

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	02/09/2018	ND	1.75	87.4	2.00	23.7	
Toluene*	<0.050	0.050	02/09/2018	ND	1.77	88.5	2.00	22.3	
Ethylbenzene*	<0.050	0.050	02/09/2018	ND	1.76	87.9	2.00	23.4	
Total Xylenes*	<0.150	0.150	02/09/2018	ND	5.25	87.5	6.00	22.5	
Total BTEX	<0.300	0.300	02/09/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	114	% 72-148							- 2
Chloride, SM4500CI-B	mg,	/kg	Analyze	Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	02/09/2018	ND	416	104	400	3.77	
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	02/12/2018	ND	161	80.6	200	12.9	
DRO >C10-C28*	<10.0	10.0	02/12/2018	ND	183	91.3	200	18.5	
EXT DRO >C28-C36	<10.0	10.0	02/12/2018	ND					
Surrogate: 1-Chlorooctane	96.6	% 41-142							
Surrogate: 1-Chlorooctadecane	92.4	% 37.6-14.	7						

Cardinal Laboratories

*=Accredited Analyte

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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:

02/07/2018

Sampling Date:

02/07/2018

Reported:

02/12/2018

Sampling Type:

Soil

Project Name: Project Number: **NEDU #218** NEDU #218

Sampling Condition: Sample Received By: Cool & Intact Tamara Oldaker

Project Location:

NONE GIVEN

Sample ID: VERTICAL 1 @ 15' (H800402-03)

RTEY	8021B	
DIEV	OUTID	

	_	_
ma	ſ	kı

ivzed	

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	02/09/2018	ND	1.75	87.4	2.00	23.7	
Toluene*	<0.050	0.050	02/09/2018	ND	1.77	88.5	2.00	22.3	
Ethylbenzene*	<0.050	0.050	02/09/2018	ND	1.76	87.9	2.00	23.4	
Total Xylenes*	<0.150	0.150	02/09/2018	ND	5.25	87.5	6.00	22.5	
Total BTEX	<0.300	0.300	02/09/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	115 %	6 72-148							
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					<u> </u>
Analyte	Result	Reporting Limit	Analyzeri	Method Blank	BS	% Recovery	True Value OC	RPD	Oualifier

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2040	16.0	02/09/2018	ND	432	108	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	02/12/2018	ND	161	80.6	200	12.9	
DRO >C10-C28*	<10.0	10.0	02/12/2018	ND	183	91.3	200	18.5	
EXT DRO >C28-C36	<10.0	10.0	02/12/2018	ND					

Surrogate: 1-Chlorooctane

84.1%

41-142

Surrogate: 1-Chlorooctadecane

78.7%

37.6-147

Cardinal Laboratories

*=Accredited Analyte



Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

02/07/2018

Sampling Date:

02/07/2018

Reported:

02/12/2018

Sampling Type:

Soil

Project Name:

NEDU #218 NEDU #218 Sampling Condition:

Cool & Intact

Project Number: Project Location:

NONE GIVEN

Sample Received By:

Tamara Oldaker

Sample ID: VERTICAL 1 @ 17' (H800402-04)

Chiada	CM 4EOOCL B
chioriae,	SM4500CI-B

mg/kg

Analyzed By: AC

Analyte

Result Reporting Limit Analyzed

Method Blank

BS % Recovery True Value QC 400

Qualifier

Chloride

1840

16.0 02/09/2018 ND

432

108

RPD 0.00

Sample ID: VERTICAL 1 @ 19' (H800402-05)

Chloride,	SM4500CI-B
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	_		
m	М	1	KO

Analyzed By: AC

Analyte Chloride

Result 928 Reporting Limit Analyzed 16.0 02/09/2018

Method Blank ND

BS % Recovery

432

True Value QC

0.00

RPD Qualifier

Sample ID: VERTICAL 1 @ 21' (H800402-06)

Chloride, SM4500CI-B

Chloride

Chloride

Chloride

Analyzed By: AC

Analyte

Result 1960

Result

960

Result

576

Reporting Limit

16.0

16.0

Reporting Limit

16.0

Analyzed 02/09/2018 Method Blank ND

BS

% Recovery

108

True Value QC

400

RPD Qualifier

Chloride, SM4500CI-B

Analyzed By: AC

432

108

400

400

0.00

0.00

Sample ID: VERTICAL 1 @ 23' (H800402-07)

Analyte

mg/kg

Reporting Limit

Analyzed

02/09/2018

Method Blank

BS

432

BS

432

% Recovery

108

True Value QC RPD

Qualifier

Sample ID: VERTICAL 1 @ 25' (H800402-08)

Chloride, SM4500Cl-B

mg/kg

Analyte

Analyzed By: AC

Analyzed 02/09/2018 Method Blank ND

ND

% Recovery 108

True Value QC 400

RPD 0.00 Qualifier

Cardinal Laboratories

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All claims, including those for negligence and





Analytical Results For:

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

Fax To:

(575) 393-2432

Received: Reported: 02/07/2018

02/12/2018

Project Name: Project Number:

Project Location:

NEDU #218 **NEDU #218**

NONE GIVEN

Sampling Date:

Sampling Type: Soil

Sampling Condition: Sample Received By: Cool & Intact

02/07/2018

Tamara Oldaker

Sample ID: VERTICAL 1 @ 27' (H800402-09)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	02/09/2018	ND	432	108	400	0.00	

Cardinal Laboratories *=Accredited Analyte

any other clause whitstoever shall be deemed walved unless made in writing and received by Cardinal within thin'y (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is blasted upon any of the above stated measures or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celleg To Kreene



Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values. The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC QR-02 batch were accepted based on percent recoveries and completeness of QC data. QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS 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

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

CHECKED BY:

5.00

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

CARDINAL Laboratories

Company Name:	Apache Corporation	70	Š		96				3/11/10					l≥	ANALYSIS	Į,	L	XECOE!	S	ا_	ł		1	1	١	1
Project Manager:	13				ō.	P.O. #:	Ш	П			U	- 2						_	Ű		-					
Address:					S	Company	Mar.				-1												-			
city: Hobbs	State: MM	Zip:		88240	Attn:	2	1				D/5															
7. 7.	Fax #:				À	Address:	6				80							_			_					
"	WEON 9-18 Project Owner:	ă			City:	3		ĺ										-			_					
Project Name:	NE04218				St	State:			Zip:		sh	ed													SAC.	
Project Location:					3	Phone #:	#					nb	_	*				_							0.0	
Sampler Name:	Bruce Booker				77	Fax #					_	te	_								_				250.9	
FOR USE ONLY		IP.		MATRIX		PA	PRESERV	3	SAMPLING		_	Ex		3											7.7.	
Lab I.D.	Sample I.D.	(G)RAB OR (C)ON	CONTAINERS	GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	CI	TPH	BETER	-								0.1040				
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PLEASE NOTE: Usbilly and Demigrar. Carbriefs stobilly and client's exclusive remark for any datin analog whether besed in contead or bnt, shall be similar to the arroyal paid by the client for the studyess. All calms including those for registence and any other cause whatboever that be deemed watered unless made in widting and received by Cardrial within 30 days after completion of the applicable parties. It is no event shall Cardrad to label for incidental or consequental damages, including without limited on, business inhumptions, less of use, or best of profits incursed by client, its subsidication. Relinquished By: Bruce Bahar S:04 pm 2-7-18 Phone Result:
Fax Result:
REMARKS:

Relinquished By:

Date:

Received By:

Time:

Iramo □ Yes す ₽ 8 Larry. baker @ apacho corp. com Add'l Fax #: Add'l Phone #:

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February 28, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU #218

Enclosed are the results of analyses for samples received by the laboratory on 02/27/18 15:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred-certif.html.

Cardinal Laboratories is 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.

