

October 27, 2020

Amended with correct incident number in C-141 forms

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

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

Santa Fe, INM 87303 Release Notification and Corrective Action OPERATOR Initial Report Final Report Name of Company Apache Corporation Contact Bruce Baker Final Report Address 2350 W Marland Street, Hobbs, NM 88240 Telephone No. (432) 631-6982 Facility Name NEDU 218 Facility Type Injection Well Surface Owner State Mineral Owner State API No. 30-025-06484 LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County				
С	2	21S	37E	3546'	FNL	1700'	FWL	Lea				

Latitude 32.5123389 Longitude -103.1364500

NATURE OF RELEASE

Type of Release Produced water	Volume of Release240 barrelsVolume Recovered220 barrels ofof produced waterproduced water				
Source of Release Fiberglass line	Date and Hour of OccurrenceDate and Hour of Discovery 12/14/201712/14/2017at 1:00 p.m.				
Was Immediate Notice Given?	If YES, To Whom?				
By Whom? Bruce Baker	Date and Hour 12/15/2017 left message at 8:42 a.m. and via email at 8:49 a.m.				
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.				
If a Watercourse was Impacted, Describe Fully.*	RECEIVED By Olivia Yu at 9:51 am, Dec 20, 2017				
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.				
Describe Area Affected and Cleanup Action Taken.* The entire release was in the pasture. A corrective action plan was	ill be submitted in accordance with NMOCD regulations.				
regulations all operators are required to report and/or file certain release republic health or the environment. The acceptance of a C-141 report by the should their operations have failed to adequately investigate and remedia	the best of my knowledge and understand that pursuant to NMOCD rules and notifications and perform corrective actions for releases which may endanger ne NMOCD marked as "Final Report" does not relieve the operator of liability te contamination that pose a threat to ground water, surface water, human health does not relieve the operator of responsibility for compliance with any other				
Signature: Bruce Bacher	OIL CONSERVATION DIVISION				
Signature: Muce Schen 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 Date: 12/19/2017 Phone: (432) 631-6982	Conditions of Approval: Attached directive				
Attach Additional Sheets If Necessary					

1RP-4898

nOY1735437002

pOY1735437400

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 not on an exploration, development, production, or storage site?	🛛 Yes 🗌 No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. Field data
- $\overline{\nabla}$ 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: 10/27	2020 4:10:56 PM State of New Mexi	ico		Page 5 o
			Incident ID	NOY1735437002
ge 4	Oil Conservation Div	/1S10n	District RP	
			Facility ID	
			Application ID	
public health or the enviro failed to adequately invest addition, OCD acceptance and/or regulations.	re required to report and/or file certain rel- nment. The acceptance of a C-141 report igate and remediate contamination that po of a C-141 report does not relieve the ope Baker Baker Dapachecorp.com	t by the OCD does not relieve the ose a threat to groundwater, surf- erator of responsibility for comp	ne operator of liability sh face water, human health pliance with any other fe ental Tech SR.	ould their operations have or the environment. In
OCD Only Received by: Cristin	a Eads	Date:12	2/22/2020	

Page 6

Oil Conservation Division

Incident ID	NOY1735437002
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.

<u>Closure Report Attachment Checklist</u>: 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)

