

SITE INFORMATION

Report Type: Work Plan 2RP-2777

General Site Information:

Site:	ESDU #2					
Company:	SM Energy Company					
Section, Township and Range	Section 13	T 18S	R 31E			
Lease Number:	API-30-015-25847					
County:	Eddy County					
GPS:	32.7411437° N			103.815492° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From intersection of HWY 529 and CR 126A (Maljamar Rd) in rural Eddy County, Travel south on 126A for approximately 4.3 miles, turn WEST and continue for approximately 1.10 mile until road turns SOUTH and continue for approximately 0.6 miles, turn NORTH onto lease road for 0.20 miles to T in road, turn EAST and continue for 0.10 miles to location					

Phone number:

Date Released:	1/29/2015
Type Release:	Produced Water and Crude Oil
Source of Contamination:	Polished rod liner leak
Fluid Released:	25.3 bbls water / 4.5 bbls oil
Fluids Recovered:	16.2 bbls water / 2.9 bbls oil

Official Communication:

Name:	Zack Luikens	Ike Tavaréz
Company:	SM Energy Company	Tetra Tech
Address:	6301 Holiday Hill Road	4000 N. Big Spring Ste 401
City:	Midland Texas, 79707	Midland, Texas
Phone number:	(432) 212-3408	(432) 687-8110
Fax:		
Email:	zluikens@sm-energy.com	Ike.Tavaréz@tetrattech.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	0
WellHead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	0
Total Ranking Score:		0

Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	5,000



June 13, 2016

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

**Re: Work Plan for SM Energy Company
ESDU #2 Well
Section 13, Township 18S, Range 31E
Eddy County, New Mexico
2RP-2777**

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by SM Energy Company (SM Energy) to assess a spill at the EDSU #2, located in Section 13, Township 18S, Range 31E, Eddy County, New Mexico (Site). The spill site coordinates are N 32.741437°, W -103.815492°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico Oil Conservation Division (NMOCD) Form C-141 Initial Report, the leak was discovered on January 29, 2015. The spill at the rod liner released approximately 25.3 barrels of produced water and 4.5 barrels of oil. SM Energy was able to recover approximately 16.2 barrels of produced water and 2.9 barrels of oil with a vacuum truck. To alleviate the problem, SM Energy repaired the rods that caused the problem. The spill impacted an area on the pad approximately 130' x 135'. The spill areas are shown on Figure 3. The initial Form C-141 is enclosed in Appendix A.

Groundwater

No wells were located listed in Section 13. According to the Geology and Groundwater Resources of Eddy County, NM (Report 3) and the New Mexico State Engineers Well Reports, all wells listed in adjacent Sections showing a depth to water greater than 300' below surface. In addition, the NMOCD groundwater map showed groundwater depths between 250' and 300' below surface. The groundwater data is shown in Appendix B.



Regulatory

A risk-based evaluation was performed for the Site in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

Initial Soil Assessment

On February 16, 2015, Tetra Tech personnel inspected and sampled the spill area. A total of seven (7) auger holes (AH-1 through AH-7) were installed using a stainless steel hand auger to assess the impacted areas. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix E. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, auger hole (AH-3) showed an elevated concentration of TPH and total BTEX at a depth of 0'-1' below surface of 10,970 mg/kg and 122 mg/kg, respectively. The TPH and BTEX concentrations declined with depth to below the RRALs at 1.0'-1.5' below surface. Auger holes (AH-1, AH-2, AH-4, AH-5, AH-6, and AH-7) were below the RRAL's for TPH and BTEX.

The samples collected in the area of auger holes (AH-1 and AH-6) did not show a significant chloride impact to the subsurface soils. However, samples collected in the areas of auger holes (AH-2 and AH-4) showed a shallow chloride impact with concentrations of 1,660 mg/kg and 2,900 mg/kg at depths of 0'-1.5' below surface, which then declined with depth to concentrations of 293 mg/kg and 147 mg/kg at 3.0'-3.5'. The area of auger hole (AH-3) showed a deeper chloride impact to the soils with a chloride high of 20,400 mg/kg at 5.0'-5.5' below surface, which then declined with depth to 147 mg/kg at 9.0'-9.5' below surface.

In addition, auger hole (AH-5) also showed a shallow chloride impact at 0'-1' of 2,700 mg/kg and auger hole (AH-7) did not show a significant impact the surface, both areas showed chloride concentrations that increased with depth to 2,940 mg/kg at 6.0'-6.5' and 2,100 mg/kg at 4.0'-4.5' below surface, respectively. Deeper samples were not collected in these areas due to dense formation, and these areas were not vertically defined.



According to the Application for Permit to Drill, approved in December 1987, a closed reserve pit was previously located in the areas of auger holes (AH-4, AH-5, AH-6 and possibly AH-7). Based on this information, it appears that the deeper chloride impact encountered in these areas appear to be from the reserve pit. The Application for Permit to Drill is enclosed in Appendix C.

Work Plan Submittal and Proposed Action

On June 1, 2015, Tetra Tech submitted a Work Plan to the NMOCD and BLM for approval. The NMOCD approved the Work Plan with conditions including excavating the area of auger hole (AH-3) to 4' with a liner, or 6.5' with no liner. Additionally, the NMOCD requested vertical delineation of the areas of auger holes (AH-5 and AH-7). In addition to the NMOCD requests, Tetra Tech proposed to resample of the previous sampled areas due to the heavy rains that occurred in the area. The NMOCD and BLM approved the resampling of these areas.

Site Re-sampling and Borehole Drilling

On January 14, 2016 and February 17, 2016 Tetra Tech resampled the areas of auger holes (AH-2, AH-3 and AH-4) with a hand auger and used an air rotary rig for the areas of AH-5 and AH-7. The sampling results are summarized in Table 1. The auger hole and borehole locations are shown on Figure 3.

Referring to Table 1, the area of auger hole (AH-2) was resampled at 0-1' below surface and showed a significant decline in chloride concentration from the initial sampling event, with the concentrations decreasing from 1,660 mg/kg to 645 mg/kg. The area of auger hole (AH-3) initially showed elevated chloride concentrations between 2.0' to 6.5' below surface, with concentrations ranging from 6,000 mg/kg to 20,400 mg/kg. However, the samples collected during the resampling event showed significantly lower chloride concentrations at the same depth intervals, with concentrations ranging from 995 mg/kg to 2,790 mg/kg. Additionally, samples collected in the area of auger hole (AH-4) showed chloride concentrations slightly elevated with concentrations of 3,330 mg/kg at 0'-1' and 1,220 mg/kg at 1.0'-1.5' below surface.

