



303 Veterans Airpark Lane Midland, TX 79705

## **Remediation Plan**

March 6, 2021

Re: NBTWEEN BATTERY  
Case # nAPP2035256502

### **Background:**

On 12/7/2020 a release occurred due to a fire tube failed on a heater treater. The release (GPS: 32.80780, -104.12436) is located east of Artesia, NM in unit letter H section 25 township 17S range 28E. A groundwater survey was conducted utilizing the NMOSE and USGS wells of record and a temporary well (GPS: 32.804896, -104.105169) drilled on 5/26/2011 1.1 miles southeast of the release. The well was advanced to a depth of 100 feet and set with 2 inch PVC casing and screen from 80 to 100 feet. On 6/28/2011 a Solinst Water Level Meter was utilized to check for water accumulation within the borehole. The meter indicated no water had accumulated to a total depth of 99.12 feet. This data suggest that the depth to groundwater beneath the release to be 51-100 feet.

On 2/10/2021 surface samples were collected at SP 1, 2, and 3. All samples collected were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. On 2/26/2021 vertical delineation was conducted utilizing a hand auger to various depth of 1 to 9 feet. All samples collected were field titrated for chlorides and representative samples were submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Horizontal 5 point surface composite samples were collected and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX.

### **Remediation Plan:**

Apache Corporation proposes that the areas around SP 1 and SP 2 be hand excavated to a depth of 1 foot. Final 5 point bottom composite will be collected not to exceed 500 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Final 5 point wall samples will be collected not to exceed 200 square feet and submitted to a commercial laboratory for analysis of chloride, TPH, and BTEX. Once laboratory results are below table one standards for releases 51-100 feet to groundwater or to extent possible due to the battery infrastructure in close proximity. All excavated material (48 yards) will be hauled to an OCD approved disposal facility. The excavation will be backfilled with clean imported caliche to ground surface. The remediation will be completed within 90 days of OCD approval of the plan.

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

Submitted by;

*Bruce Baker*

**Environmental Technician**

*larry.baker@apachecorp.com*

**Cell# 432-631-6982**

**Off# 432-818-1000**

Incident ID	
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>51-100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: Larry Baker Title: Environmental Tech SR.  
Signature: Larry Baker Date: 3/6/2021  
email: larry.baker@apachecorp.com Telephone: 432-631-6982

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	
Facility ID	
Application ID	

## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Larry Baker Title: Environmental Tech SR.  
Signature: Larry Baker Date: 3/6/2021  
email: larry.baker@apachecorp.com Telephone: \_\_\_\_\_

**OCD Only**

Received by: Chad Hensley Date: 04/30/2021

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

Signature: Chad Hensley Date: 04/30/2021



NBTWEEN Battery  
H4  
SP 2  
H3  
SP 3

Lovington Hwy

82

210

Soldado Rd

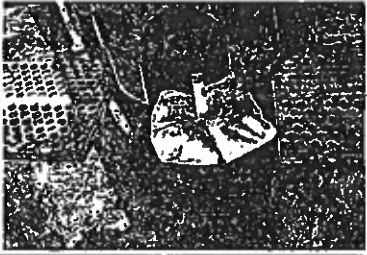

Arco Rd

32 48.294 -104 06.310  
Temporary Well

© 2021 Google

Google Earth

2245 ft

<b>Logger:</b>		Jordan Woodfin					
<b>Driller:</b>		Harrison & Cooper, Inc					
<b>Drilling Method:</b>		Air rotary					
<b>Start Date:</b>		4/15/2011					
<b>End Date:</b>		4/15/2011		<b>Company:</b> Apache <b>Project Name:</b> Empire Abo Unit C-49 SWD <b>Project Consultant:</b> RECS		<b>Well ID:</b> MW-1 temp <b>Location:</b> UL/L sec 29 T17S R29E	
<b>Comments:</b>				No sampling occurred on this well		Well was set as a temporary well	
				DRAFTED BY: L. Weinheimer TD = 55 ft      GW = none		Lat: N32°48.294' Long: W104°06.310'	
		County: Eddy				State: NM	

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
5 ft						
10 ft						
15 ft						
20 ft						
25 ft						
30 ft						
35 ft						
40 ft						
45 ft						

NO SAMPLES TAKEN

RED BED CLAY MIXED WITH SAND

RED BED CLAY

annular space  
left open

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
50 ft						
55 ft						

## Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241

Phone 575.393.4411 Fax 575.393.0293

July 11<sup>th</sup>, 2011

Natalie Gladden

Apache Corp.

