

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

Larry Baker Environmental Technician SR. Apache Corporation

Attachment: Closure Report Dated October 27, 2020



303 Veterans Airpark Lane Midland, TX 79705

### **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;

Bruce Baker

*Environmental Technician larry.baker@apachecorp.com Cell# 432-631-6982* 

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

Form C-141 Revised August 8, 2011

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

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

### 1220 S. St. Francis Dr., Santa Fe, NM 87505 **Release Notification and Corrective Action OPERATOR** Initial Report **Final Report** Name of Company Apache Corporation Contact Bruce Baker Address 2350 W Marland Street, Hobbs, NM 88240 Telephone No. (432) 631-6982 Facility Name NEDU 218 Facility Type Injection Well API No. 30-025-06484 Surface Owner State Mineral Owner State LOCATION OF RELEASE Unit Letter Section Township Feet from the North/South Line Feet from the East/West Line County Range 2 37E 3546' 1700' FWL C 21S FNL Lea Latitude 32.5123389 Longitude -103.1364500 NATURE OF RELEASE Volume of Release 240 barrels Volume Recovered 220 barrels of Type of Release Produced water of produced water produced water Source of Release Fiberglass line Date and Hour of Occurrence Date and Hour of Discovery 12/14/2017 12/14/2017 at 1:00 p.m. Was Immediate Notice Given? If YES, To Whom?

Olivia Yu (NMOCD)

If YES, Volume Impacting the Watercourse.

RECEIVED

a.m.

Date and Hour 12/15/2017 left message at 8:42 a.m. and via email at 8:49

By Olivia Yu at 9:51 am, Dec 20, 2017

InOY1735437002

pOY1735437400

Describe Cause of Problem and Remedial Action Taken.\*

The fiberglass line failed. The line was isolated and vacuum trucks were dispatched to pick-up standing fluid.

Yes I No I Not Required

🗌 Yes 🖾 No

Describe Area Affected and Cleanup Action Taken.\*

If a Watercourse was Impacted, Describe Fully.\*

By Whom? Bruce Baker

Was a Watercourse Reached?

The entire release was in the pasture. A corrective action plan will be submitted in accordance with NMOCD regulations.

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

1	OIL CONSERVATION DIVISION				
Signature: Bruce Bacher	M-				
Printed Name: Bruce Baker	Approved by Environmental Specialist:				
Title: Environmental Technician	Approval Date: 12/20/2017 Expiration Date:				
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval: Attached				
Date: 12/19/2017 Phone: (432) 631-6982	see attached directive				
* Attach Additional Sheets If Necessary					
	1RP-4898 DOV1735437002				

Received by OCD: 12/22/2020 11:31504AM Form C-141 State of New Mexico

Oil Conservation Division

Incident ID	NRM2006956155
District RP	
Facility ID	
Application ID	

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### Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>61-100</u> (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 <b>not</b> on an exploration, development, production, or storage site?	🔽 Yes 🗌 No

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

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

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

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

Page 3

eceived by OCD: 12/22/2020 11:31:04AM State of New M		vico	Page 5				
			Incident ID	NRM2006956155			
age 4	Oil Conservation D	1V1S10n	District RP				
			Facility ID				
			Application ID				
public health or the envir failed to adequately inves addition, OCD acceptance and/or regulations. Printed Name: Larry	are required to report and/or file certain r onment. The acceptance of a C-141 report stigate and remediate contamination that e of a C-141 report does not relieve the c Baker Baker Dapachecorp.com	ort by the OCD does not relieve the pose a threat to groundwater, surfa	e operator of liability sh ace water, human health liance with any other fe ental Tech SR.	ould their operations have or the environment. In			
OCD Only Received by: Cristin	na Eads	Date: 12	/22/2020				

Received by OCD: 12/22/2020 11:81504 AM

Page 6

**Oil Conservation Division** 

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 19.15.29.11 NMAC

Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

 $\checkmark$  Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Larry Baker

email: larry.baker@apachecorp.com

\_\_\_\_\_\_<sub>Title:</sub> Environmental Tech SR. Signature: <u>Larry Baker</u>

Date: 10/27/2020

Telephone: 432-631-6982

**OCD Only** 

Cristina Eads Received by:

Date: 12/22/2020

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:

Date: 12/22/2020

Printed Name: Cristina Eads

Title: Environmental Specialist



Google earth 32.512036° lon -103.136588° elev 3494 ft eye alt 4177 ft

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<b>Received by OCD: 12/22/2020 1</b>		CARBO	ROUGH DRILLING, INC.	<b>Page 8 of 96</b>
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			<u> </u>	D	elineation S	Samples					
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		1230	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0
1/ 1/2010		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
		10	48.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
											1
		12'	48.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
2/27/2010			520	.0.050	Wall Sam	i	.0.450	.0.200	.10.0	.10.0	.10.0
	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	EAST WALL		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										1
	NORTH										
3/29/2018		3'	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
5/25/2010	SOUTH WALL	5	52.0	10.000	40.000	40.000	\$0.150	(0.500	10.0	10.0	10.0
	WEST CENTER										
3/29/2018		3'	16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
3/23/2018	ر س س	5	10.0	<0.030	<0.030	<0.030	<0.130	<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
-,,		-									
	WEST WALL										
2/22/22/2	SOUTH @		10.0	0.050	0.050	0.050	0.450	0.000	40.0	10.0	10.0
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
+/ 5/ 2010	LINEN	5	1700	\$0.050	\$0.050	\$0.050	(0.150	<0.500	10.0	10.0	10.0
	SOUTH										
	EXCAVATION										
	NORTH WALL										
	WEST @ 3'										
1/2/2010	-	21	1690				<0.150	<0.200	<10.0	<10.0	<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										
	South Wall										
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										
4/4/2018	Middle 3'	3'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0