In addition, two (2) boreholes were installed in the areas of AH-5 (BH-1) and AH-7 (BH-2) to further delineate the chloride impact detected in these areas. The chloride concentrations in the area of borehole (BH-1) showed chloride concentrations increasing with depth to 3,440 mg/kg at 6.0'-7.0' below surface, before significantly declining to 192 mg/kg at 24'-25' below surface. The area of BH-2 (AH-7) showed chloride concentrations that increased with depth to 6,620 mg/kg at 14'-15' below surface, before declining to 48.4 mg/kg at 49'-50' below surface. The borehole drilling logs are shown in Appendix D.



NMOCD Meeting

On April 14, 2016, Tetra Tech met with the NMOCD to discuss resampling results of auger holes (AH-2, AH-3 and AH-4) and the delineation of auger holes (AH-5 and AH-7). The NMOCD approved the declining chlorides in the shallow soils in the area of auger hole (AH-2). However, the NMOCD requested the area of auger hole (AH-3) be resampled to a depth of 9.5' below surface to re-confirm the chloride reduction in the area. The NMOCD also requested an additional auger hole (AH-3A) between the well and auger hole (AH-3). Additionally, the NMOCD requested the area of auger hole (AH-4) be scraped to 1.5' below surface for site closure.

Additional Sampling

Per the NMOCD's request, the area of auger hole (AH-3) was resampled on April 28, 2016. Referring to Table 1, the additional samples collected in the area of auger hole (AH-3) were similar to the previous sampling event. In addition, auger hole (AH-3A) showed an elevated chloride concentration at 4'-4.5' below surface, with a concentration of 1,640 mg/kg. Chloride concentrations from 5' to 9.5' below surface ranged from 67.8 mg/kg to 465 mg/kg. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix E. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Work Plan

SM Energy proposes to remove the impacted material as highlighted (orange) in Table 1 and shown on Figure 4. The area of auger hole (AH-4) will be excavated to a depth of approximately 1.5' below surface, per the NMOCD's request.

Referring to the areas of auger holes (AH-2 and AH-3), which showed significant decline in chloride concentrations, likely due to recent rain events, and the deep depth to groundwater in the area, SM Energy proposes to leave the soil in place. Additionally, the chloride impact in the areas of auger holes (AH-5 and AH-7) was vertically defined. Due to the impacted soil being within the horizontal bounds of a reserve pit, as indicated by the Application for Permit to Drill and the deep depth to groundwater in the area, SM Energy proposes to leave the soil in place, as it does not appear to be an environmental concern.

Once the area of auger hole (AH-4) is excavated to the appropriate depth, the area will then be backfilled with clean material and brought to surface grade. The excavated soil will be transported to a proper disposal facility.

The proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safety concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable. Any remaining impact not accessible to be removed will be deferred until abandonment.



TETRA TECH

Upon completion, a final report will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

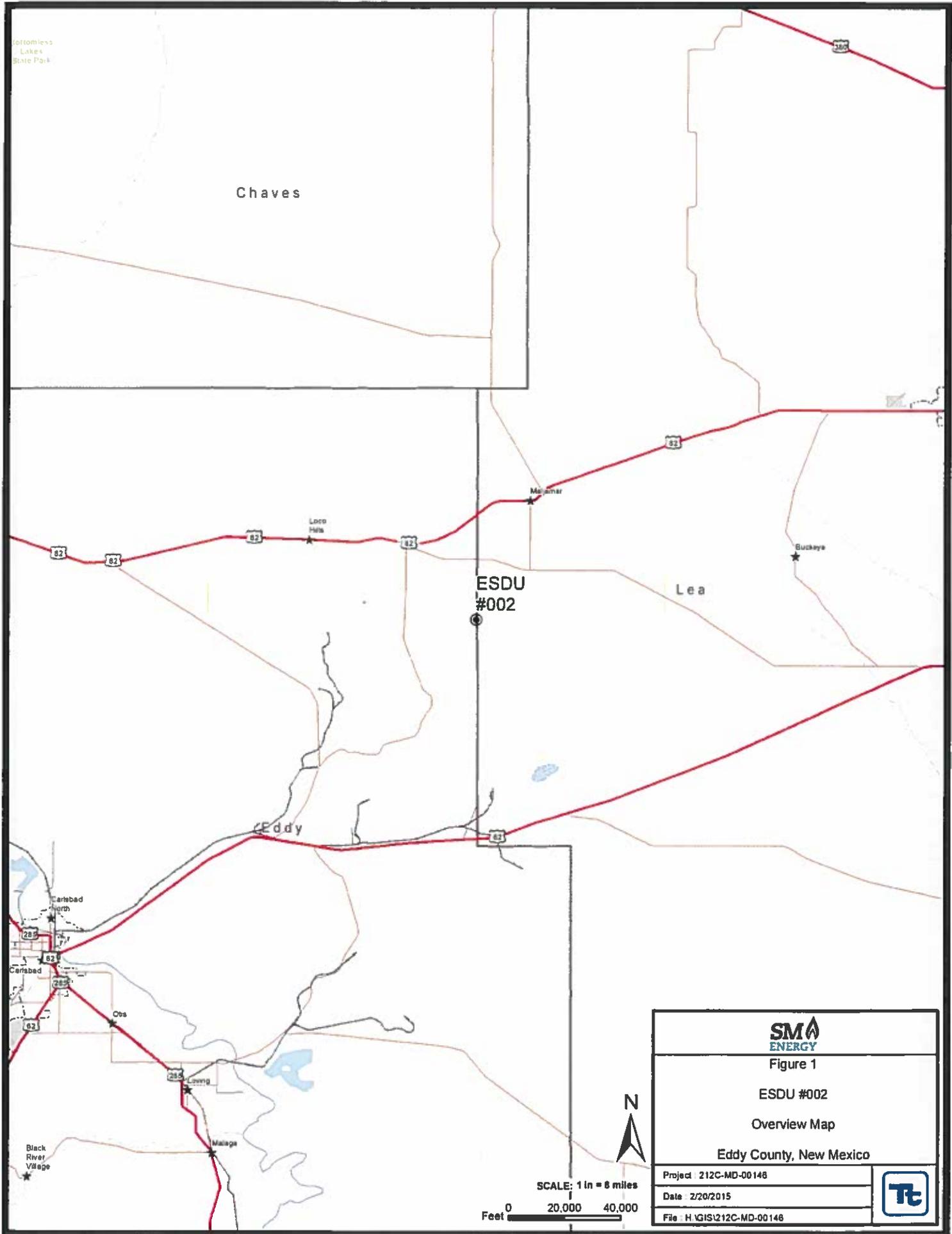
Respectfully submitted,
TETRA TECH, Inc.

A handwritten signature in black ink, appearing to read 'Ike Tavaréz'.

