



EXPLORING WHAT'S POSSIBLE

# **APACHE CORPORATION**

P.O.Box 1849  
Eunice, NM 88231  
Phone 575.394.3159

## **Empire Abo Unit #08**

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# **Corrective Action Plan**

API 30-015-00844

Release Date: December 19<sup>th</sup>, 2013

Unit Letter M, Section 3, Township 18S, Range 27E

**May 7<sup>th</sup>, 2014**

**Mike Bratcher**

New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau – District 2  
811 S. First St.  
Artesia, NM 88210

**RE: Corrective Action Plan  
Apache Corporation – Empire Abo Unit #08  
UL/M sec. 3 T18S R27E  
API No. 30-015-00844**

Mr. Bratcher:

Apache Corporation (Apache) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site.

**Background and Previous Work**

The site is located approximately 9 miles southeast of Artesia, New Mexico at UL/M sec. 3 T18S R27E. Soil bore installation at the site shows that there is no groundwater beneath the site.

On December 19<sup>th</sup>, 2013, Apache discovered an oil and produced water release from a steel flow line. The line had been previously repaired with clamps and when the line was pressured up, the clamps leaked. A total of 6 barrels of produced water and 2 barrels of oil were released over 6,986 square feet of pasture land. A vacuum truck was called to the site and recovered 1 barrel of produced water and 1 barrel of oil. BLM was notified of the release on December 19<sup>th</sup>, 2013 and an initial C-141 was submitted to NMOCD for their approval (Appendix A).

RECS was on site beginning on December 19<sup>th</sup>, 2013 to assess and GPS map the site. On February 6<sup>th</sup>, 2014, three soil bores were installed at the site to assess the level of contamination (Figure 1). As the soil bores were advanced, samples were taken every 3 feet and field tested for chlorides and organic vapors. Representative samples from the bores were taken to a commercial laboratory for analysis (Appendix B). SB-1 returned laboratory chloride results of 592 mg/kg at 9 ft bgs, 144 mg/kg at 15 ft bgs and 224 mg/kg at 18 ft bgs. SB-2 returned laboratory chloride results of 272 mg/kg at 3 ft bgs, 96 mg/kg at 6 ft bgs and 49 mg/kg at 9 ft bgs. SB-3 returned laboratory chloride results of 496 mg/kg at 6 ft bgs, 96 mg/kg at 9 ft bgs and 64 mg/kg at 12 ft bgs. SB-4 was installed outside the release area to determine if groundwater was present below the site. SB-4 was installed to a depth of 80 ft. At 75 ft, the bore encountered gray bed clay, which indicates the bottom of the aquifer. The bore was left open for 48 hours and then RECS personnel gauged the well for accumulated groundwater. On February 8<sup>th</sup>, 2014, RECS found no water in the bore to a depth of 77 ft.

Photo documentation of these activities can be found in Appendix C.

Based on the laboratory data and the fact that there was no groundwater beneath the site, the release areas to the south will be excavated to a depth of 4 ft bgs (Figure 2). In areas that are inundated with lines, the release area will be excavated to remove the highest concentration of chlorides. If at any time, excavating around the lines poses a safety hazards, excavating will cease. All excavated soil will be taken to a NMOCD approved facility for disposal. Clean soil will be imported to the site to backfill the excavations to ground surface and contour the areas to the surrounding location.

Once these CAP activities have been completed, Apache will request 'remediation termination' and site closure.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Lara Weinheimer', with a long horizontal flourish extending to the right.