 \square 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

_______{Title:} Environmental Tech SR.

Signature: Larry Baker Date: 10/27/2020

Telephone: 432-631-6982

OCD Only

Received by: Cristina Eads

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

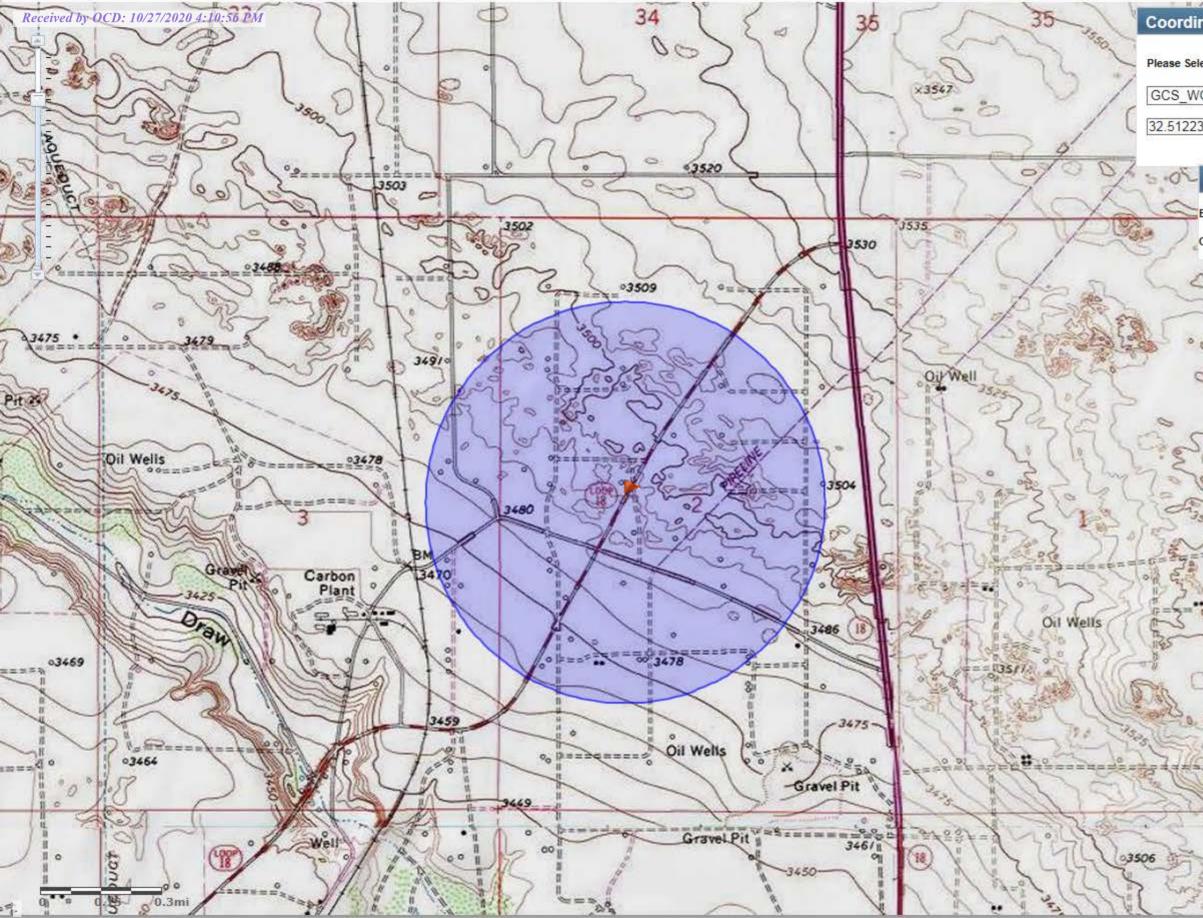


.2036° lon -103.136588° elev 3494 ft 🛛 eye alt 4177 ft 🛃

Google earth

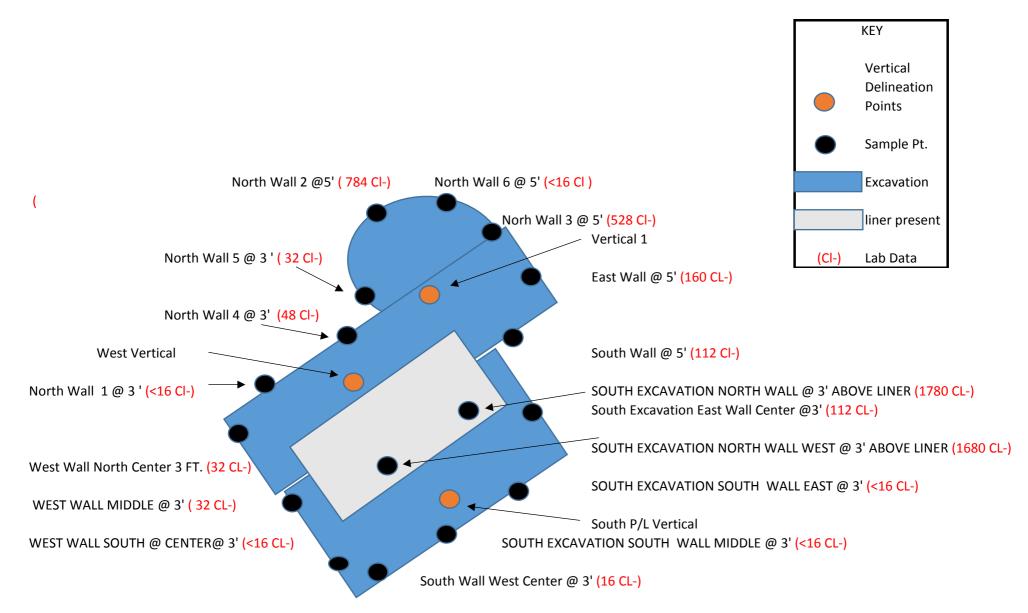
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Comment-	Commis ID	Danth	Chlowide	T	elineation S	- ·	Tatal	Tatal	CD0	000	
Sample Date	Sample ID	Depth	Chloride	Benzene	Toulene	Ethybenz ene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
2/7/2018	Vertical 1	11'	1200	<0.050	<0.050	< 0.050	<0.150	< 0.300	<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								
0 /00 /0010	South P/L		224	0.050	0.050	0.050	0.450	0.000	40.0	10.0	10.0
3/22/2018	Vertical	9'	224	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
		10' 11'	80 160	<0.050 <0.050	<0.050 <0.050	<0.050 <0.050	<0.150 <0.150	<0.300 <0.300	<10.0 <10.0	<10.0 <10.0	<10.0 <10.0
		11	160	<0.050	<0.050	< 0.050	<0.150	<0.300	<10.0	<10.0	<10.0
4/4/2018	West Vertical	 7'	1230	<0.050	< 0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
4/4/2010	west vertical	8'	1570	<0.050	<0.050	<0.050	<0.150	< 0.300	<10.0	<10.0	<10.0
		9'	1490	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0
		10'	624	< 0.050	< 0.050	< 0.050	< 0.150	< 0.300	<10.0	<10.0	<10.0
		11'	48.0	< 0.050	< 0.050	< 0.050	<0.150	< 0.300	<10.0	<10.0	<10.0
		12'	48.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
					Wall Sam	ples					
	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
2/7/2010		21	22.0	.0.050	.0.050	.0.050	.0.450	.0.000		.10.0	10.0
3/7/2018	5@ 3'	3'	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
2/7/2010	NORTH WALL	-1	10.0				-0.150	<0.200	-10.0	<10.0	-10.0
3/7/2018	6 @ 5' WEST WALL	5'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	NORTH										
3/29/2018	CENTER @ 3'	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	\0.050	×0.050	<0.050	<0.150	<0.500	10.0	10.0	10.0
	WEST CENTER										
3/29/2018	@ 3'	3'	16.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
_, _,		_									
	WEST WALL										
3/29/2018	MIDDLE @ 3'	3'	32.0	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
	WEST WALL										
	SOUTH @										
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
	SOUTH										
	EXCAVATION										
	NORTH WALL WEST @ 3'										
1/2/2010	_	3'	1680	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
4/ J/ ZUID	ABOVE LINER South	3	υδυ	<u>\0.050</u>	<u>\0.050</u>	<u>\0.050</u>	V.T20	<u>\U.5UU</u>	×10.0	<10.U	×10.0