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				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		Toyas by EDA 2					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

## Laboratories

February 12, 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 02/07/18 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 <a href="https://www.tceq.texas.qov/field/ga/lab\_accred\_certif.html">www.tceq.texas.qov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



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	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

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

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS				_	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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 113 % 72-148

Chloride, SM4500CI-B	mg/kg		Analyze	Analyzed 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					
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 %	6 41-142							
Surrogate: I-Chlorooctadecane	99.2 9	6 37.6-14	7						

### Cardinal Laboratories

### \*=Accredited Analyte

PLEASE NOTE: Liabelity and Damages. Cardinal's liabelity and client's exclusive remedy for any daim antaing, whether based in contract or tort, shall be immed to the amount paid by client for analyses. All claims, including those for negligence and any other curus whateverver shall be deamed waived unitess made in writing and received by client (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limited/on, butiness 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 the services hereunder by Cardinal, mgandless of whether such claims based units takes units or otherwise. Results relate only to the samples identified above. This reproduced accepts in NU with intern approval of claimes.

Cellery D. Karne



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	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

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

**BTEX 8021B** mg/kg Analyzed By: MS Analyte Result **Reporting Limit** Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Benzene\* < 0.050 0.050 02/09/2018 ND 1.75 87.4 2.00 23.7 Toluene\* < 0.050 0.050 02/09/2018 1.77 88.5 2.00 22.3 ND Ethylbenzene\* < 0.050 0.050 02/09/2018 ND 1.76 87.9 23.4 2.00 Total Xylenes\* <0.150 0.150 02/09/2018 ND 5.25 87.5 6.00 22.5 Total BTEX 02/09/2018 < 0.300 0.300 ND

Surrogate: 4-Bromofluorobenzene (PIL 114 % 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	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	2						
Surrogate: 1-Chlorooctadecane	92.4	% 37.6-14	7						

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\*=Accredited Analyte

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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	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

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

BTEX 8021B	mg,	/kg	Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% 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	
Totai 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 % 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	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 S	% 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	% 37.6-14	7						

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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	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

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

Chloride, SM4500Cl-B mg/kg			Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1840	16.0	02/09/2018	ND	432	108	400	0.00	

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

Chloride, SM4500CI-B	mg	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	02/09/2018	ND	432	108	400	0.00	

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

Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1960	16.0	02/09/2018	ND	432	108	400	0.00	

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

Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	02/09/2018	ND	432	108	400	0.00	

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

Chloride, SM4500Cl-B	, SM4500Cl-B mg/kg		Analyze	Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	02/09/2018	ND	432	108	400	0.00	

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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	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

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

Chloride, SM4500CI-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	

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Celay D Kune



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

### **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.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC 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 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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Celleng D. Kune

Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

## 101 East Mariand, Hobbs, NM 88240

Company Name:	Å ×	(575) 393-2416 Corporation	5 5 7	BILL TO	70		-	ANALYSIS	SIS REQUEST
Project Manager:	13	BAKen		P.O. #:		V		- 1.1	
Address:				Company:		-W			
city: Hobbs	x	State: NM	ZID: 88340	Attn:		>15	_		
8 ?*		Fax #:		Address:		80			
Project #: N/EOM.	818 X	Project Owner:		City:		/			
5 I.	NEDAJIS			State: Zip:		sh led			
Project Location:				Phone #:		nd nd	_	5	
Sampler Name	Bruce Br	Baken		Fax #:					
FOR LARISE DALY			MATRIX	ESERV	SAMPLING	-	_		
Lab I.D.	Sample I.D.	Þ	B OR (C)OMP. ITAINERS JNDWATER EWATER	GE IR : BASE: COOL IR :		TPH 1	BETER		
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9		10 27	6 1	20	2-7-18 3:45	5			
		with each such terms to the	any chain activity whether based in cont	teact or fact, shall be smilled to the a	mount paid by the client for				
PLEASE NOTE: Liability and 0 analyses. All claims including t service. Is no event shall Card	FLEASE INOTE: Liability and Demogre. Cardinal's leading and clear's exclusive remedy for any clear antiling whe analyses. All clears including those for migligence and any other cause whatsower shall be deemed waited unle envice. In no event shall Cardinal be liable for incidental or consequential demogre, including waited at limited.	art's archaive remady for cause whethoever shall be equented demages, includie	PLEASE NOTE: Liability and Durregue. Cardona's stobility and clarit's enclusive remedy for any claim staling whether based in control or to be amount to the amount to the amount between the store of the analysis. All claims including those for negligence and any other cause whethcomer claim be deemed waived unknew made in watting and nooked or for, shall be there for any claim a label of the all completed with the store of the analysis. All claims including those for negligence and any other cause whethcomer claim be deemed waived unknew induiting including the store of the all control within 30 days allow cause whethcomer claims of unknews induitions, based one, or base of profits including be claims, be sublicative and any other store and any other cause whethcomer claims of unknews interruptions, based one, or base of profits included by claims, be sublicative and whether any other and any other allows interruption or otherwise.	Nex based in contract or this, shall be immed to the ensure year or competence of the applicable as made in withing and nonlived by Candidal within 30 days allor competence of the applicable quintees interruptions, less of use, or bear of profits incurred by clarit, its subsidiaries, a unater and history and use on any of the above strated researce or distributes.	native pairs of the cover of the days after completion of the curred by clerit, its subvidiesh a stated reasons or off-envice a stated reasons or off-envice	n an			
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Bruce Barten	Barten	Time: S:04 p	Jamera	Mable	REMARKS:	5	<b>-t-</b>		Larry. baker Q cpache corp. conc
<b>Relinquished By:</b>		Date:	Received By:	<					¢
		Time:							

