

SITE INFORMATION

Report Type: Closure Report 2RP-1511

General Site Information:

| | | | | | | |
|-----------------------------|---|---------|-------|--------------|--|--|
| Site: | Parkway Delaware Unit #2 Tank Battery | | | | | |
| Company: | SM Energy Company | | | | | |
| Section, Township and Range | Unit O | Sec. 26 | T 19S | R 29E | | |
| Lease Number: | API No. 30-015-26112 | | | | | |
| County: | Eddy County | | | | | |
| GPS: | 32.62122° N | | | 104.04383° W | | |
| Surface Owner: | Federal | | | | | |
| Mineral Owner: | | | | | | |
| Directions: | Northeast of Carlsbad, from the intersection of 360 and CR235, head WNW on CR235 for 4.8 miles and turn south. Travel the lease road for 1.4 miles, and turn south through another well pad. Continue south for .3 miles to the tank battery. | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Release Data:

| | |
|---------------------------------|--|
| Date Released: | 7/21/2012 |
| Type Release: | Oil |
| Source of Contamination: | Failure at the water dump line on the free water knock out |
| Fluid Released: | 100 bbls |
| Fluids Recovered: | 72 bbls |

Official Communication:

| | | | |
|----------------------|--|--|--|
| Name: | Zachary Luikens | | Ike Tavaréz |
| Company: | SM Energy Company | | Tetra Tech |
| Address: | 6301 Holiday Hill Rd. | | 4000 N. Big Spring St. |
| | Bldg #1 | | Ste 401 |
| City: | Midland, Texas 79707 | | Midland, Texas |
| Phone number: | (432) 688-3138 | | (432) 682-4559 |
| Fax: | (432) 688-1701 | | |
| Email: | zluikens@sm-energy.com | | ike.tavarez@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 |



TETRA TECH

August 23, 2016

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

**Re: Closure Report
SM Energy Company
Parkway Delaware Unit Tract 2 Tank Battery
Section 35, Township 19S, Range 29E
Eddy County, New Mexico
2RP-1511**

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by SM Energy Company (SM Energy) to assess a spill from Parkway Delaware Unit Tract 2 (PDU #2) tank battery, located in Section 35, Township 19S, Range 29E, Eddy County, New Mexico (Site). The spill site coordinates are N 32.62122°, W 104.04383°. 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 December 6, 2012. The spill, which was the result of a malfunctioning murphy switch, released 35 bbl of produced water. SM Energy was able to recover approximately 30 bbls with a vacuum truck.

The spill impacted the area within the tank battery dike measured approximately 30' x 115'. The spill area is shown on Figure 3. The initial Form C-141 is enclosed in Appendix A.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



Groundwater

The New Mexico State Engineers Well Report listed one well in Section 35 with an average depth of 110' and wells in Sections 34 and 36 with reported depths of 60' and 115', respectively. The well report is shown in Appendix B.

Previously, Tetra Tech personnel supervised the installation of a temporary well (TMW-1) in Section 35 to establish groundwater quality and depth in this section. During the installation, the well drilled dry. The well was drilled through fine grain sand with gypsum layers and red shale to a total depth of 140', to the top of a black and gray shale formation (blue shale). The well was measured two days later and showed a depth to groundwater of 121 TOC.

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

Tetra Tech responded to the release and supervised the remediation of the impacted soils. The area was excavated to approximately 1.0' below surface; to the maximum extent possible. Further excavation was not performed due to access and safety issues.

On January 22, 2013, Tetra Tech personnel returned to the site to collect confirmation samples. Six (6) auger holes were installed (AH-1 through AH-6) in the release area to assess the soils. 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 C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Analytical Results

Referring to Table 1, the areas of auger holes (AH-1, AH-2, and AH-5) did not show any TPH or BTEX concentrations above the RRAL's. However, the areas of auger holes (AH-3, AH-4, and AH-6) showed TPH concentrations above the RRAL's of 9,630 mg/kg, 5,298 mg/kg, and 11,990 mg/kg at 0-1', respectively. The TPH concentrations then declined with depth to below the RRAL. Additionally, these areas did show total BTEX concentrations above the RRAL's that also declined with depth.

The area of auger hole (AH-1 and AH-6) showed chloride impact that increased with depth, with bottom hole concentrations of 993 mg/kg at 3-3.5' and 312 mg/kg at 1-1.5' below surface, respectively. The areas of auger holes (AH-3 and AH-5) showed chloride concentrations that decreased with depth; with chloride highs of 1,260 mg/kg and 830 mg/kg at 0-1' below surface, respectively. These areas then declined to 175 mg/kg at 9-9.5' and 312 mg/kg at 4-4.5' below surface. The areas of auger holes (AH-2 and AH-4) showed chloride concentrations of 76.9 mg/kg and 441 mg/kg at 0-1', respectively.