	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
0102 וד וי	South	J	×10.0	-0.000	-0.000	-0.000	-0.130	\$0.500	.10.0	×10.0	\$10.0
			1	1			1	1	1		1
	Excavation South Wall										

Table 1Confirmation Soil Sample Analytical Data SummaryApache 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							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 www.tceq.texas.qov/field/ga/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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		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 8TEX	<0.300	0.300	02/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL 113 % 72-148

Chloride, SM4500CI-B	mg/l	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	02/09/2018	ND	416	104	400	3.77	
TPH 8015M	mg/l	kg	Analyze	d By: MS					
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: 1-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 artsing, 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 cluss whatsoever shall be desmed whited unliss made in writing and received by client, fits after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limited/on, butiness inclamptons, loss of use, or loss of profits incurred by client, its subclidaries, affiliates or successors arising out of or instated to the performance of the services hereunder by Cardinal, ingendiess of whether such claims based upon any of the bive stated reasons or otherwise. Results relate only to the samples identified above. This reproduced accepts in NM with interna pproved of Cardinal Laborations.

Celez D. Kune



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 2.00 02/09/2018 1.77 88.5 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				<u> </u>	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/12/2018	ND	161	80.6	200	12.9	
DRO >C10-C28*	<10.0	10.0	02/12/2018	ND	183	91.3	200	18.5	
EXT DRO >C28-C36	<10.0	10.0	02/12/2018	ND					
Surrogate: 1-Chlorooctane	96.6 %	% 41-142	?						
Surrogate: 1-Chlorooctadecane	92.4 9	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 @ 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	/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	Analyze	d 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	Analyze	d 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	Analyze	d 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	mg/kg			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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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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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.
8	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 Marland, Hobbs, NM 88240