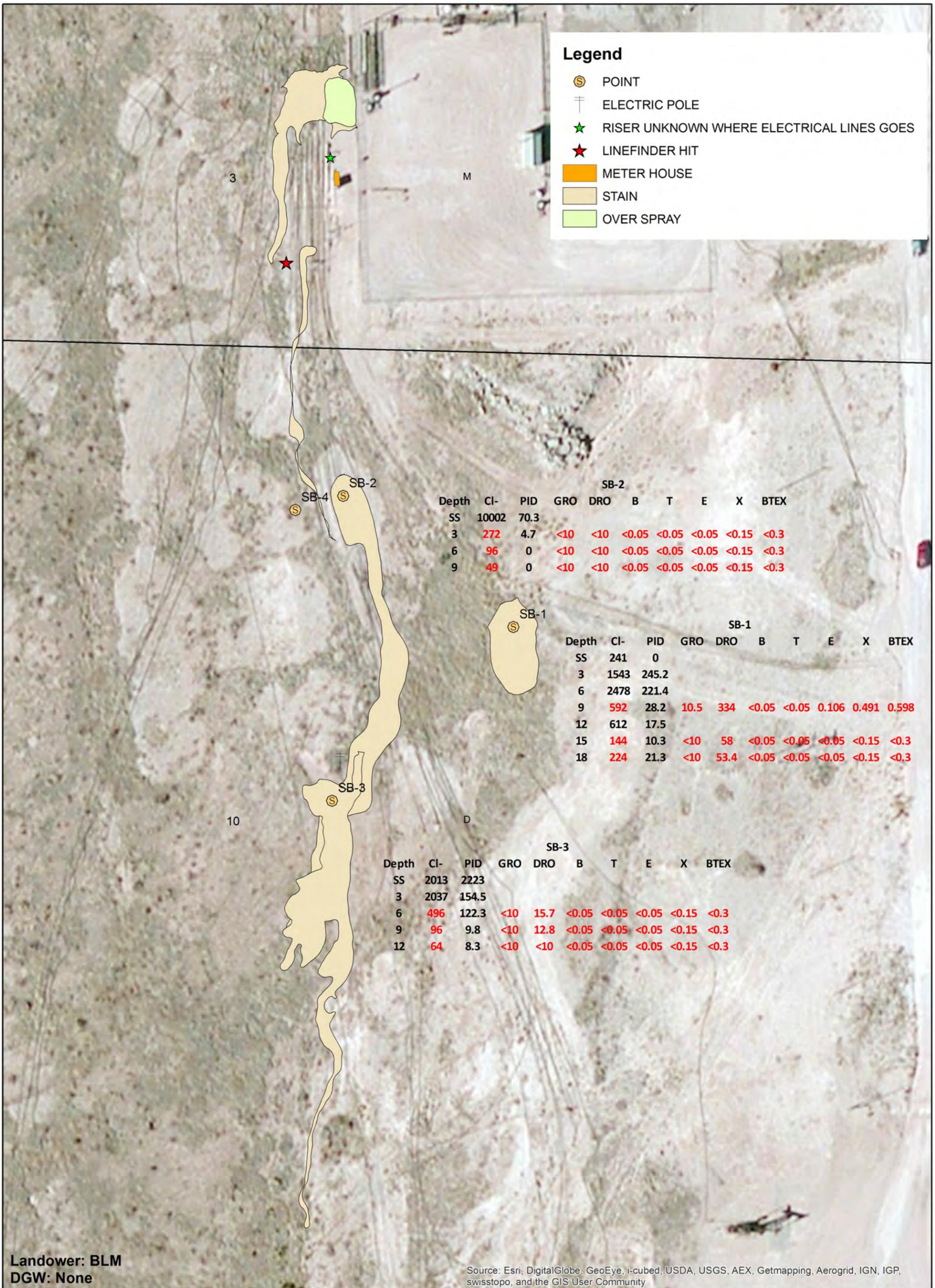
Lara Weinheimer  
Project Scientist  
RECS  
(575) 441-0431

Attachments:

- Figure 1 – Soil Bore Installation
- Figure 2 – Proposed Corrective Actions
- Appendix A – Initial C-141
- Appendix B – Soil Bore Installation Lab
- Appendix C – Photo Documentation

# Figures

# Soil Bore Installation



Landowner: BLM  
DGW: None

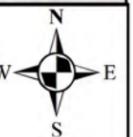
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