Celey 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 BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To:

(575) 393-2432

Received:

02/27/2018

Reported: Project Name: 02/28/2018 NEDU #218 NEDU #218

Project Number: Project Location:

NONE GIVEN

Sampling Date:

02/27/2018 Soil

Sampling Type:

Sampling Condition:

Sample Received By:

Cool & Intact
Tamara Oldaker

Sample ID: NORTH WALL 3 (H800576-01)

BTEX 8021B	mg,	/kg	Analyze	d By: MS			<u> </u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0,050	02/27/2018	ND	2.20	110	2.00	2.87	
Toluene*	<0.050	0.050	02/27/2018	ND	2.19	109	2.00	1.92	
Ethylbenzene*	<0.050	0.050	02/27/2018	ND	2.14	107	2.00	2.27	
Total Xylenes*	<0.150	0.150	02/27/2018	ND	6.56	109	6.00	2.95	
Total BTEX	<0.300	0.300	02/27/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIE	104	% 72-148							
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	02/28/2018	NĐ	448	112	400	3.64	
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	02/28/2018	ND	219	109	200	2.10	
DRO >C10-C28*	<10.0	10.0	02/28/2018	ND	206	103	200	1.61	
EXT DRO >C28-C36	<10.0	10.0	02/28/2018	ND					
Surrogate: 1-Chlorooctane	101	% 41-142					7.5		
Surrogate: 1-Chlorooctadecane	96.2	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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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: Reported: 02/27/2018 02/28/2018

Project Name: Project Number: Project Location: **NEDU #218** NEDU #218 NONE GIVEN Sampling Date:

02/27/2018

Sampling Type:

Soil Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

Sample ID: NORTH WALL 2 (H800576-02)

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	02/27/2018	ND	2.20	110	2.00	2.87	
Toluene*	<0.050	0.050	02/27/2018	ND	2.19	109	2.00	1.92	
Ethylbenzene*	<0.050	0.050	02/27/2018	ND	2.14	107	2.00	2.27	
Total Xylenes*	<0.150	0.150	02/27/2018	ND	6.56	109	6.00	2.95	
Total BTEX	<0.300	0.300	02/27/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	104	% 72-148							
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC				<u> </u>	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	02/28/2018	ND	448	112	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8\$	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2018	ND	219	109	200	2.10	
DRO >C10-C28*	<10.0	10.0	02/28/2018	ND	206	103	200	1.61	
EXT DRO >C28-C36	<10.0	10.0	02/28/2018	ND					
Surrogate: 1-Chlorooctane	94.5	% 41-142							
Surrogate: 1-Chlorooctadecane	87.1	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

any other cause whatsoever shall be deemed walved unless made in which and received by Cardinal within thiny (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by chern, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such

Celley D. Kenne



Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

02/27/2018 02/28/2018 Sampling Date: Sampling Type: 02/27/2018 Soil

Reported:

NEDU #218 NEDU #218

Sampling Condition:

Cool & Intact

Project Name: Project Number: Project Location:

NONE GIVEN

Sample Received By:

Tamara Oldaker

Sample ID: SOUTH WALL 3 (H800576-03)

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	02/27/2018	ND	2.20	110	2.00	2.87	
Toluene*	<0.050	0.050	02/27/2018	ND	2.19	109	2.00	1.92	
Ethylbenzene*	<0.050	0.050	02/27/2018	ND	2,14	107	2.00	2.27	
Total Xylenes*	<0.150	0.150	02/27/2018	ND	6.56	109	6.00	2.95	
Total BTEX	<0.300	0.300	02/27/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	106 9	6 72-148	}		18557				
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/28/2018	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8\$	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2018	ND	219	109	200	2.10	
DRO >C10-C28*	<10.0	10.0	02/28/2018	ND	206	103	200	1.61	
EXT DRO >C28-C36	<10.0	10.0	02/28/2018	ND					
Surrogate: 1-Chlorooctane	105 9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	96.8	% 37.6-14	7						

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Celey D. Kenne



Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

02/27/2018 02/28/2018

Reported: Project Name:

Project Number:

Project Location:

NEDU #218 NEDU #218 NEDU #218 NONE GIVEN Sampling Date:

02/27/2018

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Tamara Oldaker

Sample ID: EAST WALL (H800576-04)

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	02/27/2018	ND	2.20	110	2.00	2.87	
Toluene*	<0.050	0.050	02/27/2018	ND	2.19	109	2.00	1.92	
Ethylbenzene*	<0.050	0.050	02/27/2018	ND	2.14	107	2.00	2.27	
Total Xylenes*	<0.150	0.150	02/27/2018	ND	6.56	109	6.00	2.95	
Total BTEX	<0.300	0.300	02/27/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	105	% 72-148	1						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	02/28/2018	ND	448	112	400	3.64	
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	02/28/2018	ND	219	109	200	2.10	
DRO >C10-C28*	<10.0	10.0	02/28/2018	ND	206	103	200	1.61	
EXT DRO >C28-C36	<10.0	10.0	02/28/2018	ND					
Surrogate: 1-Chlorooctane	103	% 41-142	!						
Surrogate: 1-Chlorooctadecane	95.5	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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

Celeny D. Keine



Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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Celeg D. Kenne



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: 704Che CondorAtion		ANALYSIS REQUEST
Bruce	P.O. #:	
Address:	Company:	
City: Hobbs State: MM Zip: 88240	Attn:	
e#: 432-631-6982 F	Address:	
Project #: Project Owner:	City:	
Project Name: NEDU 218	State: Zip:	-(0
Project Location:	Phone #:	7
Sampler Name: Bruce BAKER	Fax#:	
	PRESERV. SAMPLING	ed
WATER	_	tend EX
OIL	TIME	
North WALL 3 61 /	_	
2 North W#11 2 611	2-27-18 12:10 pm	5
South Wall 3	2-27-18:17:20pm V	
4 East Wall GIL	~ 2-27-18 12-5cpm V	
The state of the s	where he contract or that shall be lighted to the amount and by the client for the	

PLEASE NOTE: Liability and Daringue, Cardinatic leading and course reasons framen years analyses, All chims including those for regigence and any other cause whatever shall be desented walved unless made in writing and newbord by Cardinal wittin 30 days after compident of the applicable samply-se. All chims including those for regigence and any other cause whatever walved unless made in writing and newbord by Cardinal wittin 30 days after compident of the applicable samply-se. All chims including those for regigence and any other shall cardinal by fair including willow the shall be cardinal by the shall cardinal by fair of the shall cardinal by cardinal to the authority of the shall cardinal by the shall cardinal by

Charles Barret	Date: Baceived By:	Phone Result: ☐ Yes ☐ No Add'I Phone *:	
Tomographic Cy.	2-27-18	Fax Result: ☐ Yes ☐ No Add'I Fax #:	
Bruce Baker	Time: 2000 MANDER MADELA	REMARKS:	
Relinquished By:	Date: Received By:	Contact Les 20, 12 10 10 10 Land, parke Le abachecoloir	larry, bake e apachec
	Time:	>	
Delivered By: (Circle One)	170 Sample Condition CHECKED BY:	Rush	*
Sampler - UPS - Bus - Other:	mental 4 CC Pres Pres To #71		

Received by OCD: 12/22/2020 11:81:04PAM



March 08, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU #218

Enclosed are the results of analyses for samples received by the laboratory on 03/07/18 15:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/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 D. Keena

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:

03/07/2018 03/08/2018 Sampling Date:

03/07/2018

Reported:

NEDU #218

Sampling Type: Sampling Condition: Soil Cool & Intact

Project Name: Project Number: Project Location:

NEDU #218 NONE GIVEN

Sample Received By:

Tamara Oldaker

Sample ID: NORTH WALL 1 @ 3' (H800676-01)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8 S	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/07/2018	ND	2.16	108	2.00	3.51	
Toluene*	<0.050	0.050	03/07/2018	0.050	2.15	108	2.00	2.84	
Ethylbenzene*	<0.050	0.050	03/07/2018	ND	2.09	105	2.00	2.74	
Total Xylenes*	<0.150	0.150	03/07/2018	ND	6.34	106	6.00	3.04	
Total BTEX	<0.300	0.300	03/07/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIE	91.9	% 72-148							
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	03/07/2018	ND	480	120	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	03/07/2018	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	03/07/2018	ND	195	97.4	200	4.55	
EXT DRO >C28-C36	<10.0	10.0	03/07/2018	ND					
Surrogate: 1-Chlorooctane	87.4	% 41-142							
Surrogate: 1-Chlorooctadecane	76.3	% 37.6-14	7						

Cardinal Laboratories *=Accredited Analyte

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Colog 2 . trains



Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

03/07/2018 03/08/2018 Sampling Date:

03/07/2018

Reported:

NEDU #218 NEDU #218 Sampling Type: Sampling Condition:

Cool & Intact

Soil

Project Name: Project Number: Project Location:

NONE GIVEN

Sample Received By:

Tamara Oldaker

Sample ID: NORTH WALL 4 @ 3' (H800676-02)