Page 20 of 96 t C--بالما معمده معمد المراجع Dlasea fav written channes to (575) 101\_3126 في المنادرية المراجع Monnetter 5.20 Sample Condition Cool Intact Yes Yes No No

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

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(Initialia)

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Received by OCD: 12/22/2020 41:81:042AM



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager

Page 1 of 7



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

Received:	02/27/2018	Sampling Date:	02/27/2018
Reported:	02/28/2018	Sampling Type:	Soil
Project Name:	NEDU #218	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVE	l estat	

### Sample ID: NORTH WALL 3 (H800576-01) EV 00340

BTEX 8021B	mg,	kg	Analyze	d By: MŞ	_				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	<b>6</b> S	% 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 72-148 104 %

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	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	101	% 41-142	?						
Surrogate: 1-Chlorooctadecane	96.2	% 37.6-14	7						

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

Received:	02/27/2018	Sampling Date:	02/27/2018
Reported:	02/28/2018	Sampling Type:	Soil
Project Name:	NEDU #218	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### 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					
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	8S	% 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	2						
Surrogate: 1-Chlorooctadecane	87.1	% 37.6-14	7						

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

Received:	02/27/2018	Sampling Date:	02/27/2018
Reported:	02/28/2018	Sampling Type:	Soil
Project Name:	NEDU #218	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### 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 % 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	112	16.0	02/28/2018	ND	448	112	400	3.64	
TPH 8015M	mg	/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Anatyzed	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	% 41-142	?						
Surrogate: I-Chlorooctadecane	96.8	% 37.6-14	7						

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Received:	02/27/2018	Sampling Date:	02/27/2018
Reported:	02/28/2018	Sampling Type:	Soil
Project Name:	NEDU #218	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### 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

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	Analyzed 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						

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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.
5	Chloride by SM4500CI-B does not require samples be received at or below $6^{\circ}$ C Samples reported on an as received basis (wet) unless otherwise noted on report

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Page 7 of 7

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager

Page 1 of 7



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

Received:	03/07/2018	Sampling Date:	03/07/2018
Reported:	03/08/2018	Sampling Type:	Soil
Project Name:	NEDU #218	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

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

BTEX 80218	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	<b>8</b> 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 (PIL 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	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/07/2018	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	2						
Surrogate: I-Chlorooctadecane	76.3	% 37_6-14	7						

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

Received:	03/07/2018	Sampling Date:	03/07/2018
Reported:	03/08/2018	Sampling Type:	Soil
Project Name:	NEDU #218	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### 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	2						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/07/2018	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	81.1	% 41-142	?						
Surrogate: 1-Chlorooctadecane	69.7	% 37.6-14	7						

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

Received:	03/07/2018	Sampling Date:	03/07/2018
Reported:	03/08/2018	Sampling Type:	Soil
Project Name:	NEDU #218	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### 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	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	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	2						
Surrogate: 1-Chlorooctadecane	70.0	% 37.6-14	7						

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

Received:	03/07/2018	Sampling Date:	03/07/2018
Reported:	03/08/2018	Sampling Type:	Soil
Project Name:	NEDU #218	Sampling Condition:	Cool & Intact
Project Number:	NEDU #218	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

### 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 (PIE	92.0	% 72-148	1						
Chloride, SM4500Cl-B	mg/	'kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/07/2018	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	82.9	% 41-142	2						
Surrogate: 1-Chlorooctadecane	69.0	% 37.6-14	7						

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### **Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
ъ.	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

