

**RECEIVED**

By OCD Dr Oberding at 9:56 am, Feb 08, 2017

Conditionally

**APPROVED**

By OCD Dr Oberding at 9:56 am, Feb 08, 2017



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Conditions of Approval:

1) Remove as much of the impacted soil as possible, verify the integrity of the liner.

### **Soil Assessment and Remediation Work Plan**

High Plains State Com #1\* 30-025-40334 \* 1RP-4457

Talon Project No. 700745.070.01

#### **Prepared For:**

Apache Corporation  
2350 W Marland Blvd  
Hobbs, New Mexico 88240

#### **Prepared By:**

Kimberly M. Wilson  
TALON/LPE  
408 W. Texas Avenue  
Artesia, New Mexico 88210

**October 29, 2016**

Ms. Kristen Lynch  
**NMOCD District I**  
1625 N. French Dr.  
Hobbs, NM 88240

Subject: **Soil Assessment and Remediation Work Plan**  
High Plains State Com #1 \* 30-025-40334 \* 1RP-4457

Dear Ms. Lynch,

Apache Corporation has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The results of our soil assessment and proposed remediation activities consist of the following.

### **Site Information**

The High Plains State Com #1 is located approximately twenty-three (23) miles northwest of Lovington, New Mexico. The legal location for this release is Unit Letter L, Section 23, Township 14 South and Range 34 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 33.0875282 North and -103.4890442 West. A site plan is presented in [Appendix I](#).

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services (NRSC) the soil in this area is made up of Lea fine sandy loam. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology, Quaternary Age sedimentary deposits, is comprised of alluvium and eolian sands which includes silty soils underlain by dense caliche layers. Drainage courses in this area are normally dry.

### **Ground Water and Site Ranking**

The New Mexico State Engineer web site indicates the nearest ground water data to be in S23-T14S-R34E. The ground water in Section 23 is reported to be 60' below ground surface (BGS). See [Appendix II](#) for the referenced groundwater data.

Therefore the ranking for this site is a **10** based on the following:

Depth to ground water	50' - 100'
Wellhead Protection Area	>1000'
Distance to surface water body	>1000'

Based upon the site ranking of **10**, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, 1,000 mg/kg for TPH and 1,000 mg/kg for total chlorides.

## Incident Description and Initial Remedial Actions

On September 19, 2016 Apache personnel found that livestock had broken a nipple on the wellhead resulting in a release of 8 barrels of mixed fluids. A vac truck was immediately called to the location to pick up the standing fluids. 2 barrels of oil and 3 barrels of produced water were recovered. The well was shut-in, repaired and put back into service. All of the fluids stayed on location. A site plan is presented in [Appendix I](#) which illustrates the impacted area. See initial C-141 in [Appendix II](#).

On October 5, 2016 Talon mobilized personnel to begin the site assessment and soil sampling activities for the construction of a work plan. Grab soil samples were collected utilizing a backhoe. It was discovered that a liner was installed during drilling activities at a depth of 2-2.5 feet deep. See photos presented in [Appendix IV](#).

See [Appendix III](#) for complete report of laboratory results.

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	0.5'	17.2	960	464	3870
	1'	--	688	--	--
	1.5'	--	752	--	--
	2'	--	992	--	--

(--) Analyte Not Tested

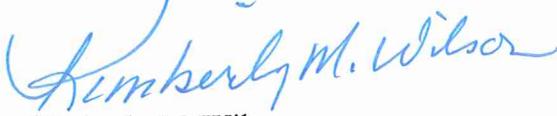
## Proposed Remedial actions

- To avoid compromising the integrity of the liner the impacted area will be scraped 0.5-feet deep.
- The excavated soil will be transported to a NMOCD approved solid waste disposal facility.
- The excavated area will be backfilled with new caliche, machine compacted and contoured to match the surrounding location.
- On behalf of Apache Corporation, we request that the remainder of the impacted soil be remediated upon the plugging of the well.
- A final closure report documenting the remedial actions, a final C-141 will be provided to the NMOCD District I Hobbs Office.

Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768

Respectfully submitted,

TALON/LPE



Kimberly M. Wilson  
Project Manager

David J. Adkins  
District Manager

Attachments:

- Appendix I Site Plan
- Appendix II Groundwater Data & Initial C-141
- Appendix III Laboratory Results
- Appendix IV Photos

**APPENDIX I**

**SITE MAP**

High Plains State Com #1H  
Apache



**APPENDIX II**  
**GROUNDWATER DATA**  
**INITIAL C-141**



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">L 09357</a>	L	LE		4	3	1	23	14S	34E	641112	3662487	709	140	60	80
<a href="#">L 05054</a>	L	LE					23	14S	34E	641725	3662288*	865	105	90	15
<a href="#">L 05104</a>	L	LE			2	27	14S	34E		640529	3661070*	867	100	75	25
<a href="#">L 05508</a>	L	LE		2	2	22	14S	34E		640702	3662885*	1146	135	65	70
<a href="#">L 10650</a>	L	LE		3	2	27	14S	34E		640328	3660869*	1147	171	60	111
<a href="#">L 10651</a>	L	LE		4	1	27	14S	34E		639925	3660863*	1431	173	61	112
<a href="#">L 06539</a>	L	LE		1	3	14	14S	34E		641093	3663695*	1912	110	51	59
<a href="#">L 09386</a>	L	LE		3	4	3	24	14S	34E	643030	3661613*	2016	150		
<a href="#">L 06396</a>	L	LE		4	4	26	14S	34E		642351	3660094*	2150	125	68	57
<a href="#">L 06879</a>	L	LE		2	3	4	21	14S	34E	638806	3661748	2215	140	63	77
<a href="#">L 06622</a>	L	LE		2	2	2	33	14S	34E	639236	3659744*	2710	150	70	80
<a href="#">L 09251</a>	L	LE		3	2	2	14	14S	34E	642185	3664416*	2877	150	64	86

Average Depth to Water: **66 feet**  
 Minimum Depth: **51 feet**  
 Maximum Depth: **90 feet**

Record Count: 12

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 641021

**Northing (Y):** 3661784

**Radius:** 3000

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

REVIEWED

By Kristen Lynch at 9:46 am, Sep 28, 2016

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141  
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

Initial Report  Final Report

Name of Company: Apache Corporation	Contact Bruce Baker
Address: 2350 W Marland Blvd Hobbs, NM 88240	Telephone No. (432) 631-6982
Facility Name High Plains State Com # 001H	Facility Type: Oil well

Surface Owner State	Mineral Owner	API No. 30-025-40334
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	23	14S	34E	1700	FSL	330	FWL	Lea

Latitude N33.0875282 Longitude W103.4890442

NATURE OF RELEASE

Type of Release: Oil and produced water	Volume of Release 4 barrel of oil and 4 barrels of water	Volume Recovered 2 barrels of oil and 3 barrels of water
Source of Release: Nipple on well head	Date and Hour of Occurrence 9/19/2016	Date and Hour of Discovery 9/19/2016
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

A release occurred due to livestock in the area broke off a 1/4 inch nipple on the well head resulting in the loss of fluid. The well was shut in and nipple replaced.

Describe Area Affected and Cleanup Action Taken.\* The entire release was contained to the lease pad. A vacuum truck was dispatched to pick-up standing fluid.