Ike Tavaréz,
Senior Project Manager, P.G.

cc: Zack Luikens – SM Energy
Shelly Tucker - BLM

Figures



Bottomless
Lakes
State Park

Chaves

ESDU
#002

Lea

Eddy



Figure 1

ESDU #002

Overview Map

Eddy County, New Mexico

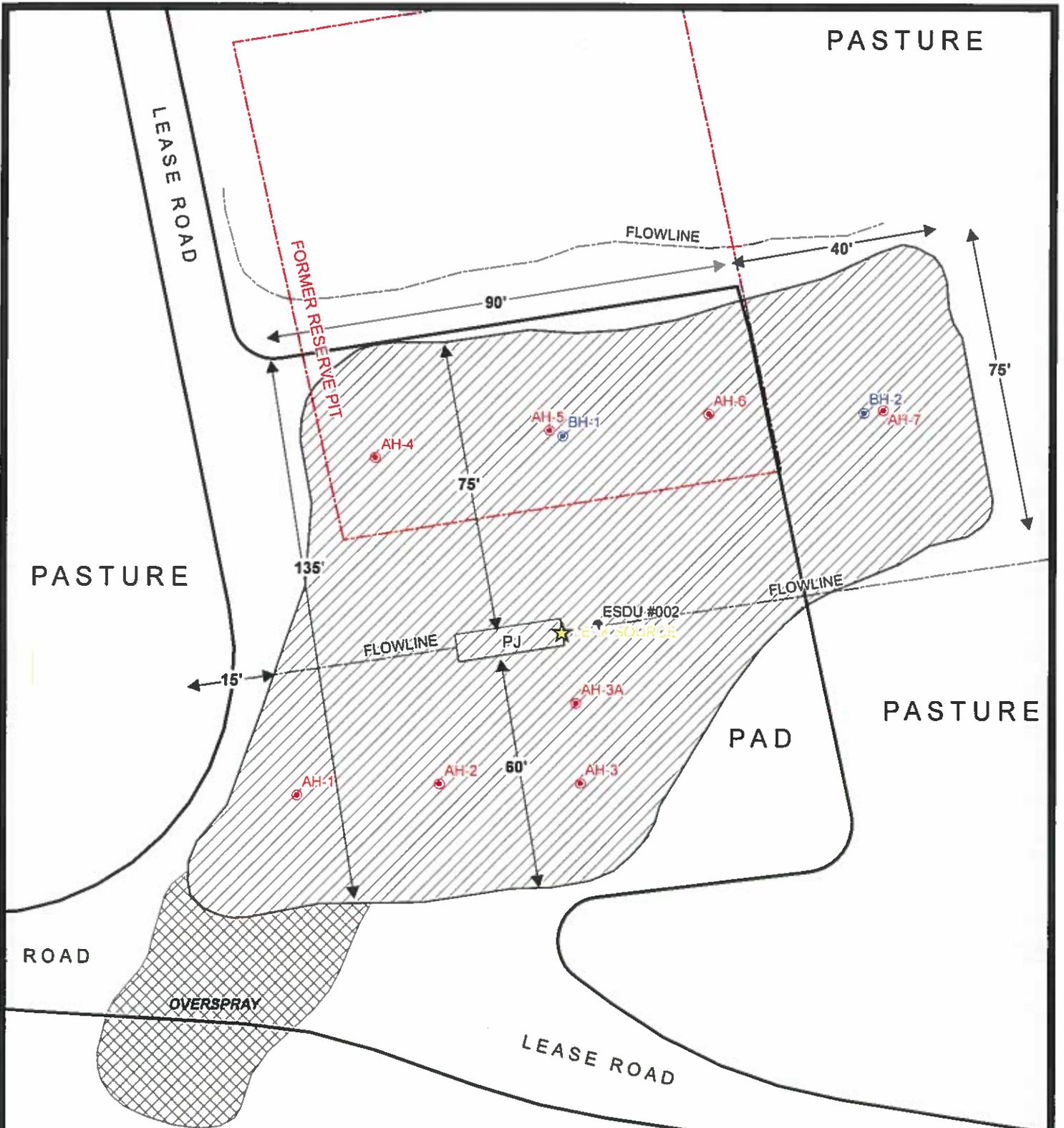
Project	212C-MD-00146
Date	2/20/2015
File	H:\GIS\212C-MD-00146