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

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anny Name: HOALAC Corporation RILL TO ANALYSIS ct Manager: State: NA ZIP: 888.40 Attn: est: Fax #: Project Owner: Company: est: Project Owner: City: ct Location: NEOU 218 State: Zip: to Location: Sample I.D. BOR (C)OMP. ITAINERS INDWATER EWATER: PROJECT PROJECT State: Zip: BOR (C)OMP. ITAINERS INDWATER EWATER: PROJECT PROJECT State: Zip: Address: Zip: State: Zip: Fax #: Project Owner Fax #: Project Owner ITAINERS INDWATER EWATER: PROJECT For #: INDWATER EWATER: PROJECT Fax #: Project Owner ITAINERS INDWATER: PROJECT Fax #: Project Owner EWATER: Project Owner ITAINERS INDWATER: PROJECT Fax #: Project Owner ITAINERS INDWATER: Project Owner ITAINERS INDWATER: Project Owner ITAINERS INDWATER: Project Owner ITAINERS INDWATER EWATER: PROJECT Fax #: Project Owner ITAINERS INDWATER EWATER: PROJECT Fax #: Project Owner ITAINERS INDWATER EWATER: Project Owner ITAINERS INDWATER EWATER: PROJECT Fax #: PR		E		CON GROU WAST SOIL DIL SLUD OTHE	G)RA	H\$00676
anny Name: ApAcho Corporation BILL To ANALYSIS ct Manager: Bruce Baker Project Owner: Company: es: Fax state: NM ZIp: 88.9.40 Attn: es: Fax state: NM ZIp: 88.9.40 Attn: ct state: Project Owner: City: ct Name: NEOU A 18 State: Zip: ct Location: Project Owner: Fax st tr Location: Fax st ber Name: Bruce Baker Fax st (C) RS ATER PRESERV SAMPLING Add TAM		xte		ITAINI INDW/ EWAT GE R BASE		Lab I.D.
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aany Name:     Apacho     Corporation     BILL TO     ANALYSIS       ct Manager:     Bruce BAKer     PO. #:     PO. #:     PO. #:     PO. #:       ass:     State: NM Zip:     88.40     Atm:     Atm:     Poiset Owner:     Company:       e #:     Fax #:     Project Owner:     City:     City:     City:     City:       ct Name:     NEOU     A 18     State:     Zip:     Zip:       ct Name:     NEOU     A 18     State:     Zip:       ct Name:     NEOU     A 18     Thone #:     Thone #:		ed		MA TRUX	P.	FOR LAB USE ONLY
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same:     AppAcho     Corporation     BILL TO     ANALYSIS       ct Manager:     Sruce     Sate: NM     P.O. #:     P.O. #:     P.O. #:       ass:     Ass:     State: NM     Zip:     State: NM     Company:       Ass:     Fax #:     Fax #:     Address:     Address:       ct #:     Project Owner:     City:     City:		ره	Zip:	State:		Project Name:
any Name: ApAcho Corporation BILL TO ANALYSIS ct Manager: Bruce BAKer P.O. #: ass: State: NA Zip: 888.40 Attn: e #: Fax #: Address:		/		City:	Project Owner:	Project #:
Any Name: ApAcho Corporation BILL TO ANALYSIS ct Manager: Bruce BAKer P.O. *: ass: State: NM Zip: 888.40 Attn:				Address	Fax #:	Phone #:
Apache Corporation BILL TO ANALYSIS Bruce Baker P.O. *: company:				888.40		
HOALLY CORDORATION BILL TO ANALYSIS			Y:	Compan		Address:
HOALAQ Corporation BILL TO ANALYSIS					3	Project Manager:
			BILL TO	tion	to C	Company Name:

Page 7 of 7

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TO.#1 CHECKED BY: (Initials)

5.00

Received by OCD: 12/22/2020 41:3150424M



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD.	2	
Received:	03/22/2018			Sampling Date:	03/22/2018
Reported:	03/28/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	** (See Notes)
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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 9	% 72-148							
Chloride, SM4500Cl-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						

### Cardinal Laboratories

### \*=Accredited Analyte

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 client for analyses. All claims, including those for negligence and any other cause whatscever 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 incidental or consequential damages, including, whother business interruptors, loss of use, or loss of profits incurred by client, its subsidiaries, afflicate or successor 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.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager


		APACHE COF BRUCE BAKE 2350 W. MA HOBBS NM,	er Rland Blvd.		
		Fax To:	(575) 393-2432		
Received:	03/22/2018			Sampling Date:	03/22/2018
Reported:	03/28/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	** (See Notes)
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		APACHE COL BRUCE BAKE 2350 W. MA HOBBS NM,	er Rland Blvd.		
		Fax To:	(575) 393-2432		
Received:	03/22/2018			Sampling Date:	03/22/2018
Reported:	03/28/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	** (See Notes)
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		APACHE COR BRUCE BAKE 2350 W. MAR HOBBS NM, 8	R Rland Blvd.		
		Fax To:	(575) 393-2432		
Received:	03/22/2018			Sampling Date:	03/22/2018
Reported:	03/28/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	** (See Notes)
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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							
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	94.1	% 41-142							
Surrogate: 1-Chlorooctadecane	92.1	% 37.6-14	7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **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

### **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

575) 393-	BILL TO ANALYSIS REQUEST	ST
Hpi		
	Company:	
city: Hobbs State: NM Zip: 88240	40 Attn:	
e#: 432-631-6982 F	Address:	
··	City:	4
ame:	State: Zip:	3
	Phone #:	
8		
Sampler Name: Bruce Bacher	TAX #:	
	MATRIX PRESERV. SAMPLING	
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G)RAB O # CONTAI GROUND	WASTEW SOIL SILUDGE OTHER : ACID/BAS ICE / COO OTHER : DATE TIME C Ex B1	
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1/2 Vert. @ 12'	2-32-18 4:3065T V V	
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or bit, visual or intraction or or or completion of the applicable 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's locations of object by claims including those for inegligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within the subsidiaries, service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or now of the above stated reasons or otherwise.	plicable	×. 2
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 41 of 96



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		BRUCE BA	1arland BLVD.		
		Fax To:	(575) 393-2432	2	
Received:	03/29/2018			Sampling Date:	03/29/2018
Reported:	04/02/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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	% 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						

### Cardinal Laboratories

### \*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	1arland Blvd.		
		Fax To:	(575) 393-2432	2	
Received:	03/29/2018			Sampling Date:	03/29/2018
Reported:	04/02/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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 9	% 72-148	}						
Chloride, SM4500Cl-B	mg/	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/02/2018	ND	448	112	400	0.00	
TPH 8015M	mg/	/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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	2						
Surrogate: 1-Chlorooctadecane	96.4	% 37.6-14	7						

### **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	1arland BLVD.		
		Fax To:	(575) 393-2432		
Received:	03/29/2018			Sampling Date:	03/29/2018
Reported:	04/02/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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	2						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/02/2018	ND	448	112	400	0.00	
TPH 8015M	mg/	/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	1arland Blvd.		
		Fax To:	(575) 393-2432	2	
Received:	03/29/2018			Sampling Date:	03/29/2018
Reported:	04/02/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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 %	6 72-148							
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/02/2018	ND	448	112	400	0.00	
TPH 8015M	mg/	kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	89.0 \$	37.6-14	7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **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