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	03/07/2018	ND	2.16	108	2.00	3.51	
Toluene*	<0.050	0.050	03/07/2018	0.050	2.15	108	2.00	2.84	
Ethylbenzene*	<0.050	0.050	03/07/2018	ND	2.09	105	2.00	2.74	
Total Xylenes*	<0.150	0.150	03/07/2018	ND	6.34	106	6.00	3.04	
Total BTEX	<0.300	0.300	03/07/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIE	92.4	% 72-148							
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	48.0	16.0	03/07/2018	ND	480	120	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
GRO C6-C10*	<10.0	10.0	03/07/2018	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	03/07/2018	ND	195	97.4	200	4.55	
EXT DRO >C28-C36	<10.0	10.0	03/07/2018	ND					
Surrogate: 1-Chlorooctane	81.1	% 41-142							
Surrogate: 1-Chlorooctadecane	69.7	% 37.6-14	7						

Cardinal Laboratories *=Accredited Analyte

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Cerez i trains



Analytical Results For:

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

Fax To:

(575) 393-2432

Received:

03/07/2018 03/08/2018 Sampling Date:

03/07/2018

Reported: Project Name: **NEDU #218 NEDU #218**

Sampling Type: Sampling Condition: Soil Cool & Intact

Project Number: Project Location:

NONE GIVEN

Sample Received By:

Tamara Oldaker

Sample ID: NORTH WALL 5 @ 3' (H800676-03)

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	03/07/2018	ND	2.16	108	2.00	3.51	
Toluene*	<0.050	0.050	03/07/2018	0.050	2.15	108	2.00	2.84	
Ethylbenzene*	<0.050	0.050	03/07/2018	ND	2.09	105	2.00	2.74	
Total Xylenes*	<0.150	0.150	03/07/2018	ND	6.34	106	6.00	3.04	
Total BTEX	<0.300	0.300	03/07/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	92.0	% 72-148	}						
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	03/07/2018	ND	480	120	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	03/07/2018	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	03/07/2018	ND	195	97.4	200	4.55	
EXT DRO >C28-C36	<10.0	10.0	03/07/2018	ND					
Surrogate: 1-Chlorooctane	86.7	% 41-142	?						
Surrogate: 1-Chlorooctadecane	70,0	% 37.6-14	7						

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*=Accredited Analyte

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Colony Z. trains



Analytical Results For:

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

Fax To:

(575) 393-2432

03/07/2018

Reported:

Project Name: Project Number: Project Location:

Received:

03/08/2018 NEDU #218 **NEDU #218** NONE GIVEN

Sampling Type: Sampling Condition: Sample Received By:

Sampling Date:

03/07/2018

Soil Cool & Intact

Tamara Oldaker

Sample ID: NORTH WALL 6 @ 5' (H800676-04)

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	03/08/2018	ND	2.16	108	2.00	3.51	
Toluene*	<0.050	0.050	03/08/2018	0.050	2.15	108	2.00	2.84	
Ethylbenzene*	<0.050	0.050	03/08/2018	ND	2.09	105	2.00	2.74	
Total Xylenes*	<0,150	0.150	03/08/2018	ND	6.34	106	6.00	3.04	
Total BTEX	<0.300	0.300	03/08/2018	ND					
Surrogate: 4-Bromofluorobenzene (PIL	92.0	% 72-148	3						
Chloride, SM4500CI-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/07/2018	ND	480	120	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	03/07/2018	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	03/07/2018	ND	195	97.4	200	4.55	
EXT DRO >C28-C36	<10.0	10.0	03/07/2018	ND					
Surrogate: 1-Chlorooctane	82.9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	69.0	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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Calley L. treen .

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-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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Cologie trains



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Project Manager: Sruce	e Baker	P.O. #:	
Address:		Company:	
City: Nabbs	State: NA ZIp: 88840	Attn:	
Phone #:	Fox #:	Address:	
Project #:	Project Owner:	City:	
Project Name: NEOU	218	State: Zip:	277
Project Location:		Phone #:	
į	Bruce BAXCT	75 80 84 44 71	
FOR IAB USE ONLY	MATRIX	PRESERV SAMPLING	
Lab I.D. Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL		CI - Extended BTEX
المام الم	<u>-</u>	`	X
Wort		V 50-7-18 2:657	
3 North &	_	7 3-7-8 : Yan	
Nort	K 2411 6@ 5' 6 1 V	3-7-18 2:20%	

sence. In the metal shall Cardinal by flate by not discrete by Rellinquished By:

0-/-10		Fax Result: D Yes D No Add Fax 4:
Bruce Barry Time: 3:1000	Town Alland Me	•
Relinquished By: Date:	Received By:	Larry. Baker le apache corp. com
Time:	and .	0. 1. 111
Delivered By: (Circle One) 5,02	윤	LUSM
Sampler - UPS - Bus - Other:	Trea Trea	



March 28, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU #218

Enclosed are the results of analyses for samples received by the laboratory on 03/22/18 16:02.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/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.

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

Received: 03/22/2018 Reported: 03/28/2018

Project Name: NEDU #218
Project Number: NEDU #218
Project Location: NONE GIVEN

Sampling Date: 03/22/2018

Sampling Type: Soil

Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: SOUTH P/L VERT. @ 9' (H800837-01)

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	03/23/2018	ND	1.68	84.1	2.00	6.19	
Toluene*	<0.050	0.050	03/23/2018	ND	1.92	96.2	2.00	2.63	
Ethylbenzene*	<0.050	0.050	03/23/2018	ND	2.01	100	2.00	1.39	
Total Xylenes*	<0.150	0.150	03/23/2018	ND	6.19	103	6.00	2.10	
Total BTEX	<0.300	0.300	03/23/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	102	% 72-148	}						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	03/26/2018	ND	432	108	400	3.77	
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	03/26/2018	ND	205	103	200	6.45	
DRO >C10-C28*	<10.0	10.0	03/26/2018	ND	221	111	200	8.20	
EXT DRO >C28-C36	<10.0	10.0	03/26/2018	ND					
Surrogate: 1-Chlorooctane	92.8	% 41-142	•						
Surrogate: 1-Chlorooctadecane	95.0	% 37.6-14	7						

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Cardinal Laboratories *=Accredited Analyte

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Celeg & Frence



Analytical Results For:

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

Received: 03/22/2018 Reported:

03/28/2018 NEDU #218

Project Name: Project Number: NEDU #218 Project Location: NONE GIVEN Sampling Date: 03/22/2018

Sampling Type: Soil

Sampling Condition: ** (See Notes) Sample Received By: Jodi Henson

Sample ID: SOUTH P/L VERT. @ 10' (H800837-02)

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	03/23/2018	ND	1.68	84.1	2.00	6.19	
Toluene*	<0.050	0.050	03/23/2018	ND	1.92	96.2	2.00	2.63	
Ethylbenzene*	<0.050	0.050	03/23/2018	ND	2.01	100	2.00	1.39	
Total Xylenes*	<0.150	0.150	03/23/2018	ND	6.19	103	6.00	2.10	
Total BTEX	<0.300	0.300	03/23/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.1	% 72-148	}						
Chloride, SM4500Cl-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	03/26/2018	ND	432	108	400	3.77	
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	03/26/2018	ND	205	103	200	6.45	
DRO >C10-C28*	<10.0	10.0	03/26/2018	ND	221	111	200	8.20	
EXT DRO >C28-C36	<10.0	10.0	03/26/2018	ND					
Surrogate: 1-Chlorooctane	95.9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	91.5	% 37.6-14	7						

Cardinal Laboratories *=Accredited Analyte

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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: 03/22/2018 Reported:

03/28/2018

Project Name: NEDU #218 Project Number: NEDU #218 Project Location: NONE GIVEN Sampling Date: 03/22/2018

Sampling Type: Soil

Sampling Condition: ** (See Notes) Sample Received By: Jodi Henson

Sample ID: SOUTH P/L VERT. @ 11' (H800837-03)

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	03/23/2018	ND	1.68	84.1	2.00	6.19	
Toluene*	<0.050	0.050	03/23/2018	ND	1.92	96.2	2.00	2.63	
Ethylbenzene*	<0.050	0.050	03/23/2018	ND	2.01	100	2.00	1.39	
Total Xylenes*	<0.150	0.150	03/23/2018	ND	6.19	103	6.00	2.10	
Total BTEX	<0.300	0.300	03/23/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	95.3	% 72-148	}						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	03/26/2018	ND	432	108	400	3.77	
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	03/26/2018	ND	205	103	200	6.45	
DRO >C10-C28*	<10.0	10.0	03/26/2018	ND	221	111	200	8.20	
EXT DRO >C28-C36	<10.0	10.0	03/26/2018	ND					
Surrogate: 1-Chlorooctane	98.8	% 41-142	•						
Surrogate: 1-Chlorooctadecane	96.2	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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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: 03/22/2018 Reported:

03/28/2018 Project Name: NEDU #218 Project Number: NEDU #218

Project Location:

NONE GIVEN

Sampling Date: 03/22/2018

Sampling Type: Soil

Sampling Condition: ** (See Notes) Sample Received By: Jodi Henson

Sample ID: SOUTH P/L VERT. @ 12' (H800837-04)

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	03/23/2018	ND	1.68	84.1	2.00	6.19	
Toluene*	<0.050	0.050	03/23/2018	ND	1.92	96.2	2.00	2.63	
Ethylbenzene*	<0.050	0.050	03/23/2018	ND	2.01	100	2.00	1.39	
Total Xylenes*	<0.150	0.150	03/23/2018	ND	6.19	103	6.00	2.10	
Total BTEX	<0.300	0.300	03/23/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.9	% 72-148	3						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	03/26/2018	ND	432	108	400	3.77	
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	03/26/2018	ND	205	103	200	6.45	
DRO >C10-C28*	<10.0	10.0	03/26/2018	ND	221	111	200	8.20	
EXT DRO >C28-C36	<10.0	10.0	03/26/2018	ND					
Surrogate: 1-Chlorooctane	94.1	% 41-142	?						
Surrogate: 1-Chlorooctadecane	92.1	% 37.6-14	7						

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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.

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. Keine

Relinquished By:

Bruce Baker

Time: 4:02 PG

Received By:

Delivered By: (Circle One)

Time: Date:

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

(0.0) 000					ANALYSIS REQUEST	
Company Name: Appene		Colones Control Systems of Colonial Systems of	THE REAL PROPERTY OF THE PROPE		- 1	
Project Manager: Bruce BAKEN		P.O. #:				
		Company:				
Hobbs State: NM	Zip: 88240	Attn:		3		
ē #:	9	Address:			2	
		City:				
Droinet Name.		State: Zip:		ł		9
Tolor Continue NEOU 2 8		Phone #:		PH		
River		Fax #:		7		
"	MATRIX	PRESERV. SAMPLING	LING			
FOR LAB USE CALL	RS		3	enoleo .x		22
Lab I.D. Sample I.D.	G)RAB OR CONTAINI GROUNDW WASTEWAT GOIL GLUDGE	OTHER: ACID/BASE CE / COOL OTHER:	TIME	Ext. Bte		
South P/L Ventions		3-22.	3-22-19 3:85 61	, ,		
	6 1	3-21-	3-22-14 4:10 051	4		
	6 -	3-22-	3-22-18 4:16 CST /	N N		
	6	3-22-	3-72-15 4:2055	× ×		
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the PLEASE NOTE:	y claim arising whether based in cont	and client's exclusive remedy for any claim arising whether based in contract or tort, shall be firrited to the amount paid by the client for the	nt paid by the client for the /s after completion of the appl	licable		

analyses. All claims including those for negligence and any other cause windscencers including without imitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries service. In no event shall Cardinal be liable for incidental or consequental damages, including without imitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries service. In no event shall Cardinal be liable for incidental or consequently and are also consequently as a consequently and are also consequently an affiliates or successors arising out of or related to the performed inquished By: Date: 3-22-18 Received By: dess of whether such claim is based upon any of the above stated reasons or otherwise.

Phone Result:
Fax Result:
REMARKS:

email remarks ☐ Yes ☐ No taken a brought directly Add'l Phone #: Add'l Fax #:

Sampler UPS - Bus - Other: 32.20 + Cardinal cannot account workal channes Dloace fav written change Top Top Both - 050 Sample Condition
Cool Intact
Yes Yes
No No



April 02, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU #218

Enclosed are the results of analyses for samples received by the laboratory on 03/29/18 16:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/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.

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

Received: 03/29/2018 Reported: 04/02/2018 Project Name: NEDU #218 Project Number:

Project Location:

NEDU #218 NONE GIVEN Sampling Date: 03/29/2018

Sampling Type: Soil

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

Sample ID: WEST WALL NORTH CENTER @ 3' (H800890-01)

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	04/02/2018	ND	2.05	103	2.00	1.03	
Toluene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	0.715	
Ethylbenzene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/02/2018	ND	6.10	102	6.00	1.71	
Total BTEX	<0.300	0.300	04/02/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	108 9	% 72-148	}						
Chloride, SM4500Cl-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	04/02/2018	ND	448	112	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	04/02/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/02/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/02/2018	ND					
Surrogate: 1-Chlorooctane	95.1	% 41-142	!						
Surrogate: 1-Chlorooctadecane	91.5	% 37.6-14	7						

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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: 03/29/2018 Reported: 04/02/2018 Project Name: NEDU #218 Project Number:

Project Location:

NEDU #218 NONE GIVEN Sampling Date: 03/29/2018

Sampling Type: Soil

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

Sample ID: SOUTH WALL WEST CENTER @ 3' (H800890-02)

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	04/02/2018	ND	2.05	103	2.00	1.03	
Toluene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	0.715	
Ethylbenzene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/02/2018	ND	6.10	102	6.00	1.71	
Total BTEX	<0.300	0.300	04/02/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	105	% 72-148	}						
Chloride, SM4500Cl-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	04/02/2018	ND	448	112	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	04/02/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/02/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/02/2018	ND					
Surrogate: 1-Chlorooctane	99.0	% 41-142	,						
Surrogate: 1-Chlorooctadecane	96.4	% 37.6-14	7						

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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: 03/29/2018 Reported:

04/02/2018 NEDU #218

Project Name: Project Number: NEDU #218 Project Location: NONE GIVEN Sampling Date: 03/29/2018

Sampling Type: Soil

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

Sample ID: WEST WALL MIDDLE @ 3' (H800890-03)

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	04/02/2018	ND	2.05	103	2.00	1.03	
Toluene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	0.715	
Ethylbenzene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/02/2018	ND	6.10	102	6.00	1.71	
Total BTEX	<0.300	0.300	04/02/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	103	% 72-148	}						
Chloride, SM4500Cl-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	04/02/2018	ND	448	112	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	04/02/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/02/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/02/2018	ND					
Surrogate: 1-Chlorooctane	108	% 41-142	?						
Surrogate: 1-Chlorooctadecane	105	% 37.6-14	7						

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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: 03/29/2018 Reported: 04/02/2018

Reported: 04/02/2018
Project Name: NEDU #218
Project Number: NEDU #218

Project Location:

NONE GIVEN

Sampling Date: 03/29/2018

Sampling Type: Soil

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

Sample ID: WEST WALL SOUTH @ CENTER@ 3' (H800890-04)

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	04/02/2018	ND	2.05	103	2.00	1.03	
Toluene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	0.715	
Ethylbenzene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/02/2018	ND	6.10	102	6.00	1.71	
Total BTEX	<0.300	0.300	04/02/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	108	% 72-148	}						
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	04/02/2018	ND	448	112	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	04/02/2018	ND	236	118	200	4.81	
DRO >C10-C28*	<10.0	10.0	04/02/2018	ND	211	105	200	5.19	
EXT DRO >C28-C36	<10.0	10.0	04/02/2018	ND					
Surrogate: 1-Chlorooctane	93.2	% 41-142							
Surrogate: 1-Chlorooctadecane	89.0	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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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

Cardinal Laboratories *=Accredited Analyte

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Bruce

Baker

Relinquished By

Relinquished By:

Date: Time:

Received By:

Phone Result: Fax Result: REMARKS:

Yes

O O No

Add'l Phone #: Add'l Fax #:

Rush

email Results

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

Sample Condition
Cool Intact
Pes Pes Pes
No No

† Cardinal cannot accept verbal changes. Please fax written changes to (576) 393-2326 5 o



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company:	
Address:	
Phone #:	
7	
PRESERV. SAMPLING	
- tenoleo	
DATE TIME	
3-29-18 1:15	
3-25-18 1:37pm / /, /	
3-29-18 2:15pm	
3-29-18 2:38pm V V	
TO BE IN ICE / COOL ISSEE ##	Zip: DATE TIME 3-29-18 1:37pm 3-29-18 2:15pm 3-29-18 2:38pm 3-29-18 2:38pm 3-29-18 2:38pm



April 04, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU #218

Enclosed are the results of analyses for samples received by the laboratory on 04/03/18 14:04.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/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.