SCALE: 1 in = 8 miles

0 20,000 40,000
Feet

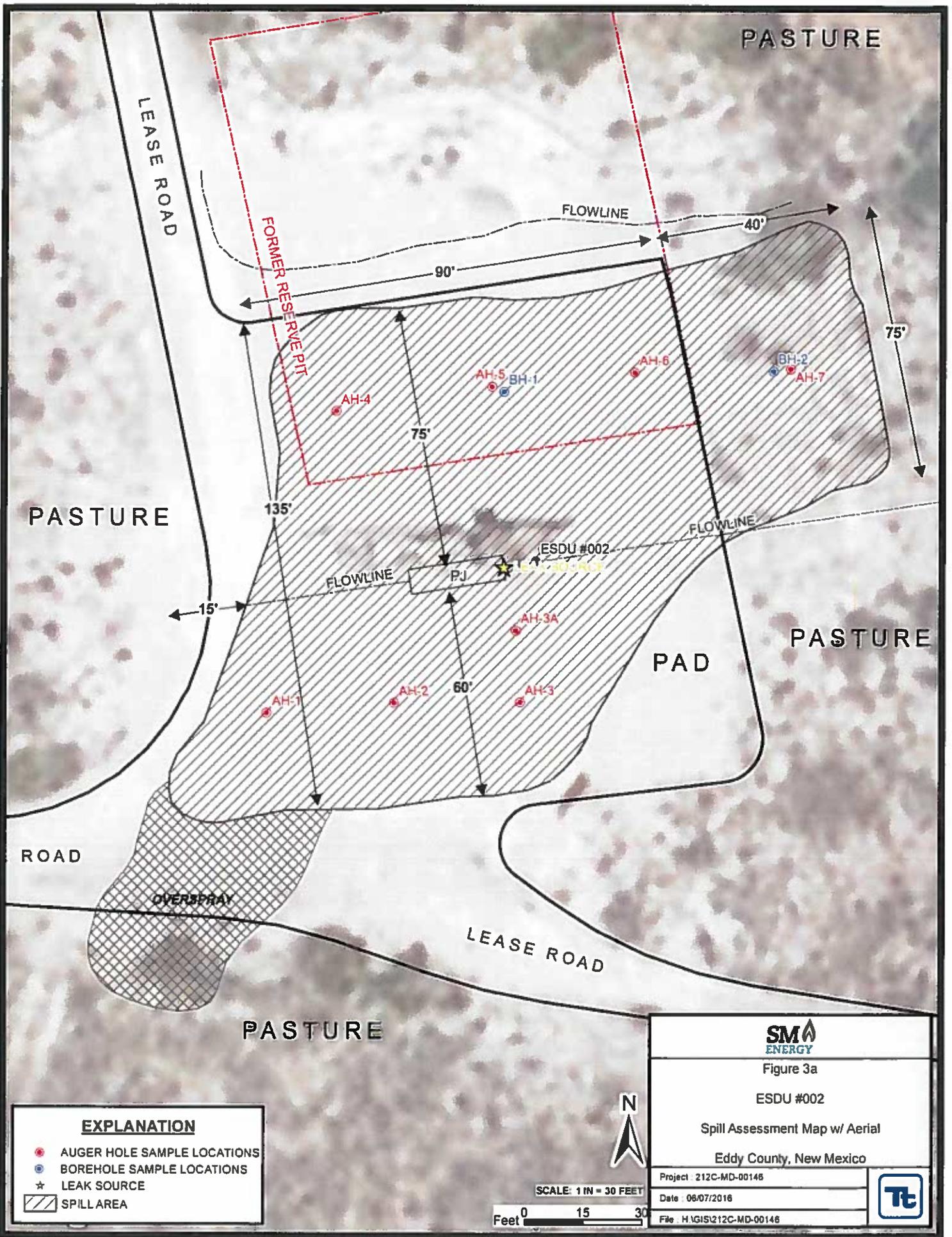




EXPLANATION	
●	AUGER HOLE SAMPLE LOCATIONS
⊙	BOREHOLE SAMPLE LOCATIONS
★	LEAK SOURCE
▨	SPILL AREA



SM ENERGY	
Figure 3	
ESDU #002	
Spill Assessment Map	
Eddy County, New Mexico	
Project : 212C-MD-00146	
Date : 06/07/2016	
File : H:\GIS\212C-MD-00146	



PASTURE

PASTURE

PASTURE

PASTURE

ROAD

OVERSPRAY

LEASE ROAD

LEASE ROAD

FORMER RESERVE PIT

FLOWLINE

FLOWLINE

FLOWLINE

PAD

ESDU #002

PJ

EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- BOREHOLE SAMPLE LOCATIONS
- ★ LEAK SOURCE
- ▨ SPILL AREA



Figure 3a

ESDU #002

Spill Assessment Map w/ Aerial

Eddy County, New Mexico

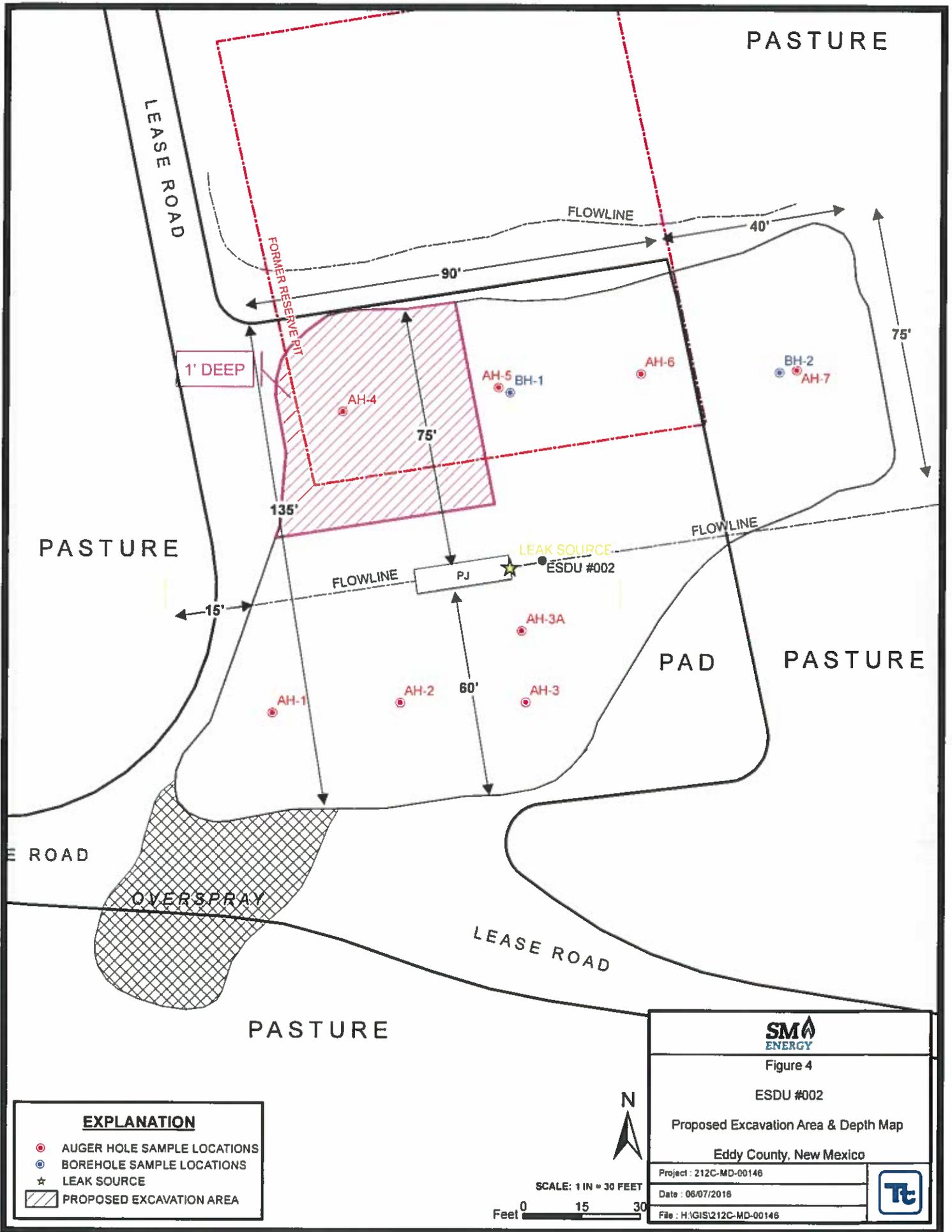
Project 212C-MD-00146

Date 06/07/2016

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SCALE: 1 IN = 30 FEET





Tables

Table 1
SM Energy
ESDU #2
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-1	2/16/2015	0-1	X		<4.00	75.3	75.3	<0.0200	<0.0200	<0.0200	<0.0200	636	
	"	1-1.5	X		-	-	-	-	-	-	-	244	
	"	2-2.5	X		-	-	-	-	-	-	-	29.0	
	"	3-3.5	X		-	-	-	-	-	-	-	147	
AH-2	2/16/2015	0-1	X		25.0	359	384	<0.0400	0.0425	0.0829	0.469	1,660	
	"	1-1.5	X		-	-	-	-	-	-	-	66.0	
	"	2-2.5	X		-	-	-	-	-	-	-	244	
	"	3-3.5	X		-	-	-	-	-	-	-	293	
Re-sampled	1/14/2016	0-1	X		-	-	-	-	-	-	-	645	
AH-3	2/16/2015	0-1	X		2,990	7,980	10,970	2.61	30.3	17.7	71.7	2,250	
	"	1-1.5	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	3,320	
	"	2-2.5	X		-	-	-	-	-	-	-	10,400	
	"	3-3.5	X		-	-	-	-	-	-	-	12,800	
	"	4-4.5	X		-	-	-	-	-	-	-	6,000	
	"	5-5.5	X		-	-	-	-	-	-	-	20,400	
	"	6-6.5	X		-	-	-	-	-	-	-	8,840	
	"	7-7.5	X		-	-	-	-	-	-	-	1,230	
"	8-8.5	X		-	-	-	-	-	-	-	295		
"	9-9.5	X		-	-	-	-	-	-	-	147		