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

### Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

	BILL TO			
	Company:			
Zip: 88240	Attn:			
	Address:			
	City:			
	ň	1		
1	Phone #:	-PF		
	Fax #:	7		
MATRIX	PRESERV. SAMPLING			
RS TER		nclec		
NTAINERS JNDWATE FEWATER	BASE: COOL	Exten		
# CO GRO WAS SOIL OIL	ACID. ICE / OTHE DATE			
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- 2	3-29-18 2	:15pm V V V		
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6 - 1	J-29-18 2:	:38pm V V V		
erned waived unless made in writing and thout limitation, business interruptions, ic final, regardless of whether such claim is	or run, small be initiated to the amount paid by received by Cardinal within 30 days after con ses of use, or loss of profits incurred by client, s based upon any of the above stated reasons	npletion of the applicable its subsidiaries, s of otherwise.		
L	Γ	ult: Ves	lo Add'I Phone #: lo Add'I Fax #:	
Received By:		Rush		
	on CHECKED BY:	email k	esutts	
ax written changes to (	N 393-2326 50			
	N/M     Zip:     88,240       Owner:     Owner:       Owner:     Owner:	Intervent Name:       Holds       State:       PILL TO         Iness:       Fax #:       Company:       Company:         Iness:       Fax #:       Project Owner:       City:         Inest:       INECTION:       Sample I.D.       Sample I.D.       Sample I.D.         B I.D.       Sample I.D.       Sample I.D.       B ORITIAL RESERVERSUME       Prose:         2       South In West:       Could:       Prove:       Prove:       Prove:         2       South In West:       Could:       B ORITIALIZER       Prove:       Prove: <td< td=""><td>Pling P</td><td>email les</td></td<>	Pling P	email les



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		BRUCE BA	1arland Blvd.		
		Fax To:	(575) 393-2432	2	
Received:	04/03/2018			Sampling Date:	04/03/2018
Reported:	04/04/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	** (See Notes)
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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	2						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	04/04/2018	ND	400	100	400	7.69	
TPH 8015M	mg,	/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	04/03/2018			Sampling Date:	04/03/2018
Reported:	04/04/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	** (See Notes)
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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, SM4500Cl-B	mg/kg		Analyzed 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	Analyzed 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

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		APACHE COP BRUCE BAKE 2350 W. MA HOBBS NM,	er Rland Blvd.						
		Fax To:	(575) 393-2432						
Received:	04/03/2018			Sampling Date:		04/03/2018			
Reported:	04/04/2018			Sampling Type:		Soil			
Project Name:	NEDU #218			Sampling Condition:		** (See Notes)			
Project Number:	NEDU #218			Sample Received By:		Jodi Henson			
Project Location:	NONE GIVEN								

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

BTEX 8021B	B mg/kg								
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 9	6 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 9	6 41-142							
Surrogate: 1-Chlorooctadecane	100 % 37.6-147		7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **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

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

### **CARDINAL** Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

	(575) 393-2326 FAX (575) 393-2476	76						
Company Name:	Honche :			BILL TO				ANALYSIS REQUEST
Project Manager:	K			P.O. #:	_	_		
Address:				Company:		L	4	
city: Hobbs	bs State: NM	Zip:	04088	Attn:		5		
Phone #:	Fax #:			Address:		1		
Project #:	Project Owner:	ň		City:		)/		
Project Name:	NEDU 218			State: Zip:		Ŕ		
Project Location:	a			Phone #:		/	7	
Sampler Name:	66			Fax #:				
FOR LAB USE ONLY		».	MATRIX	PRESERV. SAMPLING		H		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS GROUNDWATER WASTEWATER SOIL OIL	SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER : DATE	п С1-		Ext. TP. Btex	
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	Liwer	S	<	4-3-18 1:40pm	× ×	<	<	
PLEASE NOTE: Liability and analyses. All claims including service. In no event shall Ca affiliates or successors arisin	PLEASE NOTE: Liability and Damages. Cardinal's lability and dent's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including whore limitation, busiess interruptions, loss of use, or loss of portis incident is subsidiaries. affiliates or successors arising out of or related to the performance of services hereunder for Cardinal versames of whether such chains a such claim is based under such as a track once on a strategies.	any claim : deemed v g without I	arising whether based in contr waived unless made in writing i limitation, business interruption renardless of whether such dai	clusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for instroever shall be deemed waived unless made in writing and received by Cardinal within days after completion of the damages, including without limitation, business interruptions, loss deved by Cardinal within incurred by fact, its subsidiar icros hereinder by Cardinal repartices of whether such claims is based upon any of the above struct anomal or subsidiar icros hereinder by Cardinal repartices of whether such claims is based upon any of the above struct anomal or subsidiar icros hereinder by Cardinal repartices of whether such claims is based upon any of the above struct anomal or subsidiar icros hereinder by Cardinal repartices of whether such claims is based upon any of the above struct anomal or subsidiar icros hereinder by Cardinal repartices of whether such claims is based upon any of the above struct anomal or subsidiar icros hereinder by Cardinal repartices of whether such claims is based upon any of the above struct anomal or subsidiar icros hereinder by Cardinal repartices of whether such claims is based upon any of the above struct anomal or subsidiar icros hereinder by Cardinal repartices of whether such claims is based upon any of the above struct anomal or subsidiar icros hereinder by Cardinal repartices of whether such claims is based upon any of the above struct anomal or subsidiar icros hereinder by Cardina thereinder anomal of the subsidiar icros hereinder by Cardina thereinder anomal anomal subsidiar icros hereinder by Cardina thereinder anomal by the subsidiar icros hereinder by the subsidiar icros hereinder anomal by the subsidiar icros hereinder by the subsidiar icros hereinder by the subsidiar i	ient for the on of the appli ubsidiaries,	cable		
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† Cardinal cannot accept verbal changes. Please fax written chapers to (6/15) 393-2326 SC