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

 Received:
 04/03/2018

 Reported:
 04/04/2018

 Project Name:
 NEDU #218

Project Number: NEDU #218
Project Location: NONE GIVEN

Sampling Date: 04/03/2018

Sampling Type: Soil

Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: SOUTH EXCAVATION EAST WALL CENTER @ 3' (H800919-01)

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	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	<0.300	0.300	04/03/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 72-148	?						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	04/04/2018	ND	400	100	400	7.69	
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	04/03/2018	ND	200	99.8	200	5.16	
DRO >C10-C28*	<10.0	10.0	04/03/2018	ND	228	114	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	04/03/2018	ND					
Surrogate: 1-Chlorooctane	102	% 41-142	,						
Surrogate: 1-Chlorooctadecane	97.3	% 37.6-14	7						

Cardinal Laboratories *=Accredited Analyte

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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: 04/03/2018

Reported: 04/04/2018
Project Name: NEDU #218
Project Number: NEDU #218

Project Location: NONE GIVEN

Sampling Date: 04/03/2018

Sampling Type: Soil

Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: SOUTH EXCAVATION NORTH WALL @ 3' ABOVE LINER (H800

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	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	<0.300	0.300	04/03/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	102	% 72-148	}						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1780	16.0	04/04/2018	ND	400	100	400	7.69	
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	04/03/2018	ND	200	99.8	200	5.16	
DRO >C10-C28*	<10.0	10.0	04/03/2018	ND	228	114	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	04/03/2018	ND					
Surrogate: 1-Chlorooctane	105	% 41-142	,						
Surrogate: 1-Chlorooctadecane	102	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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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: 04/03/2018

Reported: 04/04/2018
Project Name: NEDU #218
Project Number: NEDU #218

Project Location: NONE GIVEN

Sampling Date: 04/03/2018

Sampling Type: Soil

Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: SOUTH EXCAVATION NORTH WALL WEST @ 3' ABOVE LINER

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	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	<0.300	0.300	04/03/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 72-148	}						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	04/04/2018	ND	432	108	400	3.64	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	04/03/2018	ND	200	99.8	200	5.16	
DRO >C10-C28*	<10.0	10.0	04/03/2018	ND	228	114	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	04/03/2018	ND					
Surrogate: 1-Chlorooctane	102	% 41-142	?						
Surrogate: 1-Chlorooctadecane	100	% 37.6-14	7						

Cardinal Laboratories *=Accredited Analyte

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Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keine

Relinquished By:

bruce baker

Time 2:04 pm

Phone Result: Fax Result: REMARKS:

Email

Results

Date: Time:

Received By

Sampler)-UPS - Bus - Other: 22.16 Delivered By: (Circle One) # 75

Sample Condition
Cool Intact
Yes Pyes
No No

to lab.

Samples taken a brought directly

† Cardinal cannot accept verbal changes. Please fax written changes to (5/15) 393-2926 SE



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

. ,	TORONO.											ž	BILL					ANALYSIS REQUEST
Project Manager:	*							=	P.O. #:	#							-	
Address:								_	Company:	npa	ny:					L		
city: Hobbs	bs State: NM	zip: 88240		88	32	0		_	Attn:	-						5		
Phone #:	Fax #:							_	Address:	res	S					4		
Project #:	Project Owner:	.:						_	City:							1		
Project Name:	NEON 218							"	State:	e:			Zip:		1			
Project Location:	1:								Phone #:	ne	#					1		
Sampler Name:	88							-	Fax #	#								
FOR LAB USE ONLY				П		MATRIX	R	١	_	PRESERV.	SEF	?	SAMPLING	G		4		
			RS	TER												TPI		
Lab I.D.	Sample I.D.	(G)RAB OR (C	# CONTAINE	GROUNDWA"	WASTEWATE	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / ÇOOL	OTHER:	DATE	TIME	CI-	Ext.	Btex	
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	Wall @ 3 Above liver	<u>බ</u>	1			<							4-3-18 1	1:34 pm	^	^		
S	South Exemuation North																	
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	Limer	ତ	<			-	_	-		-			4-3-18 1:	maap:1	^	<_	_	
PLEASE NOTE: Liability and analyses. All claims including service. In no event shall Car	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries.	ny claim leemed without	arisir waive limita	ng whe	ther by ss may usines	sed in de in w	ruption	act or and re	tort, s ceive	shall b	e limit Cardin loss o	ted to al wit	the amount paid by hin 30 days after co	y the client for the ompletion of the a nt, its subsidiaries	applicable		-	
affiliates or successors arising Relinquished By:	affliates or successors arising out of or related to the performance of services hereunder by C Relinquished By: Date:	Rec	regard :eiv	Received By:	By:	her su	ch cla	IS I	ased	noqu	any o	f the	es hereunder by Cardinal, regardless of whether such daim is based upon any of the above stated reasons or otherwise p: Received By: Phone Res	Phone Result:	7	□ Yes	ON O	Add'l Phone #:
	81-5-18		,	,	-	•		3				>		Fax Result:	Н	□ Yes		



April 05, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU #218

Enclosed are the results of analyses for samples received by the laboratory on 04/04/18 15:16.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/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.

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

 Received:
 04/04/2018

 Reported:
 04/05/2018

 Project Name:
 NEDU #218

 Project Number:
 NEDU #218

Project Location: NONE GIVEN

Sampling Date: 04/04/2018

Sampling Type: Soil

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

Sample ID: SOUTH EXCAVATION SOUTH WALL EAST @ 3' (H800930-01)

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	04/04/2018	ND	1.96	98.2	2.00	1.74	
Toluene*	<0.050	0.050	04/04/2018	ND	2.03	101	2.00	1.82	
Ethylbenzene*	<0.050	0.050	04/04/2018	ND	2.05	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	04/04/2018	ND	5.98	99.7	6.00	1.14	
Total BTEX	<0.300	0.300	04/04/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 9	% 72-148							
Chloride, SM4500Cl-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	04/05/2018	ND	432	108	400	3.64	
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	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	102	% 41-142							
Surrogate: 1-Chlorooctadecane	82.3	% 37.6-14	7						

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keine



Analytical Results For:

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

Fax To: (575) 393-2432

Received: 04/04/2018

Reported: Project Name: NEDU #218 Project Number: NEDU #218

Project Location:

04/05/2018

NONE GIVEN

Sampling Date: 04/04/2018

Sampling Type: Soil

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

Sample ID: SOUTH EXCAVATION SOUTH WALL MIDDLE @ 3' (H800930-(

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	04/04/2018	ND	1.96	98.2	2.00	1.74	
Toluene*	<0.050	0.050	04/04/2018	ND	2.03	101	2.00	1.82	
Ethylbenzene*	<0.050	0.050	04/04/2018	ND	2.05	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	04/04/2018	ND	5.98	99.7	6.00	1.14	
Total BTEX	<0.300	0.300	04/04/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	107 9	% 72-148	}						
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	04/05/2018	ND	432	108	400	3.64	
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	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	94.3	% 41-142	!						
Surrogate: 1-Chlorooctadecane	71.8	% 37.6-14	7						

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Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

Cardinal Laboratories *=Accredited Analyte

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

		ľ										۱		l		
Company Name:	Apache			8//	BILLTO					ANALYSIS		REQUEST				
Project Manager:	Bruse BAKES			P.O. #:					10	30						
Address:				Company:												
city: Hobbs	State: NM	Zip:	n 88240	Attn:				4								
Phone #:	Fax#:			Address:				us								
Project #:	Project Owner:			City:			0	/C			es es					
Project Name:	NEOU 218			State:	Zip:		_	<i>ا</i> ر			á	8		2		
Project Location:				Phone #:		12	\	1						-	=	W1-
Sampler Name:	Bruce Baker		la:	Fax #:			048	_								
FOR LAB USE ONLY	5		MATRIX	PRESERV.	SAMPLING	G		14								
Lab I.D. #8009%	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL OTHER:	DATE	TIME	c1-	Ext The Blex	Btex			9				
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PLEASE NOTE: Liability and	PLEASE NOTE: Liability and Damanes. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the	any clai	im arising whether based in contract	t or tort, shall be limited	to the amount paid t	w the client for th		-	-				_			

Relinqu

Time: 3:16 m Date: Received I Time: Circle One) Bus - Other: 546/5756	Relinquished By: Date:, 光パ Recgiv	red By: Phone Result: [
Time: 3:16 M M M REMARKS: Date: Received By: Empire: Circle One) Sample Condition CHECKEDBY: Cool Intact Continues Chipcked By: Cool Intact Chipcked By:		Fax Result: Yes No Add'I	
Circle One) Bus - Other: 5,46,566 Date: Repeived By: Cool intact (Initials)	Peruce Parker	3:16 on MM JUNEY CREMARKS:	
Sample Condition Cool Intact C	Relinquished By:	Received By:	
Sample Condition Cool Intact Cool Intact Cool Intact Cool Intact Cool Intact Cool Intact Cool Interest Cool Interest Cool Intact Cool Interest		Time:	
1	Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5	47.5	100

+ Cardinal cannot account verhal changes Please fav written Abande (DEMEDANT)

1.880



April 05, 2018

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NEDU #218

Enclosed are the results of analyses for samples received by the laboratory on 04/04/18 15:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/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.