Table 1
SM Energy
ESDU #2
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-3 Re-sampled	1/14/2016	0-1	X		-	-	-	-	-	-	-	1,550	
	"	1-1.5	X		-	-	-	-	-	-	-	472	
	"	2-2.5	X		-	-	-	-	-	-	-	465	
	"	3-3.5	X		-	-	-	-	-	-	-	916	
AH-3 Composite	2/17/2016	3-3.5	X		-	-	-	-	-	-	-	1,690	
	"	4-4.5	X		-	-	-	-	-	-	-	1,670	
	"	5-5.5	X		-	-	-	-	-	-	-	995	
	"	6-6.5	X		-	-	-	-	-	-	-	2,790	
	"	7-7.5	X		-	-	-	-	-	-	-	1,460	
	"	8-8.5	X		-	-	-	-	-	-	-	485	
AH-3 Re-sampled	4/13/2016	0-1'	X		<15.0	53.2	53.2	-	-	-	-	-	
	4/28/2016	0-1	X		-	-	-	-	-	-	-	175	
	"	1-1.5	X		-	-	-	-	-	-	-	29.3	
	"	2-2.5	X		-	-	-	-	-	-	-	1,040	
	"	3-3.5	X		-	-	-	-	-	-	-	1,570	
	"	4-4.5	X		-	-	-	-	-	-	-	834	
	"	5-5.5	X		-	-	-	-	-	-	-	1,790	
	"	6-6.5	X		-	-	-	-	-	-	-	1,710	
	"	7-7.5	X		-	-	-	-	-	-	-	1,610	
	"	8-8.5	X		-	-	-	-	-	-	-	1,300	
AH-3A	4/28/2016	9-9.5	X		-	-	-	-	-	-	-	11.4	
	4/28/2016	0-1	X		-	-	-	-	-	-	-	252	
	"	1-1.5	X		-	-	-	-	-	-	-	<9.94	
	"	2-2.5	X		-	-	-	-	-	-	-	75.4	
	"	3-3.5	X		-	-	-	-	-	-	-	62.2	
	"	4-4.5	X		-	-	-	-	-	-	-	1,640	
	"	5-5.5	X		-	-	-	-	-	-	-	93.6	
	"	6-6.5	X		-	-	-	-	-	-	-	465	
	"	7-7.5	X		-	-	-	-	-	-	-	67.8	
"	8-8.5	X		-	-	-	-	-	-	-	408		
"	9-9.5	X		-	-	-	-	-	-	-	427		

Table 1
SM Energy
ESDU #2
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		GRO	TPH (mg/kg)		Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed		DRO	Total						
AH-4	2/16/2015	0-1	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	2,560
	"	1-1.5	X		-	-	-	-	-	-	-	-	2,900
	"	2-2.5	X		-	-	-	-	-	-	-	-	69.0
	"	3-3.5	X		-	-	-	-	-	-	-	-	147
AH-4 Re-sampled	1/14/2016	0-1	X		-	-	-	-	-	-	-	-	3,330
	"	1-1.5	X		-	-	-	-	-	-	-	-	1,220
AH-5	2/16/2015	0-1	X		<8.00	326	326	<0.0400	<0.0400	<0.0400	0.145	0.145	2,700
	"	1-1.5	X		-	-	-	-	-	-	-	-	490
	"	2-2.5	X		-	-	-	-	-	-	-	-	588
	"	3-3.5	X		-	-	-	-	-	-	-	-	588
	"	4-4.5	X		-	-	-	-	-	-	-	-	245
	"	5-5.5	X		-	-	-	-	-	-	-	-	1,760
area drilled	"	6-6.5	X		-	-	-	-	-	-	-	-	2,940
Re-sampled	1/14/2016	0-1	X		-	-	-	-	-	-	-	-	1,510
BH-1 (AH-5) Resampled	2/17/2016	0-1	X		-	-	-	-	-	-	-	-	1,290
	"	2-3	X		-	-	-	-	-	-	-	-	205
	"	4-5	X		-	-	-	-	-	-	-	-	776
	"	6-7	X		-	-	-	-	-	-	-	-	3,440
	"	9-10	X		-	-	-	-	-	-	-	-	4,340
	"	14-15	X		-	-	-	-	-	-	-	-	299
"	19-20	X		-	-	-	-	-	-	-	-	172	
"	24-25	X		-	-	-	-	-	-	-	-	192	

Table 1
SM Energy
ESDU #2
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-6	2/16/2015	0-1	X		<4.00	532	532	<0.0200	<0.0200	<0.0200	<0.0200	245	
	"	1-1.5	X		-	-	-	-	-	-	-	29.0	
	"	2-2.5	X		-	-	-	-	-	-	-	20.0	
	"	3-3.5	X		-	-	-	-	-	-	-	20.0	
AH-7	2/16/2015	0-1	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	39.0	
	"	1-1.5	X		-	-	-	-	-	-	-	29.0	
	"	2-2.5	X		-	-	-	-	-	-	-	29.0	
	"	3-3.5	X		-	-	-	-	-	-	-	440	
	"	4-4.5	X		-	-	-	-	-	-	-	2,100	
area drilled													
BH-2 (AH-7)	2/17/2016	0-1	X		-	-	-	-	-	-	-	32.9	
	"	2-3	X		-	-	-	-	-	-	-	20.3	
	"	4-5	X		-	-	-	-	-	-	-	1,140	
	"	6-7	X		-	-	-	-	-	-	-	1,300	
	"	9-10	X		-	-	-	-	-	-	-	3,100	
	"	14-15	X		-	-	-	-	-	-	-	6,620	
	"	19-20	X		-	-	-	-	-	-	-	3,050	
	"	24-25	X		-	-	-	-	-	-	-	1,760	
	"	29-30	X		-	-	-	-	-	-	-	369	
	"	34-35	X		-	-	-	-	-	-	-	366	
"	39-40	X		-	-	-	-	-	-	-	419		
"	49-50	X		-	-	-	-	-	-	-	48.4		