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		BRUCE BA	ARLAND BLVD.		
		Fax To:	(575) 393-2432	2	
Received:	04/04/2018			Sampling Date:	04/04/2018
Reported:	04/05/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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 % 37.6-147		7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAI	ARLAND BLVD.		
		Fax To:	(575) 393-2432	2	
Received:	04/04/2018			Sampling Date:	04/04/2018
Reported:	04/05/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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	% 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	94.3	% 41-142							
Surrogate: 1-Chlorooctadecane	71.8 % 37.6-147		7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **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

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

+ Cardinal cannot	Delivered By: (0 Sampler - UPS - E	Relinquished By:	Bruce Parker	Relinquished By:	PLEASE NOTE: Liability and Da analyses. All claims including tho service. In no event shall Cardina affiliates or successors arising out			3	2 S			-	Lab I.D.	FOR LAB USE ONLY	Sampler Name:	Project Location:	Project Name:	Project #:	Phone #:	city: Hobbs	Address:	Project Manager:	Company Name:	10,	
accent verhal channee	(Circle One) Bus - Other: $5,46/5,7$	Date:		Date: 4-19	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 nankyess. All claims including those for negligence and any other cause whatsoever shall be demed waived unless made in writing and received by Cardinal writin 30 days afficient completion of the application of	a.	2	wall Middle @ 31	South Excavation South	write croit es	Lat 0	[	Sample I.D.		Ornee Baker		NEON 218	Project Owner:	Fax #:	State: N/M		Bruce BAKEr	Apache	101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	
Plases far written Aban ine DERALDAR	Sample Condition Si356 Cool Intact Ores Pres	Received By:	allen to	Received By:,	any claim arising whether based in contract a deemed waived unless made in writing and 19 without limitation, business interruptions, I Cardinal, regardless of whether such claim it			0 - - -		V	Statements of the local division in the loca		(G)RAB OR (C)O # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE							Zip: 38240		1	8	240	
Tage /	ion CHECKEDBY:		unson -		I or tort, shall be limited to the amount paid by d received by Cardinal within 30 days after co loss of use, or loss of profits incurred by clier loss of use, or loss of profits incurred is a solution to based upon any of the above stated reason is based upon any of the above stated reason		3	1 4-4-18 1			1 4-4-19 10		OTHER : ACID/BASE: ICE / COOL OTHER : DATE	PRESERV. SAMPLING	1	Phone #:	State: Zip:	City:	Address:	Attn:	Company:	P.O. #:	BILL TO		
DSC	の行うな	Email resurts	REMARKS:	Phone Result:  Yes  No	adid by the client for the Inter completion of the applicable y client, its subsidiaries, reasons or otherwise.		2	1:50pm V V V	, , ,	•	NOOM . V V		CI- Ext 7 Btex				>.	R	u.s	-4			A construction of a constructi	-	
	のための		MUU I FAX #.	Add'I Phone #:	-											2	2	25			5		ANALYSIS REQUEST		-CUSIUUY AND ANALYSIS REQUESI
3	Falls F															-	12								QUEST

Page 59 of 96

**ARDINAL** aboratories

11 0

Page 5 of 5

### Received by OCD: 12/22/2020 11:31504 AM

irea by



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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		BRUCE BA	IARLAND BLVD.		
		Fax To:	(575) 393-2432	2	
Received:	04/04/2018			Sampling Date:	04/04/2018
Reported:	04/05/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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 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	1230	16.0	04/05/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	′kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	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						

### **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	1arland BLVD.		
		Fax To:	(575) 393-2432	2	
Received:	04/04/2018			Sampling Date:	04/04/2018
Reported:	04/05/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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 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	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	81.7	% 37.6-14	7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAK	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	04/04/2018			Sampling Date:	04/04/2018
Reported:	04/05/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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 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	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	79.5	% 37.6-14	7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	1arland BLVD.		
		Fax To:	(575) 393-2432	<u>.</u>	
Received:	04/04/2018			Sampling Date:	04/04/2018
Reported:	04/05/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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 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	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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	83.1	% 37.6-14	7						

### **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BAI	ARLAND BLVD.		
		Fax To:	(575) 393-2432		
Received:	04/04/2018			Sampling Date:	04/04/2018
Reported:	04/05/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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, 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	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						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	1arland BLVD.		
		Fax To:	(575) 393-2432	<u>.</u>	
Received:	04/04/2018			Sampling Date:	04/04/2018
Reported:	04/05/2018			Sampling Type:	Soil
Project Name:	NEDU #218			Sampling Condition:	Cool & Intact
Project Number:	NEDU #218			Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN				

### 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							
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	<b>99.</b> 7 9	% 41-142							
Surrogate: 1-Chlorooctadecane	78.6	37.6-14	7						

### Cardinal Laboratories

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **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