(D)	١×	16	811 70	A COMPANY OF A COMPANY		ANALYSIS REQUEST
Project Manager:	Bruce Baken		P.O. #:	2		
Address:			Company:			
city: Hobbs	5 State: N'M	Zip: 88240	Attn:	>15		
0 ?*	-70		Address:	80		
Project #: N/EOM	v. 9-18 Project Owner	ň	City:	1		
5 I	NEDM218		State: Zip:	th	ecl	
Project Location:			Phone #:	Pue	nd	
Sampler Name:	Bruce Briken		Fax #:	'R	fe	
FOR LAB USE OWLY	- 1	MATRIX	PRESERV SAMPLING		Fx	
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2	vertical 1@13'	6 1 1	2-7-18	10:204	1	
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4	Vertical 1@17'	01	2-7-58 11:30M	11:30M		
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00	õ	6 I 3	2-7-18 3:30	3:30/1		
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PLEASE NOTE: Livelay and Curn malyon. All claims including those union. Is no event shall Curdinal	ger. Cardnel's addity and clent for negligence and any other cer- to lable for incidental or consequ-	y any claim attaing whether based in contre be deemed waived unless made on withing a Eng without Embedon, business interruptions	c) or ton, shall be Smilled to the emount pe nd nuceived by Cardinal within 30 days ath 1, bee of use, or bee of profits incurred by	is by the client for the or completion of the applicable client, its subvidiaries,		
Relinquished By:	Refer or succession arising out of or related to the performance of services hereinder to the performance of services hereinder to \mathcal{S}_{2}	Date: $2 - 7 - 18$ Received By:		A		No Add'i Phone #: No Add'i Fax #:
Bruce Barter		- Jamara K	Maple	REMARKS:	~	
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Page 20 of 95 t Coodinal annat annat instal channe Dlages far written channes to (575) 101_3196 بالعنامية المعالية Monnetter 5.20 Sample Condition Cool Intact Yes Yes No No No

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

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Received by OCD: 10/27/2020 4:10:56 PM



February 28, 2018

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

RE: NEDU #218

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

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

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

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

Accreditation applies to public drinking water matrices.

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

Sample ID: NORTH WALL 3 (H800576-01)

BTEX 8021B	mg,	kg	Analyze	d By: MS	_				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	6 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 104 % 72-148

Chloride, SM4500CI-B	mg,	/kg	- Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	02/28/2018	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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Celeg D. Keine



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	Analyze	d 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: 1-Chlorooctadecane	96.8	% 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: 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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2018	ND	219	109	200	2.10	
DRO >C10-C28*	<10.0	10.0	02/28/2018	ND	206	103	200	1.61	
EXT DRO >C28-C36	<10.0	10.0	02/28/2018	ND					
Surrogate: 1-Chlorooctane	103	% 41-142	ļ						
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° C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celez D. Kune

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~		Baher	Relinquished By:	rdinal be liable for incidential of co o out of or related to the performa	PLEASE NOTE: LIAbility and Darnages. Cardinatis lability and clearity accusive intrively for any assessing whether consector in consector sort, some we assesse to our entrivent year and any other cause whether within a some and any other cause whether within a some and any other completion of the applicable analytes. All claims including those for negligence and any other cause whether within a some and any other cause of the applicable analytes. All claims including those for negligence and any other cause whether within a some and any other cause whether and any other cause whether and any other cause whether any other cause and any other cause whether any other cause and any other cause whether any other and any other cause and any other cause and any other cause whether any other and any other and any other cause and any other a				CAST WA	5	11 11	North W#	North WAL		Sample I.D.	45		Bruce		NEDU		432-631-6982	665		Bruce	Apache
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL Laboratories



March 08, 2018

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

RE: NEDU #218

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

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

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

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

Accreditation applies to public drinking water matrices.

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	8 S	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/07/2018	ND	2.16	108	2.00	3.51	
Toluene*	<0.050	0.050	03/07/2018	0.050	2.15	108	2.00	2.84	
Ethylbenzene*	<0.050	0.050	03/07/2018	ND	2.09	105	2.00	2.74	
Total Xylenes*	<0.150	0.150	03/07/2018	ND	6.34	106	6.00	3.04	
Total BTEX	<0.300	0.300	03/07/2018	ND					

Survegate : Divinojino, overlatente i i ib	Surrogate: 4-Bromofluorobenzene	(PIC	91.9%	72-148
--	---------------------------------	------	-------	--------

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/07/2018	ND	480	120	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/07/2018	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	03/07/2018	ND	195	97.4	200	4.55	
EXT DRO >C28-C36	<10.0	10.0	03/07/2018	ND					
Surrogate: 1-Chlorooctane	87.4	% 41-142	?						
Surrogate: 1-Chlorooctadecane	76.3	% 37.6-14	7						

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PLEASE MOTE: Usablety and Damages. Cardwals labelity and cleret's evolutive remedy for any claim ansang, whether based in contract or tort, shall be lamited to the amount paid by cleret for analyses. All claims, including those for negligence and any other Gause whatsoever shall be deemed waved unkess made in writing and received by Cuent for analyses, actuational weathing thirty (30) days after completion of the applicable serves. In no event shall Cardwal be labele for inodestal or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profile ancumed by cleint, its subledianes, affiliates or successors anoung out of or related tank the serves hereunder by Cardwal, regardless of whether such damins based upon any of the above stated reasons or otherwee. Result relate only to the samples tanding could or profile approximation ends.