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

OIL CONSERVATION DIVISION

Signature: <i>Bruce Baker</i>	Approved by Environmental Specialist: <i>Kristen Lynch</i>	
Printed Name: Bruce Baker	Approval Date: 9/28/2016	Expiration Date: 11/28/2016
Title: Environmental Technician	NMOCD Accepts Discrete Samples Only	
E-mail Address: larry.baker@apachecorp.com	Conditions of Approval: Please submit Remediation Plan no later than 10/28/2016	Attached <input type="checkbox"/> IRP 4457
Date: 9/27/2016	Phone: (432) 631-6982	

\* Attach Additional Sheets If Necessary

Notify NMOCD Prior to all Sampling

nKL1627234719  
pKL1627234922

**APPENDIX III**  
**LABORATORY RESULTS**



November 30, 2016

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: HIGH PLAINS ST. COM #1

Enclosed are the results of analyses for samples received by the laboratory on 10/07/16 13:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/ga/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,

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 TALON LPE  
 KIMBERLY WILSON  
 408 W. TEXAS AVE.  
 ARTESIA NM, 88210  
 Fax To: (575) 745-8905

Received:	10/07/2016	Sampling Date:	10/05/2016
Reported:	11/30/2016	Sampling Type:	Soil
Project Name:	HIGH PLAINS ST. COM #1	Sampling Condition:	Cool & Intact
Project Number:	700745..071.01	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

**Sample ID: S-1 0.5' (H602266-01)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/11/2016	ND	2.18	109	2.00	1.38	
Toluene*	<b>0.980</b>	0.200	10/11/2016	ND	2.27	114	2.00	1.12	
Ethylbenzene*	<b>3.16</b>	0.200	10/11/2016	ND	2.21	110	2.00	1.03	
Total Xylenes*	<b>13.1</b>	0.600	10/11/2016	ND	6.66	111	6.00	0.694	
Total BTEX	<b>17.2</b>	1.20	10/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 134 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>960</b>	16.0	10/12/2016	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<b>464</b>	50.0	10/10/2016	ND	188	94.1	200	3.55		
DRO >C10-C28	<b>3870</b>	50.0	10/10/2016	ND	214	107	200	4.52		

Surrogate: 1-Chlorooctane 155 % 35-147

Surrogate: 1-Chlorooctadecane 152 % 28-171

**Sample ID: S-1 1' (H602266-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>688</b>	16.0	10/12/2016	ND	400	100	400	0.00	

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 TALON LPE  
 KIMBERLY WILSON  
 408 W. TEXAS AVE.  
 ARTESIA NM, 88210  
 Fax To: (575) 745-8905

Received:	10/07/2016	Sampling Date:	10/05/2016
Reported:	11/30/2016	Sampling Type:	Soil
Project Name:	HIGH PLAINS ST. COM #1	Sampling Condition:	Cool & Intact
Project Number:	700745..071.01	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

**Sample ID: S-1 1.5' (H602266-03)**

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	10/12/2016	ND	400	100	400	3.92	

**Sample ID: S-1 2' (H602266-04)**

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	10/12/2016	ND	400	100	400	3.92	

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\* = Accredited Analyte

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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.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

ANALYSIS REQUEST

Company Name: Talon/LPE  
 Project Manager:  
 Address: 408 W. Texas Ave. State: NIM Zip: 88210  
 City: Artesia  
 Phone #: 575-746-8768 Fax #: 575-746-8905  
 Project #: 700745-07101 Project Owner:  
 Project Name: *Al's & Plains St Com # 1*  
 Project Location: *lea Oxy*  
 Sampler Name: *Kim Wlar*  
 FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX										DATE	TIME	ANALYSIS	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE /COOL	OTHER :	PRESERV.				SAMPLING
<i>1100246</i>	<i>*5-1</i>																<i>Chlorides</i>
	<i>1</i>	<i>0.5'</i>	<i>5</i>														<i>BTEX</i>
	<i>2</i>	<i>1.5'</i>	<i>5</i>														<i>TPH</i>
	<i>3</i>	<i>1.5'</i>	<i>5</i>														
	<i>4</i>	<i>2'</i>	<i>5</i>														

Relinquished By: *Kim Wlar*  
 Relinquished By: *Kim Wlar*  
 Received By: *Kurt Speer*  
 Delivered By: (Circle One) *Kurt Speer*  
 Sampler - UPS - Bus - Other: *2.80*

REMARKS:  
*\* Sample id revised as per Kimberly 11/30/16 cd*

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326 #75

**APPENDIX IV**  
**PHOTOS**