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

### Page 68 of 96 Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

×,

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

				1	2 6 6 7	04-1	100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100
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	the above stated reasons or otherwise.	h claim is based upon any of t	regardless of whether such	by Cardinal	milates or successors aning out of or reflect to the performance of services here under try cardings of whether such claim is based upon any of the above stated reasons or otherwise. Be Jinny nichoed Rvy Be Jinny nichoed Rvy	Rv.	afiliates or successor
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	id to the amount paid by the client for the	contract or tort, shall be limited	n arising whether based in o	for any clair	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 analysis of the client for the	lity and Damages.	PLEASE NOTE: Liab
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/ 		Fax #:			Bruce BAKer		Sampler Name:
		Phone #:	2			tion:	Project Location:
	Zip:	State:			NEON 218		Project Name:
		City:		ner:	Project Owner:		Project #:
		Address:			Fax #:		Phone #:
		Attn:	88240	) Zip:	State: NM	Hobbs	city: H
<u> </u>	640	Company:					Address:
	3	P.O. #:			Bruce Backer	ıger:	Project Manager:
ANALYSIS REQUEST	BILLETO				Apache		Company Name:
				476	(575) 393-2326 FAX (575) 393-2476	(5/5) 3	

### Received by OCD: 12/22/2020 11:31504 AM

+ Cardinal rannot arcent verhal channes Please fax written Mingettin (576) 202, 055

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

Larson & Associates, Inc.	Project: Apache NEDU 218	Fax: (432) 687-0456
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	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	19-0112-02	
Midland TX, 79710	Project Manager:	Mark Larson	

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

9001006-01 (S611)									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Permia	n Basin E	nvironme	ntal Lab, I	<b>P.</b>				
General Chemistry Parameters by I	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	

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.

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		roject Numl	ect: Apache per: 19-011 ger: Mark L	2-02	8			Fax: (432) 6	87-0456
BH-1 (20') 9C01006-02 (Soil)									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Permi	an Basin E	nvironme	ntal Lab, I	L.P.				
General Chemistry Parameters by El	PA / 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	

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.
Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		roject Num	ect: Apache ber: 19-011 ger: Mark I	2-02	8			Fax: (432) 68	87-0456	
BH-1 (25') 9C01006-03 (Soil)										
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
	Permia	an Basin E	nvironme	ntal Lab, I	L.P.					
General Chemistry Parameters by E	<b>CPA / Standard Methods</b>									
Chloride % Moisture	1170 6.0	5.32 0.1	mg/kg dry %	5 1	P9C0711 P9C0514	03/07/19 03/05/19	03/08/19 03/05/19	EPA 300.0 ASTM D2216		

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		roject Num	ect: Apacho ber: 19-011 ger: Mark I	2-02	8			Fax: (432) 6	87-0456	
BH-1 (30') 9C01006-04 (Soil)										
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
	Permi	an Basin F	Invironme	ntal Lab, I	L.P.					
General Chemistry Parameters by E	PA / Standard Methods									
Chloride % Moisture	1120 5.0	5.26 0.1	mg/kg dry %	5 1	P9C0711 P9C0514	03/07/19 03/05/19	03/08/19 03/05/19	EPA 300.0 ASTM D2216		

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		roject Numl	ect: Apacho ber: 19-011 ger: Mark I	2-02	8			Fax: (432) 68	37-0456	
BH-1 (35') 9C01006-05 (Soil)										
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
	Permi	an Basin E	nvironme	ntal Lab, l	L <b>.P.</b>					
General Chemistry Parameters by E	PA / Standard Methods									
Chloride % Moisture	1250 6.0	5.32 0.1	mg/kg dry %	5 1	P9C0711 P9C0514	03/07/19 03/05/19	03/08/19 03/05/19	EPA 300.0 ASTM D2216		

Larson & Associates, Inc.	Project:	Apache NEDU 218	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	19-0112-02	
Midland TX, 79710	Project Manager:	Mark Larson	

### 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 &	Prepared & Analyzed: 03/05/19					
% Moisture	ND	0.1	%							
Duplicate (P9C0514-DUP1)	Sour	·ce: 9C01003-	-25	Prepared &	Analyze	zed: 03/05/19				
% Moisture	16.0	0.1	%		16.0			0.00	20	
Duplicate (P9C0514-DUP2)	Sour	-ce: 9C01007-	-02	Prepared &	ared & Analyzed: 03/05/19					
% Moisture	10.0	0.1	%		8.0			22.2	20	
Batch P9C0711 - *** DEFAULT PREP ***										
Blank (P9C0711-BLK1)				Prepared: 0	3/07/19	Analyzed: 03	3/08/19			
Chloride	ND	1.00	mg/kg wet							
LCS (P9C0711-BS1)				Prepared: 0	3/07/19	Analyzed: 03	3/08/19			
Chloride	412	1.00	mg/kg wet	400		103	80-120			
LCS Dup (P9C0711-BSD1)				Prepared: 0	3/07/19	Analyzed: 03	3/08/19			
Chloride	403	1.00	mg/kg wet	400		101	80-120	2.10	20	
Duplicate (P9C0711-DUP1)	Sour	·ce: 9C01005-	05	Prepared: 0	3/07/19	Analyzed: 03	3/08/19			
Chloride	352	1.03	mg/kg dry		364			3.34	20	
Duplicate (P9C0711-DUP2)	Sour	·ce: 9C01011-	-03	Prepared: 0	3/07/19	Analyzed: 03	3/09/19			
Chloride	9450	57.5	mg/kg dry		9500			0.613	20	
Matrix Spike (P9C0711-MS1)	Sour	·ce: 9C01005-	05	Prepared: 0	3/07/19	Analyzed: 03	3/08/19			
Chloride	940	1.03	mg/kg dry	515	364	112	80-120			

Permian Basin Environmental Lab, L.P.

#### **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

nen Barron

Report Approved By:

Date: <u>3/11/2019</u>

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.