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

 Received:
 04/04/2018

 Reported:
 04/05/2018

 Project Name:
 NEDU #218

Project Number: NEDU #218
Project Location: NONE GIVEN

Sampling Date: 04/04/2018

Sampling Type: Soil

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

Sample ID: WEST VERTICAL @ 7' (H800931-01)

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	04/04/2018	ND	1.96	98.2	2.00	1.74	
Toluene*	<0.050	0.050	04/04/2018	ND	2.03	101	2.00	1.82	
Ethylbenzene*	<0.050	0.050	04/04/2018	ND	2.05	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	04/04/2018	ND	5.98	99.7	6.00	1.14	
Total BTEX	<0.300	0.300	04/04/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	107	% 72-148	}						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	04/05/2018	ND	432	108	400	3.64	
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	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	107	% 41-142)						
Surrogate: 1-Chlorooctadecane	90.0	% 37.6-14	7						

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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: 04/04/2018 Reported: 04/05/2018

Project Name: NEDU #218
Project Number: NEDU #218
Project Location: NONE GIVEN

Sampling Date: 04/04/2018

Sampling Type: Soil

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

Sample ID: WEST VERTICAL @ 8' (H800931-02)

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	04/04/2018	ND	1.96	98.2	2.00	1.74	
Toluene*	<0.050	0.050	04/04/2018	ND	2.03	101	2.00	1.82	
Ethylbenzene*	<0.050	0.050	04/04/2018	ND	2.05	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	04/04/2018	ND	5.98	99.7	6.00	1.14	
Total BTEX	<0.300	0.300	04/04/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	109	% 72-148							
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1570	16.0	04/05/2018	ND	432	108	400	3.64	
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	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	103	% 41-142							
Surrogate: 1-Chlorooctadecane	81.7	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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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: 04/04/2018 Reported: 04/05/2018

Project Name: NEDU #218
Project Number: NEDU #218
Project Location: NONE GIVEN

Sampling Date: 04/04/2018

Sampling Type: Soil

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

Sample ID: WEST VERTICAL @ 9' (H800931-03)

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	04/04/2018	ND	1.96	98.2	2.00	1.74	
Toluene*	<0.050	0.050	04/04/2018	ND	2.03	101	2.00	1.82	
Ethylbenzene*	<0.050	0.050	04/04/2018	ND	2.05	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	04/04/2018	ND	5.98	99.7	6.00	1.14	
Total BTEX	<0.300	0.300	04/04/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 72-148	}						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1490	16.0	04/05/2018	ND	432	108	400	3.64	
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	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	101	% 41-142	?						
Surrogate: 1-Chlorooctadecane	79.5	% 37.6-14	7						

Surrogate: 1-Chlorooctadecane /9.5 % 3/.6-14/

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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: 04/04/2018
Reported: 04/05/2018

Project Name: NEDU #218
Project Number: NEDU #218
Project Location: NONE GIVEN

Sampling Date: 04/04/2018

Sampling Type: Soil

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

Sample ID: WEST VERTICAL @ 10' (H800931-04)

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	04/04/2018	ND	1.96	98.2	2.00	1.74	
Toluene*	<0.050	0.050	04/04/2018	ND	2.03	101	2.00	1.82	
Ethylbenzene*	<0.050	0.050	04/04/2018	ND	2.05	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	04/04/2018	ND	5.98	99.7	6.00	1.14	
Total BTEX	<0.300	0.300	04/04/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	107	% 72-148							
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	04/05/2018	ND	432	108	400	3.64	
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	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	103	% 41-142	ı						
Surrogate: 1-Chlorooctadecane	83.1	% 37.6-14	7						

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Celeg D. Freene

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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: 04/04/2018

Reported: 04/05/2018
Project Name: NEDU #218
Project Number: NEDU #218

Project Location: NONE GIVEN

Sampling Date: 04/04/2018

Sampling Type: Soil

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

Sample ID: WEST VERTICAL @ 11' (H800931-05)

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	04/04/2018	ND	1.96	98.2	2.00	1.74	
Toluene*	<0.050	0.050	04/04/2018	ND	2.03	101	2.00	1.82	
Ethylbenzene*	<0.050	0.050	04/04/2018	ND	2.05	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	04/04/2018	ND	5.98	99.7	6.00	1.14	
Total BTEX	<0.300	0.300	04/04/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	108 9	% 72-148							
Chloride, SM4500CI-B	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	04/05/2018	ND	432	108	400	3.64	
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	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	100 9	% 41-142							
Surrogate: 1-Chlorooctadecane	81.2	% 37.6-14	7						

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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: 04/04/2018 Reported:

04/05/2018 Project Name: NEDU #218 Project Number: NEDU #218

Project Location: NONE GIVEN Sampling Date: 04/04/2018

Sampling Type: Soil

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

Sample ID: WEST VERTICAL @ 12' (H800931-06)

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	04/04/2018	ND	1.96	98.2	2.00	1.74	
Toluene*	<0.050	0.050	04/04/2018	ND	2.03	101	2.00	1.82	
Ethylbenzene*	<0.050	0.050	04/04/2018	ND	2.05	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	04/04/2018	ND	5.98	99.7	6.00	1.14	
Total BTEX	<0.300	0.300	04/04/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	107 9	% 72-148	7						
Chloride, SM4500Cl-B	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	04/05/2018	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	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	99.7	% 41-142							

Surrogate: 1-Chlorooctadecane 78.6 % 37.6-147

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Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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

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Celey D. Keine

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Apache			3/1	0.1.1/8				A	ANALYSIS	SIS RE	REQUEST	ST			
Project Manager:	5		8	P.O. #:		Н	ᅦ			\dashv	\dashv					
Address:	٠			Company:	550		/.							9		
city: Hobbs	State: NM	Zip:	88240	Attn:			15	.07								
Phone #:	Fax #:			Address:			PI	<u></u>			3					
Project #:	Project Owner:			City:			> /								Œ	
Project Name:	NEOU 218			State: Z	Zip:	,	/	_								8
Project Location:			Si Si	Phone #:		-	_	/	-							
Sampler Name:	Bruce BAKer			Fax #:	158		ļ	N							6	
FOR LAB USE ONLY			MATRIX	PRESERV.	SAMPLING	Ш	01	/ /								
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL OTHER:	DATE TIME	CI-		Ext. The Blex		6				₹ #		38
	West Vertical @ 71	_	-		4-4-18 2:00pm	, (?								
2	west vertical@81	ଦ		4.	4-4-18 2:02pm	NA.										
B	West Vertical@91	છ	-	1/	44-18 2:06pm	هم										
4	West Vertical@10'	C		7	4-4-18 2:09 pm	<u> </u>										
ん	West Vertical @11'	ତ	-	2/ 4	4-4-18 2:13 pm	3										
6	West Vertical @121	_	•	7	4-4-18 2:15pm	2	-	4								
		3							5		25					
									v							
PLEASE NOTE: Liability and	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or but, shall be finited to the amount paid by the client for the	nv cłaim a	arising whether based in contract	or tort, shall be limited to 1	the amount paid by the clier	nt for the	ŀ	l				Ì				

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

Relinquished By: Relinquished By: Sampler - UPS - Bus - Other: 5,40/5,350 Delivered By: (Circle One) Bruce Barler Time: 3: 26 jam Date: 4-18 Time: Date: Received By: Received By Sample Condition
Cool Intact
DYes DYes
No No Phone Result: Fax Result: REMARKS: Enail Repolts □ Yes □ □ 8 8 Add'l Phone #: Add'l Fax #:

+ Cardinal cannot account workal channes Diagos fav writing high gracting (575) 203-2726 05%



PERMIAN BASIN ENVIRONMENTAL LAB, LP 1400 Rankin Hwy Midland, TX 79701



Analytical Report

Prepared for:

Mark Larson
Larson & Associates, Inc.
P.O. Box 50685
Midland, TX 79710

Project: Apache NEDU 218
Project Number: 19-0112-02
Location:

Lab Order Number: 9C01006



NELAP/TCEQ # T104704516-18-9

Report Date: 03/11/19

Fax: (432) 687-0456

Larson & Associates, Inc. Project: Apache NEDU 218

P.O. Box 50685 Project Number: 19-0112-02 Midland TX, 79710 Project Manager: Mark Larson

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 (15')	9C01006-01	Soil	02/28/19 10:20	03-01-2019 09:08
BH-1 (20')	9C01006-02	Soil	02/28/19 10:23	03-01-2019 09:08
BH-1 (25')	9C01006-03	Soil	02/28/19 10:30	03-01-2019 09:08
BH-1 (30')	9C01006-04	Soil	02/28/19 10:32	03-01-2019 09:08
BH-1 (35')	9C01006-05	Soil	02/28/19 10:35	03-01-2019 09:08

Larson & Associates, Inc. Project: Apache NEDU 218

P.O. Box 50685 Project Number: 19-0112-02 Midland TX, 79710 Project Manager: Mark Larson

Fax: (432) 687-0456

BH-1 (15') 9C01006-01 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	678	5.75	mg/kg dry	5	P9C0711	03/07/19	03/08/19	EPA 300.0
% Moisture	13.0	0.1	%	1	P9C0514	03/05/19	03/05/19	ASTM D2216

Larson & Associates, Inc. Project: Apache NEDU 218

P.O. Box 50685 Project Number: 19-0112-02 Midland TX, 79710 Project Manager: Mark Larson

Fax: (432) 687-0456

BH-1 (20') 9C01006-02 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Chloride	848	5.32 mg/kg dry	5	P9C0711	03/07/19	03/08/19	EPA 300.0
% Moisture	6.0	0.1 %	1	P9C0514	03/05/19	03/05/19	ASTM D2216

Larson & Associates, Inc. Project: Apache NEDU 218

P.O. Box 50685 Project Number: 19-0112-02 Midland TX, 79710 Project Manager: Mark Larson

Fax: (432) 687-0456

BH-1 (25') 9C01006-03 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	1170	5.32 mg/kg dry	5	P9C0711	03/07/19	03/08/19	EPA 300.0
% Moisture	6.0	0.1 %	1	P9C0514	03/05/19	03/05/19	ASTM D2216

Larson & Associates, Inc. Project: Apache NEDU 218

P.O. Box 50685 Project Number: 19-0112-02 Midland TX, 79710 Project Manager: Mark Larson

Fax: (432) 687-0456

BH-1 (30') 9C01006-04 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	1120	5.26 mg/kg dry	5	P9C0711	03/07/19	03/08/19	EPA 300.0
% Moisture	5.0	0.1 %	1	P9C0514	03/05/19	03/05/19	ASTM D2216

Larson & Associates, Inc. Project: Apache NEDU 218

P.O. Box 50685 Project Number: 19-0112-02 Midland TX, 79710 Project Manager: Mark Larson

Fax: (432) 687-0456

BH-1 (35') 9C01006-05 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	1250	5.32 mg/kg dry	5	P9C0711	03/07/19	03/08/19	EPA 300.0
% Moisture	6.0	0.1 %	1	P9C0514	03/05/19	03/05/19	ASTM D2216

Project: Apache NEDU 218

Fax: (432) 687-0456

P.O. Box 50685 Midland TX, 79710 Project Number: 19-0112-02 Project Manager: Mark Larson

General Chemistry Parameters by EPA / Standard Methods - Quality Control Permian Basin Environmental Lab, L.P.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9C0514 - *** DEFAULT PREP ***										
Blank (P9C0514-BLK1)				Prepared & Analyzed: 03/05/19						
% Moisture	ND	0.1	%							
Duplicate (P9C0514-DUP1)	Sour	ce: 9C01003	-25	Prepared &	Analyzed:	03/05/19				
% Moisture	16.0	0.1	%		16.0			0.00	20	
Duplicate (P9C0514-DUP2)	Sour	ce: 9C01007	-02	Prepared &	Analyzed:	03/05/19				
% Moisture	10.0	0.1	%		8.0			22.2	20	
Batch P9C0711 - *** DEFAULT PREP ***										
Blank (P9C0711-BLK1)				Prepared: (03/07/19 A	nalyzed: 03	/08/19			
Chloride	ND	1.00	mg/kg wet							
LCS (P9C0711-BS1)				Prepared: (03/07/19 A	nalyzed: 03	/08/19			
Chloride	412	1.00	mg/kg wet	400		103	80-120			
LCS Dup (P9C0711-BSD1)				Prepared: (03/07/19 A	nalyzed: 03	/08/19			
Chloride	403	1.00	mg/kg wet	400		101	80-120	2.10	20	
Duplicate (P9C0711-DUP1)	Sour	ce: 9C01005	-05	Prepared: (03/07/19 A	nalyzed: 03	/08/19			
Chloride	352	1.03	mg/kg dry		364			3.34	20	
Duplicate (P9C0711-DUP2)	Sour	ce: 9C01011	-03	Prepared: (03/07/19 A	nalyzed: 03	/09/19			
Chloride	9450	57.5	mg/kg dry		9500			0.613	20	
Matrix Spike (P9C0711-MS1)	Sour	ce: 9C01005	-05	Prepared: (03/07/19 A	nalyzed: 03	/08/19			
Chloride	940	1.03	mg/kg dry	515	364	112	80-120			

Larson & Associates, Inc.

Project: Apache NEDU 218

P.O. Box 50685

Project Number: 19-0112-02

Midland TX, 79710 Project Manager: Mark Larson

Notes and Definitions

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

	Dien	Davier (
Report Approved By:			Date:	3/11/2019

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

PERMIAN BASIN ENVIRONMENTAL LAB, LP 1400 Rankin Hwy Midland, TX 79701



Analytical Report

Prepared for:

Mark Larson
Larson & Associates, Inc.
P.O. Box 50685
Midland, TX 79710

Project: NEDU 218 Road Boring
Project Number: 19-0112-02
Location:

Lab Order Number: 9G31004



NELAP/TCEQ # T104704516-18-9

Report Date: 08/08/19

Project: NEDU 218 Road Boring

P.O. Box 50685 Project Number: 19-0112-02 Midland TX, 79710

Fax: (432) 687-0456

Project Manager: Mark Larson

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 (40')	9G31004-01	Soil	07/31/19 10:15	07-31-2019 16:31
BH-1 (45')	9G31004-02	Soil	07/31/19 10:23	07-31-2019 16:31
BH-1 (50')	9G31004-03	Soil	07/31/19 10:39	07-31-2019 16:31
BH-1 (55')	9G31004-04	Soil	07/31/19 10:45	07-31-2019 16:31
BH-1 (60')	9G31004-05	Soil	07/31/19 10:48	07-31-2019 16:31

Project: NEDU 218 Road Boring

P.O. Box 50685 Midland TX, 79710 Project Number: 19-0112-02

Project Manager: Mark Larson

Fax: (432) 687-0456

BH-1 (40') 9G31004-01 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	1670	11.1	mg/kg dry	10	P9H0605	08/06/19	08/06/19	EPA 300.0
% Moisture	10.0	0.1	%	1	P9H0501	08/05/19	08/05/19	ASTM D2216

Project: NEDU 218 Road Boring

P.O. Box 50685 Midland TX, 79710 Project Number: 19-0112-02 Project Manager: Mark Larson Fax: (432) 687-0456

BH-1 (45') 9G31004-02 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	1120	5.21 mg/kg dry	5	P9H0605	08/06/19	08/06/19	EPA 300.0
% Moisture	4.0	0.1 %	1	P9H0501	08/05/19	08/05/19	ASTM D2216

Project: NEDU 218 Road Boring

P.O. Box 50685

Project Number: 19-0112-02

Fax: (432) 687-0456

Midland TX, 79710

Project Manager: Mark Larson

BH-1 (50') 9G31004-03 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	1810	5.49 mg/kg dry	5	P9H0605	08/06/19	08/07/19	EPA 300.0
% Moisture	9.0	0.1 %	1	P9H0501	08/05/19	08/05/19	ASTM D2216

Larson & Associates, Inc.