P.O. Box 1849

Eunice, New Mexico 88231

**Re: Empire Abo Unit C-49 SWD**

Ms. Gladden,

On May 26<sup>th</sup>, 2011, RECS personnel drilled an observational well at the Empire Abo Unit C-49 SWD. On June 28<sup>th</sup>, I supervised RECS personnel checking for water accumulation within the borehole using a Solinst Water Level Meter. The meter indicated no water had accumulated within the borehole at the total depth of 99.12 ft.

Sincerely,



Bruce Baker

Head Foreman

Rice Environmental Consulting & Safety

Buffer Size (miles) : 0.5

Click Map to Draw Radius

### Coordinates

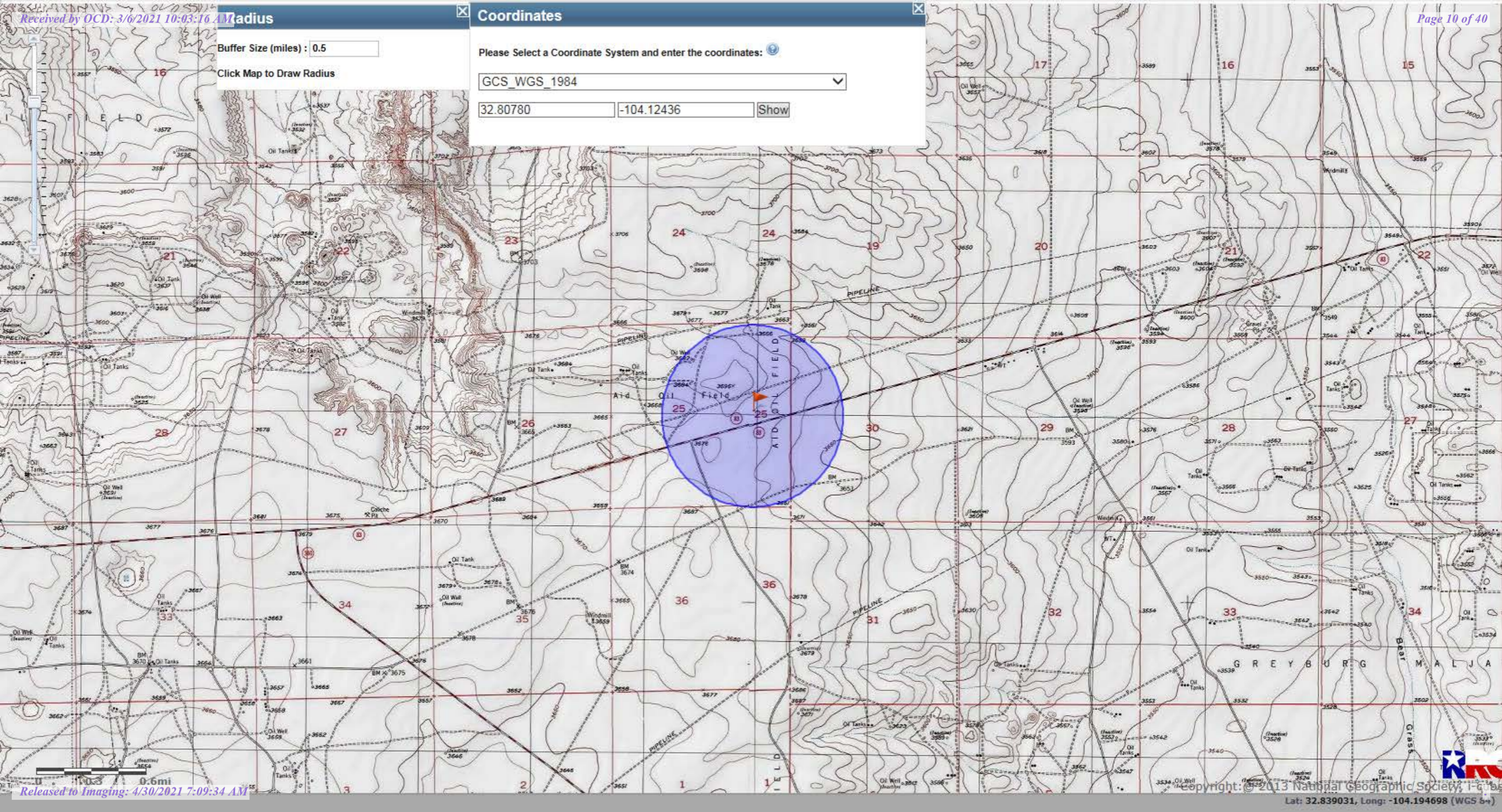
Please Select a Coordinate System and enter the coordinates:

GCS\_WGS\_1984

32.80780

-104.12436

Show





historical imagery from 1985.

65 ft

Released to Imaging: 4/30/2021 7:09:34 AM

1985

Google Earth

Sample Date	Sample ID	Depth	Field Chloride	Chloride	Benzene	Toulene	Ethybenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO	GPS Coordinates
<b>Delineation Samples</b>													
2/10/2021	SP1 @ Surface	S	N/A	11,800	<0.050	0.060	0.29	0.860	1.21	12.4	1720	352	32.807778 -104.124400
2/26/2021	SP1 @ 1'	1'	480	112	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	515	289	
2/10/2021	SP2 @ Surface	S	N/A	3,200	6.72	107	96.6	162	372	2,780	10,300	1,770	32.807630 -104.124399
2/26/2021	SP2 @ 1'	1'	880	928	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	79.2	18.2	
2/26/2021	SP2 @ 2'	2'	800										
2/26/2021	SP2 @ 3'	3'	960	1840	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	143	31.7	
2/26/2021	SP2 @ 4'	4'	1840										
2/26/2021	SP2 @ 5'	5'	1040	1140	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
2/26/2021	SP2 @ 6'	6'	960										
2/26/2021	SP2 @ 7'	7'	720	480	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
2/26/2021	SP2 @ 8'	8'	560										
2/26/2021	SP2 @ 9'	9'	480	208	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	15.2	<10.0	
2/10/2021	SP3 @ Surface	S	N/A	6720	<0.050	0.435	1.18	3.420	5.04	113	9.62	3.53	32.807345 -104.124392
2/26/2021	SP3 @ 1'	1'	400										
2/26/2021	SP3 @ 2'	2'	800	448	<0.050	2.67	7.93	16.4	27	200	1,660	336	
2/26/2021	SP3 @ 3'	3'	480										
2/26/2021	SP3 @ 4'	4'	560	336	<0.050	0.399	1.42	3.41	5.22	55.4	777	166	
2/26/2021	SP3 @ 5'	5'	480										
2/26/2021	SP3 @ 6'	6'	320	16	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	
<b>Horizontal Samples</b>													
2/26/2021	HC1	S	480	336	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	103	105	32.807844 -104.124388
2/26/2021	H2	S	480	288	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	269	169	32.807634 -104.124337
2/26/2021	H3	S	320	64	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.807321 -104.124386
2/26/2021	H4	S	480	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	32.807600 -104.124426



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February 12, 2021

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NB TWEEN

Enclosed are the results of analyses for samples received by the laboratory on 02/10/21 14:16.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/10/2021  
 Reported: 02/12/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN TB  
 Project Location: EDDY COUNTY