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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	8S	% 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	Anatyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
GRO C6-C10*	<10.0	10.0	03/07/2018	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	03/07/2018	ND	195	97.4	200	4.55	
EXT DRO >C28-C36	<10.0	10.0	03/07/2018	ND					
Surrogate: 1-Chlorooctane	81.1	% 41-142	?						
Surrogate: 1-Chlorooctadecane	69.7	% 37.6-14							

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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	}						
Chloride, SM4500CI-B mg/kg		Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/07/2018	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	2						
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	Qualifier
GRO C6-C10*	<10.0	10.0	03/07/2018	ND	205	102	200	1.57	
DRO >C10-C28*	<10.0	10.0	03/07/2018	ND	195	97.4	200	4.55	
EXT DRO >C28-C36	<10.0	10.0	03/07/2018	ND					
Surrogate: 1-Chlorooctane	82.9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	69.0	% 37.6-14	7						

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
	Chloride by SM4500CI-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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Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(57	FAX (575		
Company Name:	HOALLY Corporation	BILL TO ANALYSIS REQUEST	
Project Manager:	Bruce Baker	P.O. *	
Address:		Company:	
city: Nobbs	State: NM ZIP: 888.40	Attn:	
Phone #:		Address:	
Project #:	Project Owner:		
Project Name:	NEDU 218	State: Zip:	
Project Location:			
Sampler Name:	Brue Baker		
Lab I.D. H 800 676	G)RAB OR (C)OMP. CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER ACID/BASE ICE / COOL OTHER D T T CI Extended BTEX	
- <i>c</i> w <i>n</i>	North Wall 403' 61 North Wall 503' 61 North Wall 605' 61 V	2 3-7-18 2:40m 2 3-7-18 2:40m 2 3-7-18 2:40m 1 2 2 1 2 2 1 1 2 2 1 2 2	
PLEASE NOTE: Lunday and Convegos. Cuedran's backing and day analyses. All claims Inducting Bases for magigance and any other ca services. In me event shall Cuedenia to faith for motional or conserv servers. In me event shall Cuedenia to faith for motional	To anchoice namedy for any claim of the anchoice namedy for any claim of man whitepean with the deemed wat another demonstrate without the	And a second secon	
Relinquished By:	- Len	Phone Result: 0 Yes 0 No Add'I Phone #: Fax Result: 0 Yes 0 No Add'I Fax #:	
Relinquished By:	Time:	Larry. Bake	
Delivered By: (Circle One)	Incle One) 5,02 Semple Condition	(Intention) KMSM :	

Page 7 of 7

Corrected 4.950 Sample Condition Cool Intact Yes Yes No No No

TO. #7

Sampler - UPS - Bus - Other:

Received by OCD: 10/27/2020 4:10:56 PM



March 28, 2018

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

RE: NEDU #218

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

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

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

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

Accreditation applies to public drinking water matrices.

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						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		APACHE COF BRUCE BAKE 2350 W. MAI HOBBS NM,	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						

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*=Accredited Analyte

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. @ 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						

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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. @ 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						

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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

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

BILL TO p: \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$	Bill Pilote CI CT CT CT CT CT CT CT CT CT CT	Billing CI CI Extended TPH Solution Solution CI CI CI CI CI CI CI CI CI CI
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Page 41 of 95 đ Page 7 aboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST



April 02, 2018

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

RE: NEDU #218

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

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

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

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

Accreditation applies to public drinking water matrices.

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 BAK	ARLAND 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: SOUTH WALL WEST CENTER @ 3' (H800890-02)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/02/2018	ND	2.05	103	2.00	1.03	
Toluene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	0.715	
Ethylbenzene*	<0.050	0.050	04/02/2018	ND	2.10	105	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/02/2018	ND	6.10	102	6.00	1.71	
Total BTEX	<0.300	0.300	04/02/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	105	% 72-148	}						
Chloride, SM4500Cl-B	mg,	/kg	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						

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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						

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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	% 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	% 41-142							
Surrogate: 1-Chlorooctadecane	89.0	% 37.6-14	7						

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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 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

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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