Received by OCD: 12/22/2020 11:31:04/AM   Data Reported to:   TIRRP report?   TIME ZONE:   TOTAL   BH-1, 20   BH-1, 30   BH-1, 35   BH-1, 35   BH-1, 35   BH-1, 35   BH-1, 35	Page 78 0
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VED BY: (Signature)	N. Marienfeld, Ste Midland, TX 79701
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	Page 10 of 10

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

Larson & Associates, Inc.	Project:	NEDU 218 Road Boring	Fax: (432) 687-0456
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 (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

Larson & Associates, Inc.	Project:	NEDU 218 Road Boring	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	19-0112-02	
Midland TX, 79710	Project Manager:	Mark Larson	

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

9G31004-01 (S0II)									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
<b>General Chemistry Parameters by EPA</b>	/ Standard Methods								
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	

Permian Basin Environmental Lab, L.P.

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710		Project: NEDU 218 Road Boring Project Number: 19-0112-02 Project Manager: Mark Larson							87-0456	
BH-1 (45') 9G31004-02 (Soil)										
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
	Permia	an Basin F	Environme	ntal Lab, l	L <b>.P.</b>					
General Chemistry Parameters by E	EPA / Standard Methods									
Chloride % Moisture	1120 4.0	5.21 0.1	mg/kg dry %	5 1	P9H0605 P9H0501	08/06/19 08/05/19	08/06/19 08/05/19	EPA 300.0 ASTM D2216		

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	O. Box 50685 Project Number: 19-0112-02												
BH-1 (50') 9G31004-03 (Soil)													
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes				
Permian Basin Environmental Lab, L.P.													
General Chemistry Parameters by I	EPA / Standard Methods												
Chloride % Moisture	1810 9.0	5.49 0.1	mg/kg dry %	5 1	P9H0605 P9H0501	08/06/19 08/05/19	08/07/19 08/05/19	EPA 300.0 ASTM D2216					

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	Fax: (432) 6	87-0456											
BH-1 (55') 9G31004-04 (Soil)													
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes				
	Permian Basin Environmental Lab, L.P.												
General Chemistry Parameters by E	PA / Standard Methods												
Chloride % Moisture	1350 10.0	5.56 0.1	mg/kg dry %	5 1	P9H0605 P9H0501	08/06/19 08/05/19	08/07/19 08/05/19	EPA 300.0 ASTM D2216					

Larson & Associates, Inc. P.O. Box 50685 Midland TX, 79710	O. Box 50685 Project Number: 19-0112-02											
BH-1 (60') 9G31004-05 (Soil)												
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes			
Permian Basin Environmental Lab, L.P.												
General Chemistry Parameters by E	PA / Standard Methods											
Chloride % Moisture	272 9.0	1.10 0.1	mg/kg dry %	1 1	P9H0605 P9H0501	08/06/19 08/05/19	08/07/19 08/05/19	EPA 300.0 ASTM D2216				

Larson & Associates, Inc.	Project:	NEDU 218 Road Boring	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	19-0112-02	
Midland TX, 79710	Project Manager:	Mark Larson	

## 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 &	a Analyzed	: 08/05/19				
% Moisture	ND	0.1	%							
Duplicate (P9H0501-DUP1)	Sou	·ce: 9G31004-	05	Prepared 8	k Analyzed	: 08/05/19				
% Moisture	10.0	0.1	%		9.0			10.5	20	
Duplicate (P9H0501-DUP2)	Sou	-ce: 9H01004-	-12	Prepared &	k Analyzed	: 08/05/19				
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P9H0501-DUP3)	Sou	-ce: 9H01005-	-03	Prepared &	k Analyzed	: 08/05/19				
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P9H0501-DUP4)	Sou	Prepared &	k Analyzed	: 08/05/19						
% Moisture	29.0	0.1	%		12.0			82.9	20	
Duplicate (P9H0501-DUP5)	Sou	ce: 9H01007-	-20	Prepared &	a Analyzed	: 08/05/19				
% Moisture	ND	0.1	%		8.0			200	20	
Duplicate (P9H0501-DUP6)	Sou	-ce: 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 &	a Analyzed	: 08/06/19				
Chloride	ND	1.00	mg/kg we	t						

Larson & Associates, Inc.	Project:	NEDU 218 Road Boring	Fax: (432) 687-0456	
P.O. Box 50685	Project Number:	19-0112-02		
Midland TX, 79710	Project Manager:	Mark Larson		

## Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	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: (	08/06/19 A	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	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	

Permian Basin Environmental Lab, L.P.

Larson & Associates, Inc.	Project: NEDU 218 Road Boring	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0112-02	
Midland TX, 79710	Project Manager: Mark Larson	

## Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9H0605 - *** DEFAULT PREP ***										
Matrix Spike Dup (P9H0605-MSD2)	Source: 9G30014-01			Prepared &	Analyzed:	08/06/19				
Chloride	3090	12.3	mg/kg dry	1230	1770	106	80-120	0.473	20	

Permian Basin Environmental Lab, L.P.

Larson & Associates, Inc.	Project:	NEDU 218 Road Boring	Fax: (432) 687-0456
P.O. Box 50685	Project Number:	19-0112-02	
Midland TX, 79710	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

Barron

Report Approved By:

Date:

8/8/2019

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.

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303 Veterans Airpark Lane Midland, TX 79705

## 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;

Bruce Baker

*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

CONDITIONS

Action 10873

.

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

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

District IV 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 OF APPROVAL

Operator: APACHE CORPORATION 303 Veterans A #1000 Midland, TX79705		OGRID: 873	Action Number: 10873	Action Type: C-141
OCD Reviewer Condition				
ceads		None		