(-) Not Analyzed

Areas Re-sampled

Proposed Soil Removal

Photos

SM Energy Company
EDSU #2
Eddy County, New Mexico



TETRA TECH



View East – Area of AH-1, AH-2, and AH-3



View Northwest – Area of AH-4, AH-5, and AH-6

SM Energy Company
EDSU #2
Eddy County, New Mexico



TETRA TECH



View East – Area of AH-7



View South – Area of BH-1

SM Energy Company
EDSU #2
Eddy County, New Mexico



TETRA TECH



View East – Area of BH-2

Appendix A

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

Form C-141

Revised August 8, 2011

JAN 31 2015

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

RECEIVED

Release Notification and Corrective Action

NAB1503431252

OPERATOR

Initial Report Final Report

Name of Company	SM Energy	<i>154903</i>	Contact	Tejay Simpson
Address	6301 Holiday Hill Road, Midland, TX 79707		Telephone No.	432-212-3408
Facility Name	ESDU No. 02		Facility Type	Production Well Location - Rod Pump

Surface Owner	BLM	Mineral Owner		API No.	30-015-25847
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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
	13	18S	31E	330	South	330	East	Eddy

Latitude 32.741143 Longitude -103.815492

NATURE OF RELEASE

Type of Release	Produced Water and Oil	Volume of Release	25.3 produced water / 4.5 oil	Volume Recovered	16.2 water / 2.9 oil
Source of Release	Polished rod liner leak	Date and Hour of Occurrence	1/29/2015 approx 3:00 AM	Date and Hour of Discovery	01/29/2015 @ 7:00 AM
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Jim Amos @ BLM 1/30/15 @ 4:50 PM Central Time Laura Tulk @ NMOCD 1/30/15 @ 5:00 PM Central Time			
By Whom?	Tejay Simpson	Date and Hour	1/30/15 @ 4:50 PM Central Time		
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.* NA

Describe Cause of Problem and Remedial Action Taken.*
Upon arrival to the well location at 7:00 AM on 01/29/15 while making routine rounds, the lease operator discovered water and oil on the well pad. He found the polished rod liner had slipped and was stationary in the stuffing box while the polished rod was traveling throughout the stroke. Fluid was spraying out from between the polished rod and liner top while the unit was stroking. The lease operator shut down the pumping unit, closed in the well and tightened up the polished rod liner stopping the release of fluid.

A well pull was begun on the well on 1/23/15 and completed on 1/26/15. The well quit pumping and the crew returned to the well on the 28th and re-spaced the rods. The well was monitored the remainder of the day intermittently by the lease operator and the WSM. The well was last checked at approximately 5:30 PM by the WSM.

Estimate Spill Volume: 25.3 water / 4.5 oil
Recovered: 16.2 water / 2.9 oil
Estimated Clean up cost: \$2,000

Describe Area Affected and Cleanup Action Taken.*
Spill was contained to the well location. Vacuum truck was dispatched to the location and picked up the free liquid. Backhoe was dispatched the following day and removed the contaminated soil.

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>Tejay Simpson</i> <i>1-31-15</i>	OIL CONSERVATION DIVISION
Printed Name: Tejay Simpson	Approved by Environmental Specialist: <i>[Signature]</i>

[Handwritten Signature] RP-2177

Title: District Production Superintendent	Approval Date: 2/3/15	Expiration Date: N/A
E-mail Address: tsimpson@sm-energy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 01/31/2015	Phone: 432-212-3408	Remediation per O.C.D. Rules & Guidelines

* Attach Additional Sheets If Necessary

**SUBMIT REMEDIATION PROPOSAL NO
LATER THAN: 3/3/15**

Patterson, Heather, EMNRD

From: Tejay Simpson <tsimpson@sm-energy.com>
Sent: Saturday, January 31, 2015 8:50 AM
To: Jim Amos (jamos@blm.gov); Patterson, Heather, EMNRD; Bratcher, Mike, EMNRD
Cc: Ann Sandate; Heather Roberts
Subject: SM ENERGY: ESDU 02 C-141
Attachments: ESDU 02_013115.pdf

Spill report for the ESDU No. 02

Onward and Upward!

Tejay Simpson

SM Energy
District Production Superintendent
432-212-3408

ENVIRONMENTAL RELEASE NOTIFICATION

Call-In Sheet

Date: 1/30 5pm

Teja Simpson from SM Energy

is reporting a release at the ESDU No. 2

API# 30-015-25847, Sec. BT 185-R 3/E

Occurred on: 1/29 at 3 AM/PM.

Volume released:

C-141 received: 1/31/15

Volume recovered: 16.2 gw 2.9 oil

2RP- 2797

Briefly Describe Cause of Problem and action taken: Fluid stayed on well

pad:

432-212-5408

(Initials)

FLARE NOTIFICATION

Call-In Sheet

Date:

Report Flare for from

Occurred on: at AM/PM.

C-129/C-141 received:

Flared Inlet Gas for:

Total MCF:

Briefly Describe Cause of Problem and action taken:

(Initials)

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
SM Energy - ESDU No. 2, Eddy County, New Mexico

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	80	21	22	23
24	25	26	27	28	29
30	31	32	33	34	35
36	35	34	33	32	31

17 South 31 East					
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
			271		

17 South 32 East					
6	5	4	82	3	2
Maljamar 75					
7	8	9	10	132	11
88					
12	13	14	15	16	17
18	17	16	15	14	13
19	20	21	22	23	24
30	180	29	28	27	26
dry					
31	32	33	34	35	36
					225

18 South 30 East					
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	44
24	25	26	27	28	29
30	31	32	33	34	35
36	35	34	33	32	31

18 South 31 East					
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	98	14
317					
13	14	15	16	17	18
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
			261		

18 South 32 East					
6	5	4	65	3	2
7	460	8	9	10	11
82					
12	13	14	15	16	17
18	17	16	15	14	13
84					
19	20	21	22	23	24
164					
25	26	27	28	29	30
429					
31	32	33	34	35	36
			117		

19 South 30 East					
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
90	31	32	33	34	35
36	35	34	33	32	31

19 South 31 East					
6	5	4	3	2	1
SITE					
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
180					
31	32	33	34	35	36
		101			130

19 South 32 East					
6	5	4	3	2	1
7	8	9	10	11	12
365					
13	14	15	16	17	18
135	14	15	16	17	18
dry					
19	20	21	22	23	24
102					
25	26	27	28	29	30
345					
31	32	33	34	35	36
			250		

- 88 New Mexico State Engineers Well Reports
- 105 USGS Well Reports
- 90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
- Geology and Groundwater Resources of Eddy County, NM (Report 3)
- 34 NMOCD - Groundwater Data

Appendix C

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate
RECEIVED
(See instructions on reverse side)