Company Name: Anache Coro		BILL TO	AN	ANALYSIS REOLIEST	
Project Manager: Bruce BAKen		P.O. #:			
		Company:			
city: Hobbs state: NM	zip: 88240	Attn:			
Phone #: Fax #:		Address:			
Project #: Project Owner:		City:			
Project Name: NEOU 218		State: Zip:	1		
Project Location:		Phone #:	-Pt		
Sampler Name: Bruce Baker		Fax #:	7		
FOR LAB USE ONLY	MATRIX	PRESERV. SAMPLING	d	×.	
	ERS ATER		enclei X		
Lab I.D. Sample I.D.	ORAB OR CONTAINE ROUNDW/ ASTEWAT DIL - UDGE	HER : ID/BASE: E / COOL HER :	CI Exte Bter		
West WALL North Center	# () \ S	4			×7,
e 3'	6 - 1	SI:1 81-96-8	5 1 1 2		
WAll West center					
e z'	61 1	J 3-25-18 1:370m	om V. V, V/		
3 west wall middle @31	61 1	1 3-29-18 2:15 pm	pm V V V		
4 West WAN South @			. /		
Center @ 31	6 1	J-29-18 2:38pm	span V V V		
PLCASE NOTE: Lability and Damages. Cardinal's lability and client's exclusive menety for any claim arising whether based in contract or fort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within 30 days fater completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereurder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	y claim arising whether based in contract eemed waived unless made in writing and without limitation, business interruptions, li without limitation, business interruptions, li rdinal, regardless of whether such claim is	c rot ort, shall be limited to the amount paid by the id received by Cardinale within 30 days after complet loss of use, or loss of profils incurred by client, its; is based upon any of the above stated reasons or is based upon any of the above stated reasons or	lient for the ubsidiaries, therwise		
	Received By:	,	Phone Result: Ves No Adc Fax Result: Yes No Adc REMARKS:	Add'l Phone #: Add'l Fax #:	
Relinquished By: Date:	Received By:		Rush		
Time:	Sample Condition	ON CHECKED BY:	email Result	H_{5}	
1.1°					
† Cardinal cannot accept verbal changes. Please fax written changes to (576) 393-2326 5 o	fax written changes to (576) 395-2326 S °			

Page 48 of 95



April 04, 2018

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

RE: NEDU #218

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

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

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

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

Accreditation applies to public drinking water matrices.

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



		APACHE COI 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 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 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	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 9	% 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 CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240				
		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	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.98	
Toluene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	3.12	
Ethylbenzene*	<0.050	0.050	04/03/2018	ND	2.04	102	2.00	2.49	
Total Xylenes*	<0.150	0.150	04/03/2018	ND	6.34	106	6.00	2.24	
Total BTEX	<0.300	0.300	04/03/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 72-148							
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	04/04/2018	ND	432	108	400	3.64	QM-07
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/03/2018	ND	200	99.8	200	5.16	
DRO >C10-C28*	<10.0	10.0	04/03/2018	ND	228	114	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	04/03/2018	ND					
Surrogate: 1-Chlorooctane	102	% 41-142							
Surrogate: 1-Chlorooctadecane	100	% 37.6-147	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

Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

	0121-000-2020 1 771 (010) 020-2410	o			
company name:	Honche		BILL TO	ANALYSIS REQUEST	
Project Manager:	T		P.O. #:		_
Address:			Company:		
city: Hobbs	ds State: NM	zip: 88240	Attn:	5	
Phone #:	Fax #:		Address:		
Project #:	Project Owner:	а	City:		
Project Name:	SIE NOAN		State: Zip:		
Project Location:			Phone #:		
Sampler Name:	66		Fax #:		
FOR LAB USE ONLY			PRESERV. SAMPLING	-1974	
Lab I.D.	Sample I.D.	(G)RAB OR (C)C # CONTAINERS GROUNDWATE WASTEWATER SOIL OIL SLUDGE	OTHER : ACID/BASE: ICE / COOL OTHER :	TIME CI- Ext. 7 Btex	
	South Excavation East				
	Center @ 3	69 5 5	4-3-15 1	1:40 pm J J J J	
2	South Exception North				
	Wall @ 3 Above liver	G 1 1	4-3-18 1	1:34 pm / / /	
S	South Excavation North				
	Wall West @ 3' Above				
	Liwer	6 1	4-3-18 1:	1:40pm V V V	
PLEASE NOTE: Liability and analyses. All claims including service. In no event shall Carc affiliates or successors arising	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be demend waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be table for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subtaines, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based usons are of the above stated reasons or otherwise.	nr claim arising whether based in contra deemed waived unless made in writing a without limitation, business interruptions ardinal, regardless of whether such claim	Ausive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for thatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the damages, including without limitation, business interruptions, loss of use, or loss of porfits incurred by client, its subsidiari damages, including without limitation, business interruptions, loss of use, or loss of porfits incurred by client, its subsidiari cost business of whether such claim is based upon any of the above statust reasons or otherwise cost because and the statust of the above statust reasons or otherwise.	the client for the mpetition of the applicable t, its subsidiaries, t, its subsidiaries, so or therease	-
Relinquished By: bruce baker	AKer Tin	Received By:	UNDON R	ult:	
Relinquished By:	47	Received By:		Email Results Rush Please !!	se !!!
Sampler- UPS -	Sampler- UPS - Bus - Other: 22.10/22	22.052 Cool Intact	CHECKED BY:	to lab.	
{			NV I	2	

