



May 27, 2015  
Updated August 7, 2016

NMOCD District I  
1625 N. French Drive  
Hobbs, New Mexico 88240

SUBJECT: SOIL REMEDIATION WORK PLAN FOR INCIDENT 1RP-4197 STATE "S" BRINE AND WATER STATION  
(BW-028), LEA COUNTY, NEW MEXICO

Dear Mr. Keyes:

On behalf of Key Energy Services (Key), Souder Miller & Associates (SMA) is pleased to submit the attached Amendment to the Work Plan summarizing the planned soil remediation of the release site located on the State "S" Brine And Water Station (BW-028) in Lea County, New Mexico. The purpose of the work plan is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for remediation of the release that occurred on March 2, 2016.

At the request of Key, SMA responded to assess and delineate the production fluids release associated with the State "S" Brine And Water Station (BW-028) location. The release was initially reported to NMOCD by Key on March 2, 2016 and was a result of a human error. The table below summarizes information regarding the release. Results of the assessment and delineation follow in the attached report.

Table 1: Release information and Site Ranking					
Name	State "S" Brine and Water Station (BW-028)				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-4197	30-025-33547	SW/NE (Unit D)	Section 15	T 21S, R37 E NMPM
Estimated Date of Release	March 2, 2016				
Date Reported to NMOCD	March 3, 2016				
Reported by	Maren Coligan, Key Energy Services				
Land Owner	Millard Deck Trust				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Human Error				
Released Material	Produced Water				
Released Volume	80 bbls Produced Water				
Recovered Volume	0 bbls Produced Water				
Net Release	80 bbls Produced Water				

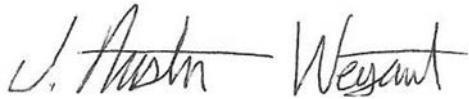


Nearest Waterway	46 miles West of the location
Depth to Groundwater	Estimated to be 70 feet
Nearest Domestic Water Source	Great than 1,000 feet
NMOCD Ranking	10
SMA Response Dates	Initial: 4/11/16 Mitigation Activities
Estimated Yd <sup>3</sup> Contaminated Soil Excavated and Disposed	2,680

A copy of the C-141 Initial is located in Appendix B. For questions or comments pertaining to the release or the attached Work Plan, please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant  
Project Scientist

Reviewed by:



Cynthia Gray, CHMM  
Senior Scientist



# AMENDMENT TO SOIL REMEDIATION WORK PLAN FOR INCIDENT 1RP-4197

## KEY ENERGY SERVICES, LLC

STATE "S" BRINE AND WATER STATION (BW-028)

API# 30-025-33547

SECTION 15, T21S R37E, NMPM

LEA COUNTY, NM



Prepared for:  
Key Energy Services LLC  
6 Desta Dr. Suite 4300  
Midland, TX 79705

Prepared by:  
Souder, Miller & Associates  
201 S. Halagueno  
Carlsbad, NM 88221  
575-689-7040

May 27, 2015  
Updated August 7, 2016  
SMA Reference  
5B24998 BG1



## 7.0 Re-vegetation Plan

Seeding of the location is recommended for June or July to coincide with the "rainy" season to achieve optimum results. Seed will be planted a quarter to half- inch deep using a disc type or similar rangeland drill sufficient to accommodate variations in seed sizes. If broadcast, seeding rates should be doubled. Seeding can be accomplished as early as May given all dirt work for the location is stabilized. Soil in this area will be tilled to reduce compaction.

Seed-bed preparation will be performed to provide a hospitable environment for germinating seed by breaking up impermeable soil layers that have formed and increasing void spaces for air and water. Ground shall be roughed-up prior to planting, by raking, harrowing or other methods.

Seed shall be broadcast with a "cyclone" hand seeder or similar broadcast seeder to facilitate an even spread. After seed is broadcast, ground shall be raked or dragged, to help bury it and improve soil contact and provide texture. Next,

Mulch will be placed to prevent loss of moisture and seed to wind. Mulching shall be accomplished using one of these following methods:

- a. weed free straw (2 tons/ac;kg/ha)
- b. wood residues (sawdust, wood chips, bark (2 tons/ac;kg/ha)
- c. hydro-mulching (1,500 lb/ac;kg/ha)
- d. composted manure (5 tons/ac;kg/ha)
- e. excelsior blanket
- f. straw jute
- g. peanut hulls (2 tons/ac;kg/ha)

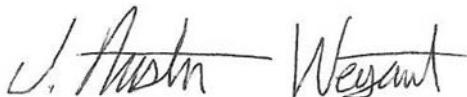
Livestock will be temporarily fenced-out of any seeded area, as they will otherwise greatly reduce possibility of successful re-vegetation. Probability of successful seeding will be considerably increased if fencing remains until reclamation is stable, and plants have grown well enough to withstand grazing. Stabilization would occur after a minimum of two full summer growing seasons after planting.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant  
Project Scientist



Cynthia Gray, CHMM  
Senior Scientist