30-015-25847
Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

DEC 11 '87

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

18. TYPE OF WORK
DRILL DEEPEN PLUG BACK O.C.D.

b. TYPE OF WELL
OIL WELL GAS WELL OTHER SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR
Harvey E. Yates Company

3. ADDRESS OF OPERATOR
P.O. Box 1933, Roswell, New Mexico 88201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface 330' FSL & 330' FEL
At proposed prod. zone same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 330

16. NO. OF ACRES IN LEASE 680.06

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 660

19. PROPOSED DEPTH 5450

17. NO. OF ACRES ASSIGNED TO THIS WELL 40

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3715.2 GL

22. APPROX. DATE WORK WILL START* ASAP

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	24	350	Circ to surface
7 7/8	5 1/2	15.5	5450	Circ to surface

MUD PROGRAM:

0 - 350 Fresh water
350 - 5450 Brine water

19 ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED A.M. Young N.M. Young TITLE Drilling Superintendent DATE Nov. 2, 1987

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE 12-8-87

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

RECEIVED
NOV 4 11 07 AM '87
CARL... SURGE
AREA HEADQUARTERS
POST 10#1
N.Y. API
12-18-87

NEW MEXICO OIL CONSERVATION COMMISSION
 WELL LOCATION AND ACREAGE DEDICATION

PLAT 070188

Form C-102
 Supersedes C-128
 Effective 1-1-85

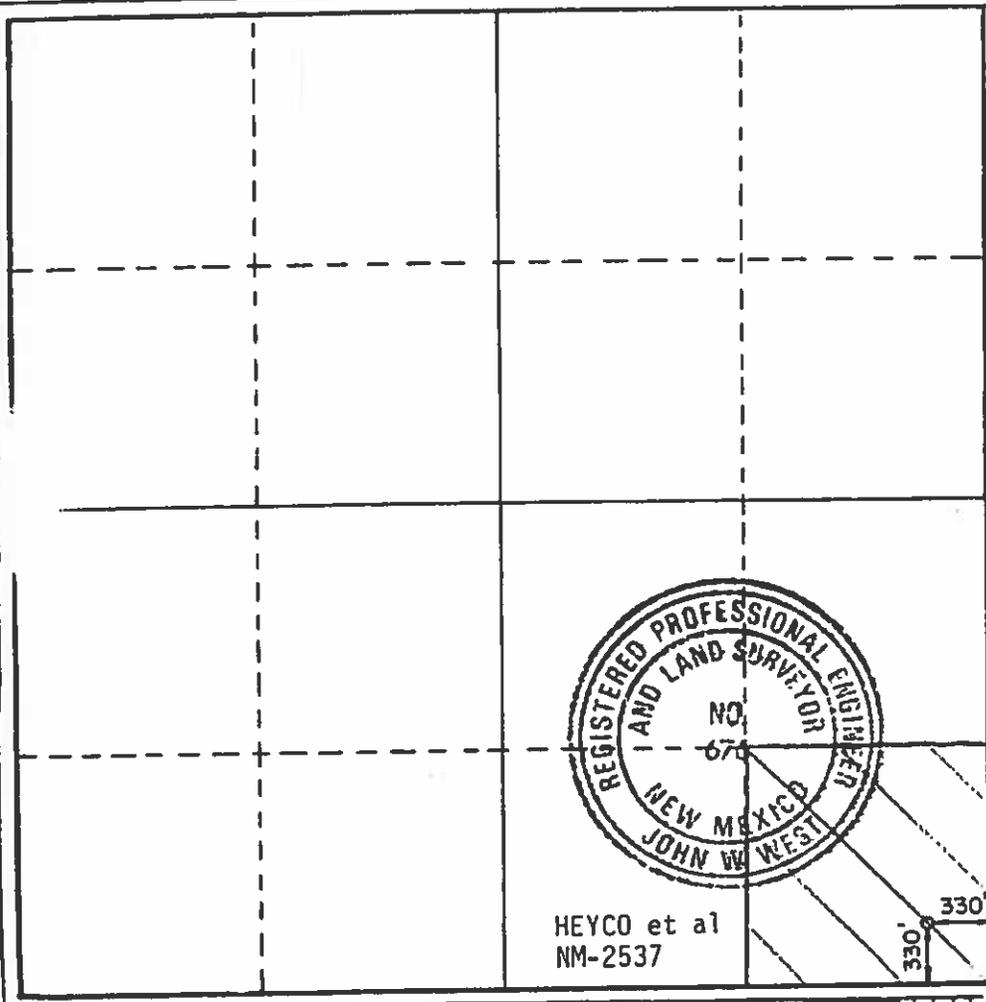
All distances must be from the outer boundaries of the Section.

Operator HARVEY E. YATES		Lease SOUTH TAYLOR 13 FEDERAL		Well No. 2
Unit Letter P	Section 13	Township 18S	Range 31E	County LEA-EDDY
Actual Footage Location of Well: 330 feet from the SOUTH line and 330 feet from the EAST line				
Ground Level Elev. 3715.2	Producing Formation Delaware	Pool East Shugart Delaware	Dedicated Acreage: 40 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?
 - Yes No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