Sampling Date: 02/10/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 1 @ SURFACE (H210360-01)**

BTX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/11/2021	ND	2.31	116	2.00	1.13	
<b>Toluene*</b>	<b>0.060</b>	0.050	02/11/2021	ND	2.34	117	2.00	0.0767	
<b>Ethylbenzene*</b>	<b>0.285</b>	0.050	02/11/2021	ND	2.21	110	2.00	1.10	
<b>Total Xylenes*</b>	<b>0.860</b>	0.150	02/11/2021	ND	6.43	107	6.00	1.17	
<b>Total BTX</b>	<b>1.21</b>	0.300	02/11/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.3-129

Chloride, SM4500Cl-B		mg/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>11800</b>	16.0	02/11/2021	ND	416	104	400	3.92	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>12.4</b>	10.0	02/11/2021	ND	212	106	200	2.29	
<b>DRO &gt;C10-C28*</b>	<b>1720</b>	10.0	02/11/2021	ND	222	111	200	0.305	
<b>EXT DRO &gt;C28-C36</b>	<b>352</b>	10.0	02/11/2021	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 139 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 02/10/2021  
 Reported: 02/12/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN TB  
 Project Location: EDDY COUNTY

Sampling Date: 02/10/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 2 @ SURFACE (H210360-02)**

BTX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>6.72</b>	1.00	02/11/2021	ND	2.31	116	2.00	1.13	
<b>Toluene*</b>	<b>107</b>	1.00	02/11/2021	ND	2.34	117	2.00	0.0767	
<b>Ethylbenzene*</b>	<b>96.6</b>	1.00	02/11/2021	ND	2.21	110	2.00	1.10	
<b>Total Xylenes*</b>	<b>162</b>	3.00	02/11/2021	ND	6.43	107	6.00	1.17	
<b>Total BTX</b>	<b>372</b>	6.00	02/11/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 130 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>3200</b>	16.0	02/11/2021	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>2780</b>	50.0	02/11/2021	ND	212	106	200	2.29	
<b>DRO &gt;C10-C28*</b>	<b>10300</b>	50.0	02/11/2021	ND	222	111	200	0.305	
<b>EXT DRO &gt;C28-C36</b>	<b>1770</b>	50.0	02/11/2021	ND					

Surrogate: 1-Chlorooctane 222 % 44.3-144

Surrogate: 1-Chlorooctadecane 321 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 02/10/2021  
 Reported: 02/12/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN TB  
 Project Location: EDDY COUNTY

Sampling Date: 02/10/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 3 @ SURFACE (H210360-03)**

BTX 8021B		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/11/2021	ND	2.31	116	2.00	1.13	
Toluene*	0.435	0.050	02/11/2021	ND	2.34	117	2.00	0.0767	
Ethylbenzene*	1.18	0.050	02/11/2021	ND	2.21	110	2.00	1.10	
Total Xylenes*	3.42	0.150	02/11/2021	ND	6.43	107	6.00	1.17	
Total BTX	5.04	0.300	02/11/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 143 % 73.3-129

Chloride, SM4500CI-B		mg/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6720	16.0	02/11/2021	ND	416	104	400	3.92	

TPH 8015M		mg/kg	Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	113	50.0	02/11/2021	ND	212	106	200	2.29	
DRO >C10-C28*	9620	50.0	02/11/2021	ND	222	111	200	0.305	
EXT DRO >C28-C36	3530	50.0	02/11/2021	ND					

Surrogate: 1-Chlorooctane 127 % 44.3-144

Surrogate: 1-Chlorooctadecane 358 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**BILL TO**

## ANALYSIS REQUEST

† Cardinal cannot accept verbal changes. Please email changes to [celery.reene@comcast.net](mailto:celery.reene@comcast.net).