Project: NEDU 218 Road Boring

P.O. Box 50685 Midland TX, 79710 Project Number: 19-0112-02

Project Manager: Mark Larson

BH-1 (55') 9G31004-04 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	1350	5.56 mg/kg dry	5	P9H0605	08/06/19	08/07/19	EPA 300.0
% Moisture	10.0	0.1 %	1	P9H0501	08/05/19	08/05/19	ASTM D2216

Project: NEDU 218 Road Boring

P.O. Box 50685

Project Number: 19-0112-02

Fax: (432) 687-0456

Midland TX, 79710

Project Manager: Mark Larson

BH-1 (60') 9G31004-05 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Permian Basin Environmental Lab, L.P.

Chloride	272	1.10 mg/kg dry	1	P9H0605	08/06/19	08/07/19	EPA 300.0
% Moisture	9.0	0.1 %	1	P9H0501	08/05/19	08/05/19	ASTM D2216

Project: NEDU 218 Road Boring

Fax: (432) 687-0456

P.O. Box 50685 Midland TX, 79710 Project Number: 19-0112-02 Project Manager: Mark Larson

General Chemistry Parameters by EPA / Standard Methods - Quality Control Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9H0501 - *** DEFAULT PREP ***						, , , , , , , , , , , , , , , , , , , ,				
Blank (P9H0501-BLK1)				Prepared &	t Analyzed	. 08/05/19				
% Moisture	ND	0.1	%	1 repared e	e rinary zea	. 00/02/17				
Duplicate (P9H0501-DUP1)	Sou	rce: 9G31004-	05	Prepared &	k Analyzed	: 08/05/19				
% Moisture	10.0	0.1	%	1	9.0			10.5	20	
Duplicate (P9H0501-DUP2)	Sou	rce: 9H01004-	12	Prepared &	t Analyzed	: 08/05/19				
% Moisture	9.0	0.1	%	*	9.0			0.00	20	
Duplicate (P9H0501-DUP3)	Sou	rce: 9H01005-	03	Prepared &	t Analyzed	: 08/05/19				
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P9H0501-DUP4)	Sou	rce: 9H01006-	14	Prepared &	t Analyzed	: 08/05/19				
% Moisture	29.0	0.1	%	•	12.0			82.9	20	
Duplicate (P9H0501-DUP5)	Sou	rce: 9H01007-	20	Prepared &	k Analyzed	: 08/05/19				
% Moisture	ND	0.1	%		8.0			200	20	
Duplicate (P9H0501-DUP6)	Sou	rce: 9H01007-	35	Prepared &	k Analyzed	: 08/05/19				
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P9H0501-DUP7)	Sou	rce: 9H01007-	48	Prepared &	k Analyzed	: 08/05/19				
% Moisture	21.0	0.1	%		5.0			123	20	
Batch P9H0605 - *** DEFAULT PREP ***										
Blank (P9H0605-BLK1)				Prepared &	k Analyzed	: 08/06/19				
Chloride	ND	1.00	mg/kg we	i						

Project: NEDU 218 Road Boring

Fax: (432) 687-0456

P.O. Box 50685 Midland TX, 79710 Project Number: 19-0112-02 Project Manager: Mark Larson

General Chemistry Parameters by EPA / Standard Methods - Quality Control Permian Basin Environmental Lab, L.P.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P9H0605 - *** DEFAULT PREP ***										
LCS (P9H0605-BS1)				Prepared &	Analyzed:	08/06/19				
Chloride	412	1.00	mg/kg wet	400		103	80-120			
LCS Dup (P9H0605-BSD1)				Prepared &	Analyzed:	08/06/19				
Chloride	412	1.00	mg/kg wet	400		103	80-120	0.112	20	
Calibration Blank (P9H0605-CCB1)				Prepared &	Analyzed:	08/06/19				
Chloride	0.00		mg/kg wet							
Calibration Blank (P9H0605-CCB2)				Prepared &	Analyzed:	08/06/19				
Chloride	0.00		mg/kg wet							
Calibration Check (P9H0605-CCV1)				Prepared &	Analyzed:	08/06/19				
Chloride	19.9		mg/kg	20.0		99.7	0-200			
Calibration Check (P9H0605-CCV2)				Prepared &	Analyzed:	08/06/19				
Chloride	20.3		mg/kg	20.0		102	0-200			
Calibration Check (P9H0605-CCV3)				Prepared: 0	08/06/19 Aı	nalyzed: 08/	/07/19			
Chloride	20.1		mg/kg	20.0		100	0-200			
Matrix Spike (P9H0605-MS1)	Sou	rce: 9H06015	5-01	Prepared &	Analyzed:	08/06/19				
Chloride	525	1.04	mg/kg dry	521	1.45	101	80-120			
Matrix Spike (P9H0605-MS2)	Sou	rce: 9G30014	1-01	Prepared & Analyzed: 08/06/19						
Chloride	3070	12.3	mg/kg dry	1230	1770	105	80-120			
Matrix Spike Dup (P9H0605-MSD1)	Sou	rce: 9H06015	5-01	Prepared & Analyzed: 08/06/19						
Chloride	507	1.04	mg/kg dry	521	1.45	97.1	80-120	3.56	20	

Larson & Associates, Inc.

Project: NEDU 218 Road Boring

P.O. Box 50685 Midland TX, 79710 Project Number: 19-0112-02

Project Manager: Mark Larson

General Chemistry Parameters by EPA / Standard Methods - Quality Control Permian Basin Environmental Lab, L.P.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch P9H0605 - *** DEFAULT PREP ***

Matrix Spike Dup (P9H0605-MSD2)	Source	e: 9G30014-01	Prepared &	Analyzed:	08/06/19				
Chloride	3090	12.3 mg/kg dry	1230	1770	106	80-120	0.473	20	

Larson & Associates, Inc.

Project: NEDU 218 Road Boring

P.O. Box 50685 Midland TX, 79710 Project Number: 19-0112-02 Project Manager: Mark Larson

Notes and Definitions

ROI Received on Ice

BULK Samples received in Bulk soil containers

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

	Drew	Darlor			
Report Approved By:			Date:	8/8/2019	

Brent Barron, Laboratory Director/Technical Director

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Permian Basin Environmental Lab, L.P.

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Permian Basin Environmental Lab.

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Variance Request

Apache Corporation would like to request a variance to leave the contamination in the top four feet that are above reclamation standards of 600 chlorides at North Wall # 2, South Excavation North Wall @ 3' above liner, and South Excavation North Wall West @ 3' above liner. The North Wall # 2 was not further due to the close proximity to the paved highway and Apache was concerned about public safety. The two South Excavation North Wall samples above the liner were not excavated due to close proximity to the pipeline and could not safely utilize a hydro-vac. Those two points will be remediated in 2021 in association with Event # 2005558733.

Submitted by;

Environmental Technician

larry.baker@apachecorp.com

Cell# 432-631-6982



Photo of Excavation



Photo of Excavation



Photo of Sowing New Liner to Existing Liner



Photo of Sowing New Liner to Existing Liner



Photo of Backfilling

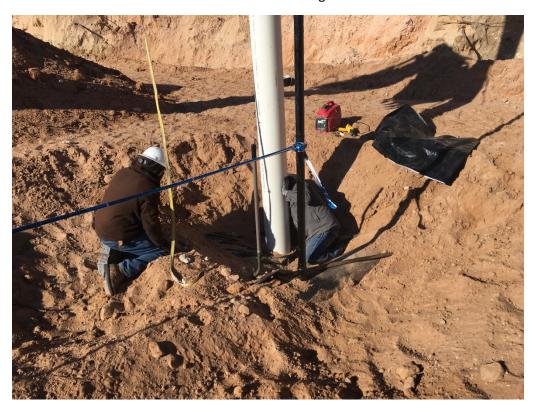


Photo of Installing 10" Casing for BH 1



Photo of 10" Casing Complete With Liner



Photo of Liner for South Excavation

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III

1000 Rio Brazos Rd., Aztec, NM 87410

Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. **Santa Fe, NM 87505**

CONDITIONS

Action 10873

CONDITIONS OF APPROVAL

Operator			OGRID:	Action Number:	Action Type:
	APACHE CORPORATION	303 Veterans Airpark Ln	873	10873	C-141
#1000	Midland, TX79705				

OCD Reviewer	Condition
ceads	None