† 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 www.tceq.texas.gov/field/ga/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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:	04/04/2018			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 \$	% 72-148							
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/05/2018	ND	432	108	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	102	% 41-142							
Surrogate: 1-Chlorooctadecane	82.3	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

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 5	% 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	% 37.6-14	7						

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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

10	101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	240 6		-		
Company Name:	Apache	×.	BILLTO		ANALYSIS REQUEST	
Project Manager:	Bruce BAKEr	2	P.O. #:	×		
Address:			Company:			
city: Hobbs	State: NM	zip: 38240	Attn:	·4		
e#	Fax #:		Address:	1.5		
Project #:	Project Owner:		City:	Ri	6	
Project Name:	NEON 218		State: Zip:	21	2	
Project Location:	2		Phone #:			2
Sampler Name:	Bruce baker	15	Fax #:	/		
FOR LAB USE ONLY	- 1	MATRIX	PRESERV. SAMPLING			
		ERS /ATER		TH: x		
Lab I.U.	sample I.J.	g)rab of # Contain Groundy Wastewa Soil Dil Bludge	DTHER : ACID/BASE CE / COOI DTHER : DTHER :	CI- Ext Bte		
	South Excavation South					
	WAll East @ 3'	C	\$ 4-4-15	x x / Webailt		+
29	South Excavation South					
6	0	6 1	1 4-4-18	1:50pm & J J		
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PLEASE NOTE: Liability and Damages. Cardinal's lia analyses. All claims including those for negligence ar service. In no event shall Cardinal be liable for incide affiliates or successors action out of or nealed to the affiliates or successors action out of or nealed to the	bility and client's exclusive remedy for id any other cause whatsoever shall be ntal or consequental damages, includir nerformance of services hereunder by	any claim arising whether based in contract or tort, shall be limited to the amount deemed waived unless made in writing and received by Cardinal writin incurred gry without limitation, business interruptions, loss of use, or loss of portis incurred to Gardinal, repardiess of whether such claim is based upon any of the above stated Cardinal, repardiess of whether such claim is based upon any of the above stated and the such as th	or tort, shall be limited to the amount paid received by Cardinal within 30 days after css of use, or loss of profits incurred by cl s based upon any of the above stated rea	aid by the client for the for completion of the applicable y client, its subsidiaries, reasons or otherwise		
Relinquished By:	Date: 4-12	Received By:,		ult:	Add'I Phone #: Add'I Fax #:	
Power Baher		1 .	ensor	Email Results		
Kelinquished By:	Date: Time:	Repeived By:		Critical and		
Delivered By: (Circle One) Sampler - UPS - Bus - Other	(Circle One) Bus - Other: $5,46/5,356$	Sample Condition	on CHECKED BY:	「「「「「「」」」		
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Page 59 of 95

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 5 of 5

Received by OCD: 10/27/2020 4:10:56 PM

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April 05, 2018

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

RE: NEDU #218

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

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

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

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

Accreditation applies to public drinking water matrices.

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	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/05/2018	ND	192	95.8	200	1.12	
DRO >C10-C28*	<10.0	10.0	04/05/2018	ND	206	103	200	0.00195	
EXT DRO >C28-C36	<10.0	10.0	04/05/2018	ND					
Surrogate: 1-Chlorooctane	107	% 41-142							
Surrogate: 1-Chlorooctadecane	90.0	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		BRUCE BA	1arland 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 @ 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 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 @ 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	2						
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		
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 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 @ 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 %	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	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 %	6 41-142							
Surrogate: 1-Chlorooctadecane	81.2 9	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 @ 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	99.7	% 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

ARDINAL aboratories

Page 68 of 95

Page 9 of 9

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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	easons or otherwise.	services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	regardless of whether such claim is	nce of services hereunder by Cardinal,	filiates or successors arising out of or related to the performance	affiliates or successors aris
picable	r client, its subsidiaries,	eceived by Cardinal within 30 days at ss of use, or loss of profits incurred by	t waived unless made in writing and r t limitation, business interruptions, lo	de a	ardinal be liable for incidental or co	analyses. All claims includ service. In no event shall (
	aid by the client for the	r tort, shall be limited to the amount p	n arising whether based in contract o	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	nd Damages. Cardinal's liability and	PLEASE NOTE: Liability a
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		Phone #:			3	Project Location:
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		City:		Project Owner:		Project #:
		Address:		Fax #:		Phone #:
		Attn:	04288	State: /UM Zip:	bs	city: Hobbs
<u> </u>		Company:				Address:
		P.O. #:	1	Barker	r: Bruce	Project Manager:
ANALYSIS REQUEST		BILL TO			" Apache	Company Name:
				X (575) 393-2476	(575) 393-2326 FAX (575) 393-2476	