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

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March 02, 2021

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NB TWEEN

Enclosed are the results of analyses for samples received by the laboratory on 02/26/21 14:13.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 1 @ 1' (H210468-01)**

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	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTEX	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: GM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	03/01/2021	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	02/27/2021	ND	212	106	200	0.582	
DRO >C10-C28*	515	10.0	02/27/2021	ND	220	110	200	1.27	
EXT DRO >C28-C36	289	10.0	02/27/2021	ND					

Surrogate: 1-Chlorooctane 126 % 44.3-144

Surrogate: 1-Chlorooctadecane 130 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 2 @ 1' (H210468-02)**

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	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTEx	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	03/01/2021	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	02/27/2021	ND	212	106	200	0.582	
DRO >C10-C28*	79.2	10.0	02/27/2021	ND	220	110	200	1.27	
EXT DRO >C28-C36	18.2	10.0	02/27/2021	ND					

Surrogate: 1-Chlorooctane 122 % 44.3-144

Surrogate: 1-Chlorooctadecane 134 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 2 @ 3' (H210468-03)**

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	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTEx	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1840	16.0	03/01/2021	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	02/27/2021	ND	212	106	200	0.582	
DRO >C10-C28*	143	10.0	02/27/2021	ND	220	110	200	1.27	
EXT DRO >C28-C36	31.7	10.0	02/27/2021	ND					

Surrogate: 1-Chlorooctane 109 % 44.3-144

Surrogate: 1-Chlorooctadecane 123 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 2 @ 5' (H210468-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTX	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	03/01/2021	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	02/27/2021	ND	212	106	200	0.582	
DRO >C10-C28*	<10.0	10.0	02/27/2021	ND	220	110	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	02/27/2021	ND					

Surrogate: 1-Chlorooctane 117 % 44.3-144

Surrogate: 1-Chlorooctadecane 126 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 2 @ 9' (H210468-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/26/2021	ND	2.05	103	2.00	4.84		
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71		
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84		
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48		
Total BTEx	<0.300	0.300	02/26/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	03/01/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/01/2021	ND	207	103	200	2.59	
DRO >C10-C28*	15.2	10.0	03/01/2021	ND	212	106	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	03/01/2021	ND					

Surrogate: 1-Chlorooctane 77.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 74.5 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 3 @ 2' (H210468-06)**

BTX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	2.67	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	7.93	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	16.4	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTX	27.0	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 198 % 73.3-129

Chloride, SM4500CI-B			mg/kg					Analyzed By: GM	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>448</b>	16.0	03/01/2021	ND	416	104	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*	<b>200</b>	10.0	03/01/2021	ND	207	103	200	2.59	
DRO >C10-C28*	<b>1660</b>	10.0	03/01/2021	ND	212	106	200	1.04	
EXT DRO >C28-C36	<b>336</b>	10.0	03/01/2021	ND					

Surrogate: 1-Chlorooctane 110 % 44.3-144

Surrogate: 1-Chlorooctadecane 98.6 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 3 @ 4' (H210468-07)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	0.399	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	1.42	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	3.41	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTEX	5.22	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 126 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	03/01/2021	ND	416	104	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*	55.4	10.0	03/01/2021	ND	207	103	200	2.59	
DRO >C10-C28*	777	10.0	03/01/2021	ND	212	106	200	1.04	
EXT DRO >C28-C36	166	10.0	03/01/2021	ND					

Surrogate: 1-Chlorooctane 76.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 77.9 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 3 @ 6' (H210468-08)**

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	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTEx	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/01/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/01/2021	ND	207	103	200	2.59	
DRO >C10-C28*	<10.0	10.0	03/01/2021	ND	212	106	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	03/01/2021	ND					

Surrogate: 1-Chlorooctane 71.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 68.4 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP 2 @ 7' (H210468-09)**

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	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTEx	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	03/01/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/01/2021	ND	207	103	200	2.59	
DRO >C10-C28*	<10.0	10.0	03/01/2021	ND	212	106	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	03/01/2021	ND					

Surrogate: 1-Chlorooctane 62.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 60.7 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager

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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.
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