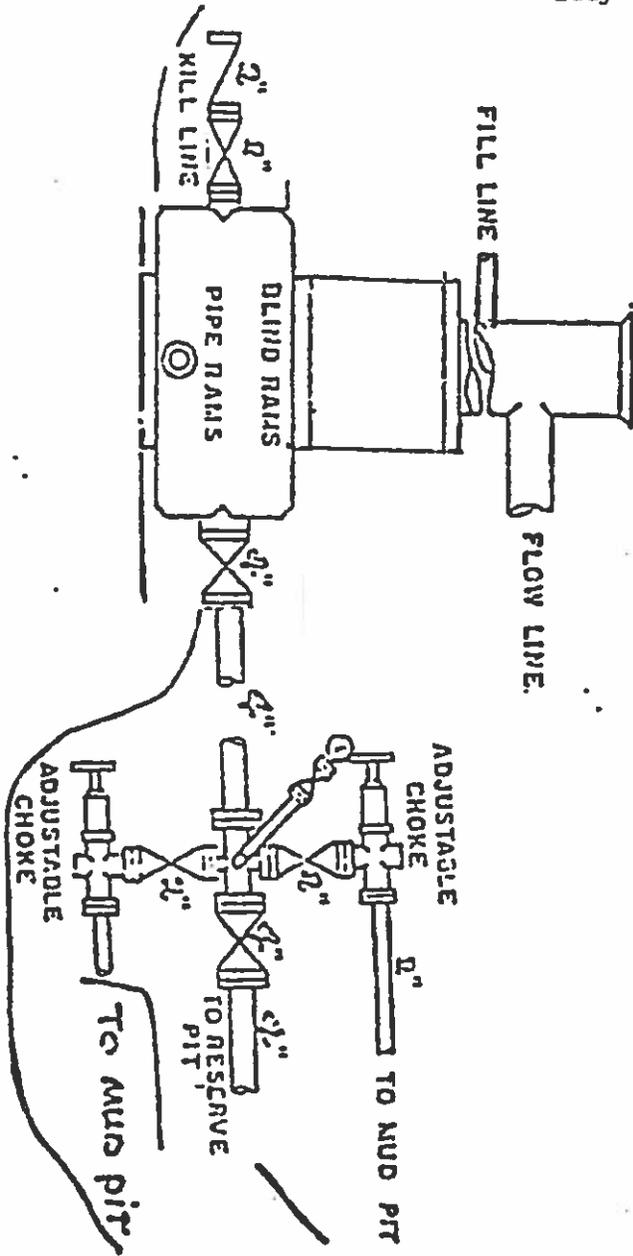


CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Name	<i>N.M. Young</i>
Position	Drilling Superintendent
Company	Harvey E. Yates Company
Date	November 2, 1987
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.	
Date Surveyed	JUNE 27, 1986
Registered Professional Engineer and/or Land Surveyor	
<i>John W. West</i>	
Certificate No.	JOHN W. WEST, 676
	RONALD J. EIDSON, 3239

91746

EXHIBIT C

Harvey E. Yates Co.
South Taylor 13 Federal 2
330' PSL & 330' FEL
Sec. 13, T-18S, R-31E
Eddy Co., New Mexico



900 Series

Application

HARVEY E. YATES COMPANY
South Taylor 13 Federal #2
Section 13, T18S, R31E
Eddy County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill the Subject well in Section 13, Township 18 South, Range 31 East, Eddy County, New Mexico, Harvey E. Yates Company submits the following ten items of pertinent information in accordance with Bureau of Land Management requirements:

1. The geologic surface formation is quaternary alluvium and bolson deposits and other surficial deposits.
2. The estimated tops of geologic markers are as follows:

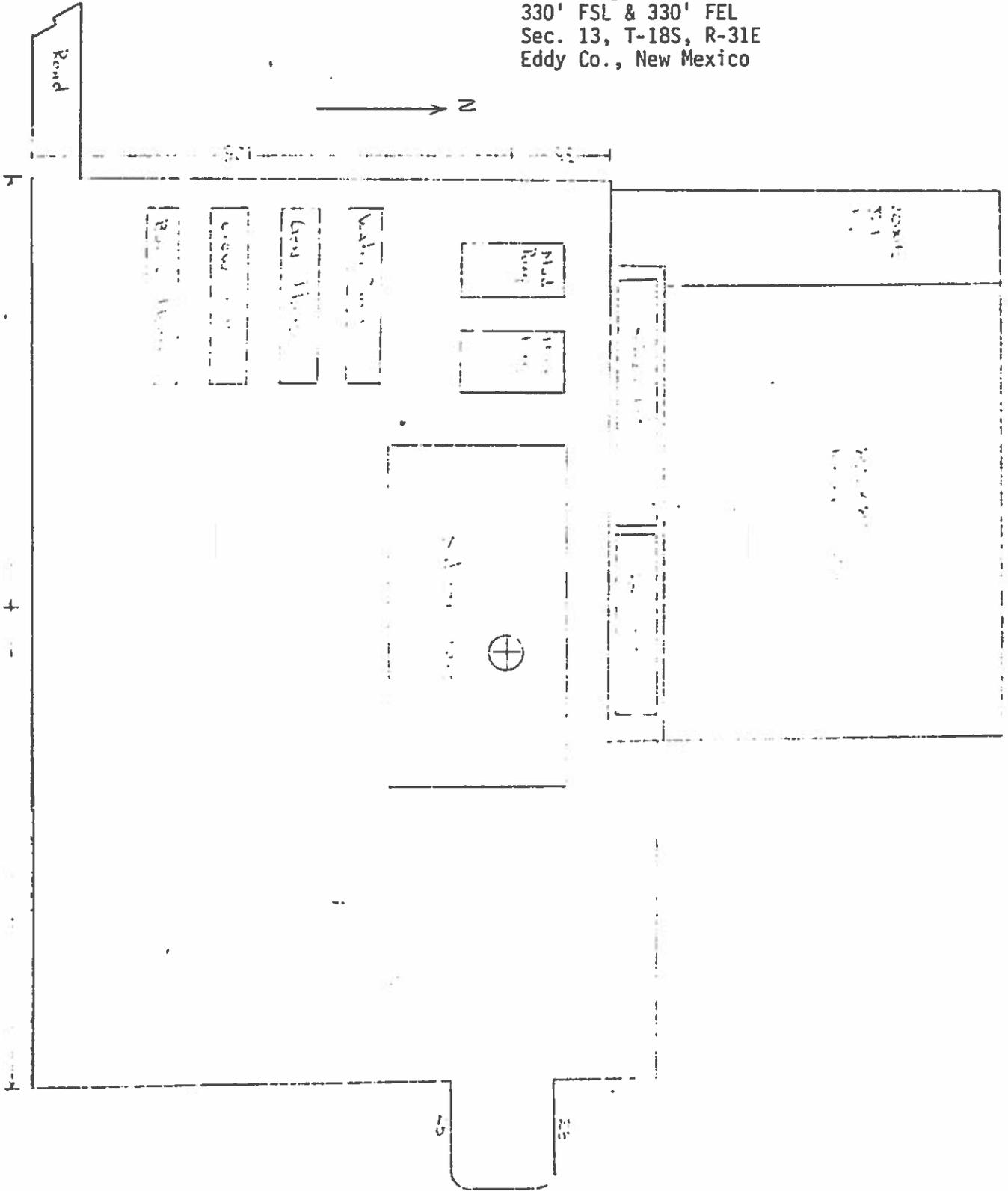
Rustler	870'	Grayburg	4100'
Yates	2450'	Delaware	4770'
Seven Rivers	2850'	TD	5450'
Queen	3520'		

3. We do not anticipate finding water but have listed the formation in which we anticipate finding oil or gas.

Delaware 4770'

4. Proposed casing program: See Form 3160-3
5. Pressure control equipment: See Exhibit C.
6. Mud program: See Form 3160-3.
7. Auxiliary equipment: Blowout preventer
8. Testing, logging and coring programs: We are not planning to do any coring or DST's. Planned logs are DLL-Miro w/GR & Caliper, CN-Den w/GR & Caliper.
9. No abnormal pressures or temperatures are anticipated.
10. Anticipated starting date: As soon as possible.

EXHIBIT D
Harvey E. Yates Co.
South Taylor 13 Federal #2
330' FSL & 330' FEL
Sec. 13, T-18S, R-31E
Eddy Co., New Mexico



Appendix D