## APACHE EMPIRE ABO UNIT #08

LEGALS: UL/M sec. 3  
UL/ D sec. 10  
T-18-S R-27-E

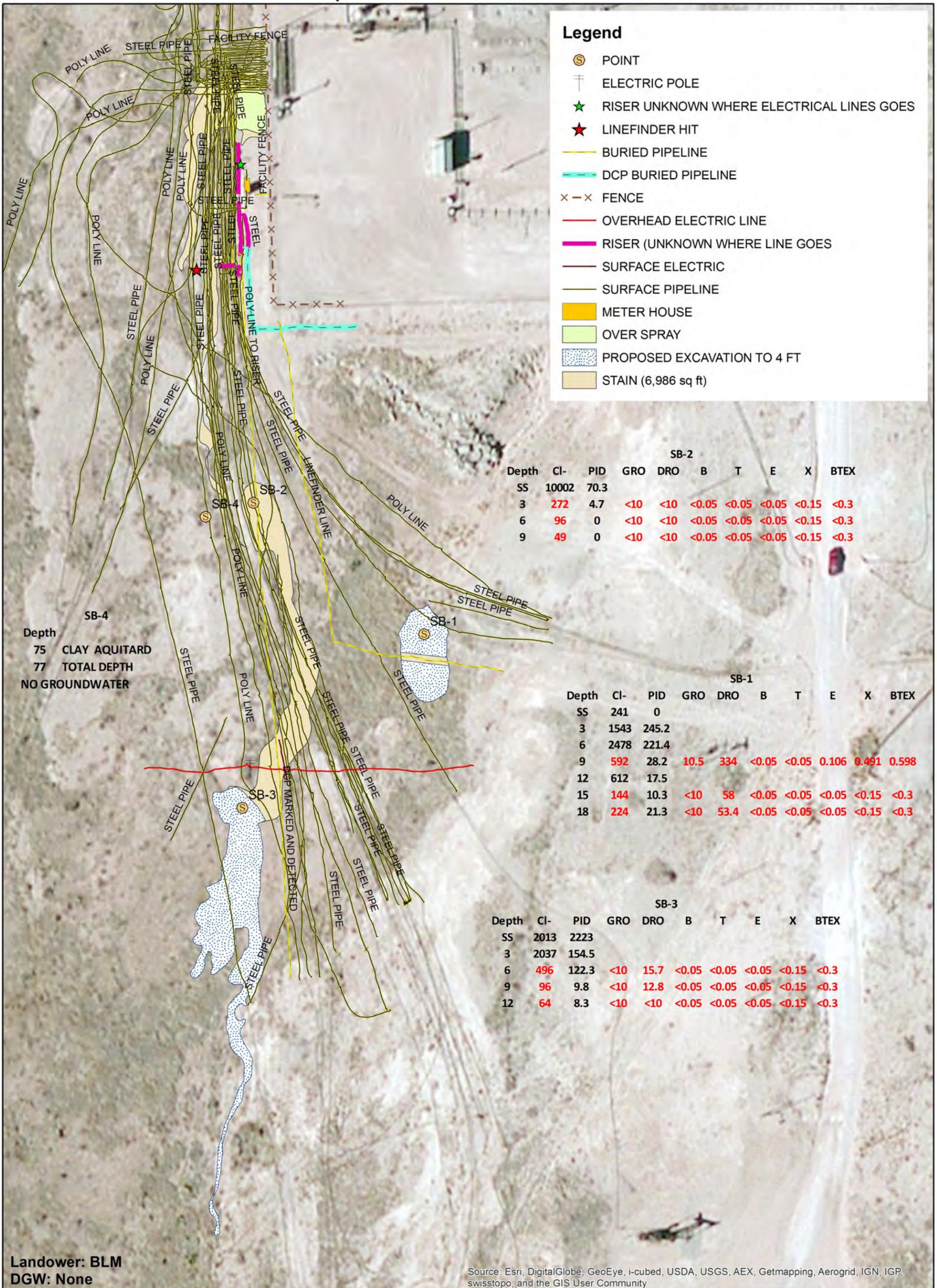
Figure 1



0 40 80  
Feet

GPS date: 2/6/14 AG  
Drawing date: 2/14/14  
Drafted by: L. Weinheimer

# Proposed Corrective Actions



## APACHE EMPIRE ABO UNIT #08

LEGALS: UL/M sec. 3  
 UL/ D sec. 10  
 T-18-S R-27-E

Figure 2



0 40 80  
 Feet

GPS date: 2/6/14 AG  
 Drawing date: 5/7/14  
 Drafted by: L. Weinheimer



# Appendix A

Initial C-141

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

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

Form C-141  
Revised August 8, 2011

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

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Apache Corporation	Contact: Bruce Baker
Address: 8 Ellison Lane Eunice, NM 88231	Telephone No. (432) 631-6982
Facility Name: Empire Abo Unit O-8	Facility Type: Oil Well

Surface Owner BLM	Mineral Owner	API No. 30-015-00844
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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
M	3	18S	27E					Eddy

Latitude: 32\*46'8.886"N Longitude: 104\*16'25.563"W

**NATURE OF RELEASE**

Type of Release oil and produced water	Volume of Release 8 barrels (6 barrels water and 2 barrels oil)	Volume Recovered 2 barrels (1 barrel oil and 1 barrel water)
Source of Release Flow-line	Date and Hour of Occurrence	Date and Hour of Discovery 12/19/13 at 8:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Left Message with Jeffery Robertson (BLM)	
By Whom? Bruce Baker	Date and Hour 12/19/2013 at 2:00 p.m.	
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 steal flow line pressured up and released fluid from two previous line repair clamps. Well was shut in and vacuum truck was dispatched to pick-up fluid. Line was replaced with a new poly line.

Describe Area Affected and Cleanup Action Taken.\*  
The entire release was in the pasture (6,986 square feet). The site was mapped and surface samples collected and field tested for chlorides. The site will be delineated and corrective action plan will be submitted to resolve the issue.

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: <i>Bruce Baker</i>		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Bruce Baker		Approved by Environmental Specialist:	
Title: Environmental Technician		Approval Date:	Expiration Date:
E-mail Address: larry.baker@apachecorp.com		Conditions of Approval:	
Date: 12/30/13		Attached <input type="checkbox"/>	
Phone: (432) 631-6982			