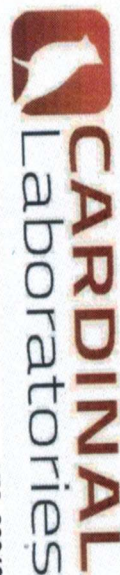
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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

[illegible]



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

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March 02, 2021

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: NB TWEEN

Enclosed are the results of analyses for samples received by the laboratory on 02/26/21 14:16.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: HC 1 (H210469-01)**

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	02/26/2021	ND	2.05	103	2.00	4.84	QR-03
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	QR-03
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTEX	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	03/01/2021	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	03/01/2021	ND	207	103	200	2.59	
DRO >C10-C28*	103	10.0	03/01/2021	ND	212	106	200	1.04	
EXT DRO >C28-C36	105	10.0	03/01/2021	ND					

Surrogate: 1-Chlorooctane 71.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 73.8 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: HC 2 (H210469-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTX	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	03/01/2021	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	03/01/2021	ND	207	103	200	2.59	
DRO >C10-C28*	269	10.0	03/01/2021	ND	212	106	200	1.04	
EXT DRO >C28-C36	169	10.0	03/01/2021	ND					

Surrogate: 1-Chlorooctane 74.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 97.1 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: HC 3 (H210469-03)**

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	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTEx	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	03/01/2021	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	03/01/2021	ND	207	103	200	2.59	
DRO >C10-C28*	<10.0	10.0	03/01/2021	ND	212	106	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	03/01/2021	ND					

Surrogate: 1-Chlorooctane 68.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 66.8 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 02/26/2021  
 Reported: 03/02/2021  
 Project Name: NB TWEEN  
 Project Number: NB TWEEN BATTERY  
 Project Location: EDDY COUNTY

Sampling Date: 02/26/2021  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: HC 4 (H210469-04)**

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	02/26/2021	ND	2.05	103	2.00	4.84	
Toluene*	<0.050	0.050	02/26/2021	ND	2.03	102	2.00	4.71	
Ethylbenzene*	<0.050	0.050	02/26/2021	ND	1.98	98.9	2.00	4.84	
Total Xylenes*	<0.150	0.150	02/26/2021	ND	5.80	96.6	6.00	4.48	
Total BTEx	<0.300	0.300	02/26/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	03/01/2021	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	03/01/2021	ND	207	103	200	2.59	
DRO >C10-C28*	<10.0	10.0	03/01/2021	ND	212	106	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	03/01/2021	ND					

Surrogate: 1-Chlorooctane 68.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 66.1 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

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.
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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

# Apache N B Tween Battery

$$SP1-1' \quad 24 \times 20 = 480$$

$$SP2-1' \quad 44 \times 20 = 880$$

$$2' \quad 40 \times 20 = 800$$

$$3' \quad 48 \times 20 = 960$$

$$4' \quad 92 \times 20 = 1840$$

$$5' \quad 52 \times 20 = 1040$$

$$6' \quad 48 \times 20 = 960$$

$$7' \quad 36 \times 20 = 720$$

$$8' \quad 28 \times 20 = 560$$

$$9' \quad 24 \times 20 = 480$$

$$SP3-1' \quad 20 \times 20 = 400$$

$$2' \quad 40 \times 20 = 800$$

$$3' \quad 24 \times 20 = 480$$

$$4' \quad 28 \times 20 = 560$$

$$5' \quad 24 \times 20 = 480$$

$$6' \quad 16 \times 20 = 320$$

$$Hc1 \quad 24 \times 20 = 480$$

$$Hc2 \quad 24 \times 20 = 480$$

$$Hc3 \quad 16 \times 20 = 320$$

$$Hc4 \quad 24 \times 20 = 480$$

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 19902

CONDITIONS OF APPROVAL

Operator:		OGRID:	Action Number:	Action Type:
#1000	APACHE CORPORATION Midland, TX79705	873	19902	C-141
OCD Reviewer	Condition			
chensley	None			