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

NB Tween State #1 \* 30-015-35915 \* 2RP-4115

Talon Project No. 700745.076.01

### **Prepared For:**

Apache Corporation

2350 W Marland Blvd

Hobbs, New Mexico 88240

### **Prepared By:**

Kimberly M. Wilson

Talon/LPE

408 West Texas

Artesia, New Mexico 88210

**March 31, 2017**

Mr. Mike Bratcher  
**NMOCD District 2**  
811 S. 1<sup>st</sup> Street  
Artesia, NM 88210

Subject:       **Soil Assessment and Remediation Work Plan**  
                  Apache Corporation  
                  NB Tween State #1 Battery  
                  API # 30-015-35915 2RP-4115

Dear Mr. Bratcher,

Apache Corporation (Apache) 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 NB Tween State #1 is located approximately sixteen (16) miles east of Artesia, New Mexico. The legal location for this site is Unit Letter H of Section 25, Township 17 South, and Range 28 East in Eddy County, New Mexico. More specifically the latitude and longitude for the location are 32.807655 North and -104.12471 West. See site plan in [Appendix I](#).

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service (NRCS), the soil in this area is made up of Simona gravelly fine sandy loam with 0 to 3 percent slopes. Drainage courses in this area are normally dry.

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

The New Mexico State Engineer web site indicates that there is no known ground water in the area. See [Appendix II](#) for the referenced groundwater data. See [Appendix II](#). Therefore the ranking for this site is a **0** based on the following:

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

Based upon the site ranking of **0**, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, 5,000 mg/kg for TPH and recommended guidelines for total chlorides is 1,000 mg/kg.

## Incident Description

The gasket on the oil storage tank failed resulting in 40 barrels of oil to release in the unlined containment. The wells were shut in. A vac truck was immediately called to the location and recovered 35 barrels of oil. A site plan is presented in [Appendix I](#) which illustrates the impacted area.

On February 10, 26, 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 to a depth of 6-feet below ground surface. On February 16, 2017 Talon returned to the site with a hand auger for further lateral delineation of the impacted area as directed by the NMOCD. Laboratory results are presented below.

On March 22, 2017 Talon personnel returned to the site to perform additional vertical delineation sampling. While trying to obtain deeper samples at S-7 a liner was present at 0.5-feet deep. Laboratory results are presented below.

## Laboratory Results

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

February 19, 2017

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	0'	126	--	2090	10500
	0.5'	156	--	2210	8260
	1'	0.480	--	16.8	460
S-2	0'	313	--	3550	12600
	0.5'	198	--	1040	4990
	1'	<0.300	--	<10	65.7
S-3	0'	651	--	7510	20700
	0.5'	16.8	--	476	3510
	1'	0.373	--	<10	315
S-4	0'	0.463	--	43.5	1140
	0.5'	<0.300	--	<10	89.7
	1'	1.75	--	61.5	788
S-5	0'	678	--	7400	23000
	0.5'	550	--	6320	20300
	1'	151	--	3190	13600
S-6	0'	180	--	2760	13500
	0.5'	241	--	3070	12400
	1'	99	--	1330	7040
S-7	0'	978	--	11200	34700

--Analyte Not Tested

February 21, 2017

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-8	0'	<0.300	--	<10	12.7
	0.5'	<0.300	--	<10	<10
	1'	<0.300	--	<10	<10
S-9	0'	<0.300	--	<10	<10
	0.5'	<0.300	--	<10	21.8
	1'	<0.300	--	<10	<10
S-10	0'	<0.300	--	<10	<10
	0.5'	<0.300	--	<10	<10
	1'	<0.300	--	<10	<10

--Analyte Not Tested

March 27, 2017

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-5 Refusal	0.5'	1450	--	13000	20100
S-6	2'	92.9	--	1160	3780
	3'	1.84	--	16.1	206
	4'	1.06	--	<10	20.5
	5'	0.619	--	<10	108

--Analyte Not Tested

### Proposed Remedial Actions

- The impacted area in the vicinity of sample location S-1 and S-2 will be excavated to a depth of 1-foot deep on location. The impacted area at S-3 will be excavated to a depth of 0.5-feet deep.
- The impacted area at sample location S-5 is within Holly Frontier's pipeline right-of-way. S-5 will be hand excavated to a depth of 0.5-feet deep to the best extent reasonable, feasible and as safely as possible around the steel flow lines and with regard to the structural integrity of the equipment within the battery.
- The impacted area at sample location S-6 will be excavated to a depth of 2-feet deep with a confirmation sample obtained from the bottom of the excavation.




- The hydrocarbon impacted area in the battery at sample location S-7 and between the tanks will be excavated to the liner, which is approximately 0.5-feet deep, to the best extent reasonable, feasible and as safely as possible around the steel flow lines and with regard to the structural integrity of the equipment within the battery.
- All contaminated soil will be transported to a NMOCD approved disposal facility.
- Confirmation samples will be obtained and sent to the laboratory for analysis. Upon NMOCD approval of the confirmation samples in the battery, a bioremediation agent will then be applied to the area.
- The excavated area will be backfilled with new caliche. Once the backfill activities are complete the work area will be compacted.
- A final closure report documenting all remedial actions will be provided to the NMOCD Artesia Office along with a Final C-141 Form.

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 I**

### **SITE MAP**



# N B Tween State #1 Battery

Apache

## Legend

- Sample Points
- Impacted Area
- Power



100 ft

Google earth

© 2016 Google

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





# *New Mexico Office of the State Engineer*

## **Water Column/Average Depth to Water**

(quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 582144

**Northing (Y):** 3630699

**Radius:** 3000

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.

3/31/17 11:47 AM

WATER COLUMN/ AVERAGE  
DEPTH TO WATER

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

NM OIL CONSERVATION  
ARTESIA DISTRICT

FEB 13 2017

Form C-141  
Revised August 8, 2011

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

RECEIVED

Release Notification and Corrective Action

NAB1704734619 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 NB Tween Battery	Facility Type: Battery

Surface Owner State	Mineral Owner	API No. 30-015-35915
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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
H	25	17S	28E	2310'	FNL	990	FEL	Eddy

Latitude N32.8076553 Longitude W104.1247177

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 40 barrels of oil	Volume Recovered 35 barrels of oil
Source of Release: Oil Tank	Date and Hour of Occurrence 2/8/2017	Date and Hour of Discovery 2/8/2017
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher and Crystal Weaver via email	
By Whom? Bruce Baker	Date and Hour 2/9/2017 *email 2/9/17 @ 8:59am	
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.* The manway gasket on the oil storage tank failed resulting in the loss of oil.		
Describe Area Affected and Cleanup Action Taken.* The entire release was contained to the berm facility and 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.		
Signature: <u>Bruce Baker</u>	OIL CONSERVATION DIVISION	
Printed Name: Bruce Baker	Approved by Environmental Specialist <u>[Signature]</u>	
Title: Environmental Technician	Approval Date: <u>2/16/17</u>	Expiration Date: <u>N/A</u>
E-mail Address: <u>larry.baker@apachecorp.com</u>	Conditions of Approval: <u>See Attached</u>	Attached <input type="checkbox"/>
Date: 2/13/2017	Phone: (432) 631-6982	

\* Attach Additional Sheets If Necessary

2RP-4115