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+ Cardinal cannot accent verhal channes Please fav written hangetter (575) 202-329 055

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 (5611)									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA	/ Standard Methods								
Chloride	678	5.75	mg/kg dry	5	P9C0711	03/07/19	03/08/19	EPA 300.0	
% Moisture	13.0	0.1	%	1	P9C0514	03/05/19	03/05/19	ASTM D2216	

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		oject 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
	Permia	n Basin E	nvironme	ntal Lab, l	L.P.				
General Chemistry Parameters by El	PA / Standard Methods								
Chloride % Moisture	848 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	

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) 6	87-0456			
BH-1 (25') 9C01006-03 (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	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: Apache ber: 19-011 ger: Mark L	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			
	Permian Basin Environmental Lab, 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 Num	ect: Apache ber: 19-011 ger: Mark I	2-02	8			Fax: (432) 6	87-0456			
BH-1 (35') 9C01006-05 (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	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: Apa	ache NEDU 218	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-0	0112-02	
Midland TX, 79710	Project Manager: Mar	rk 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 &	. Analyze	ed: 03/05/19				
% Moisture	ND	0.1	%							
Duplicate (P9C0514-DUP1)	Sour	ce: 9C01003-	-25	Prepared &	Analyze	ed: 03/05/19				
% Moisture	16.0	0.1	%		16.0			0.00	20	
Duplicate (P9C0514-DUP2)	Sour	ce: 9C01007-	-02	Prepared &	. Analyze	ed: 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

un Barron

Report Approved By:

Date: 3/11/2019

Brent Barron, Laboratory Director/Technical Director

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

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

Permian Basin Environmental Lab, L.P.

RUABORATORY:			RELINGUS	C. RELING	N 1	1/202	04.	10::	6 P.	4/1		2	BH-1,	BH-1,	PH-11	64-1-	DH-1,	Field Sample I.D.	Time zone/State:		TRRP report?	Environmen Data Reported to:		Pag	re 78	3 of
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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: NED	DU 218 Road Boring	Fax: (432) 687-0456
P.O. Box 50685	Project Number: 19-01	0112-02	
Midland TX, 79710	Project Manager: Mark	k 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)

9631004-01 (S0II)												
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes			
	Permian Basin Environmental Lab, L.P.											
General Chemistry Parameters by EPA / S	Standard Method	S										
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		Fax: (432) 6	87-0456									
BH-1 (45') 9G31004-02 (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	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	Fax: (432) 687-0456								
			H-1 (50') 004-03 (So	il)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Permia	an Basin F	Invironme	ntal Lab, l	L.P.				
General Chemistry Parameters by E	PA / 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	x 50685 Project Number: 19-0112-02										
BH-1 (55') 9G31004-04 (Soil)											
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes		
	Permia	n Basin E	Invironme	ntal Lab, I	L.P.						
General Chemistry Parameters by El	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		oject Numl	ect: NEDU ber: 19-011 ger: Mark L	2-02	Boring			Fax: (432) 68	87-0456
			H-1 (60') 004-05 (So	il)					
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Permia	n Basin E	nvironme	ntal Lab, I	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)	Source: 9H01005-03				k Analyzed	: 08/05/19				
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (P9H0501-DUP4)	Sou	Prepared &	a 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)	Source: 9G30014-01				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
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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)	Sou	rce: 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

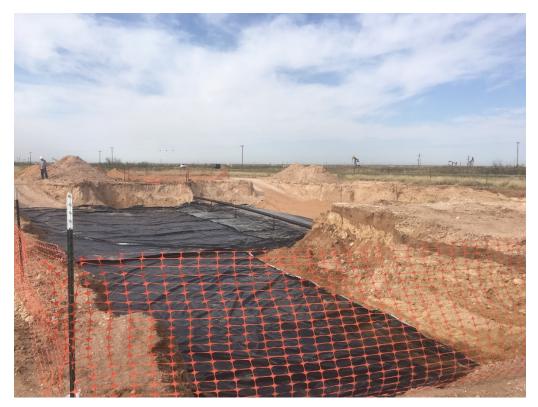


Photo of Liner for South Excavation