Conclusion

Based on the remedial work already performed, which was to the maximum extent practicable due to access and safety issues, SM Energy requests to have this release, or areas of auger holes (AH-3, AH-4, and AH-6), deferred until abandonment. The Final C-141 is included in Appendix A. If you have any questions or require any additional information regarding this work plan, please call me at (432) 682-4559.

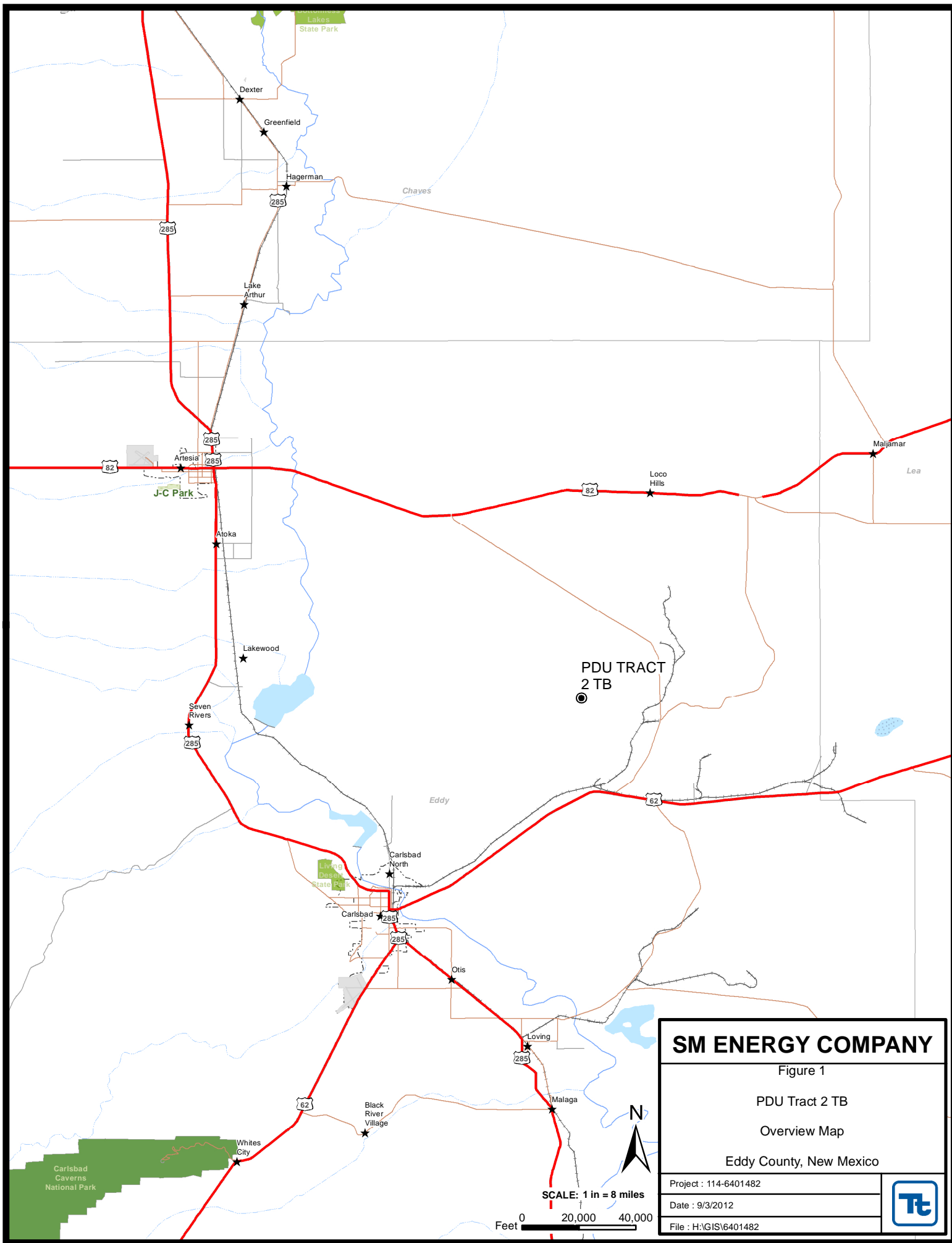
Respectfully submitted,
TETRA TECH, Inc.

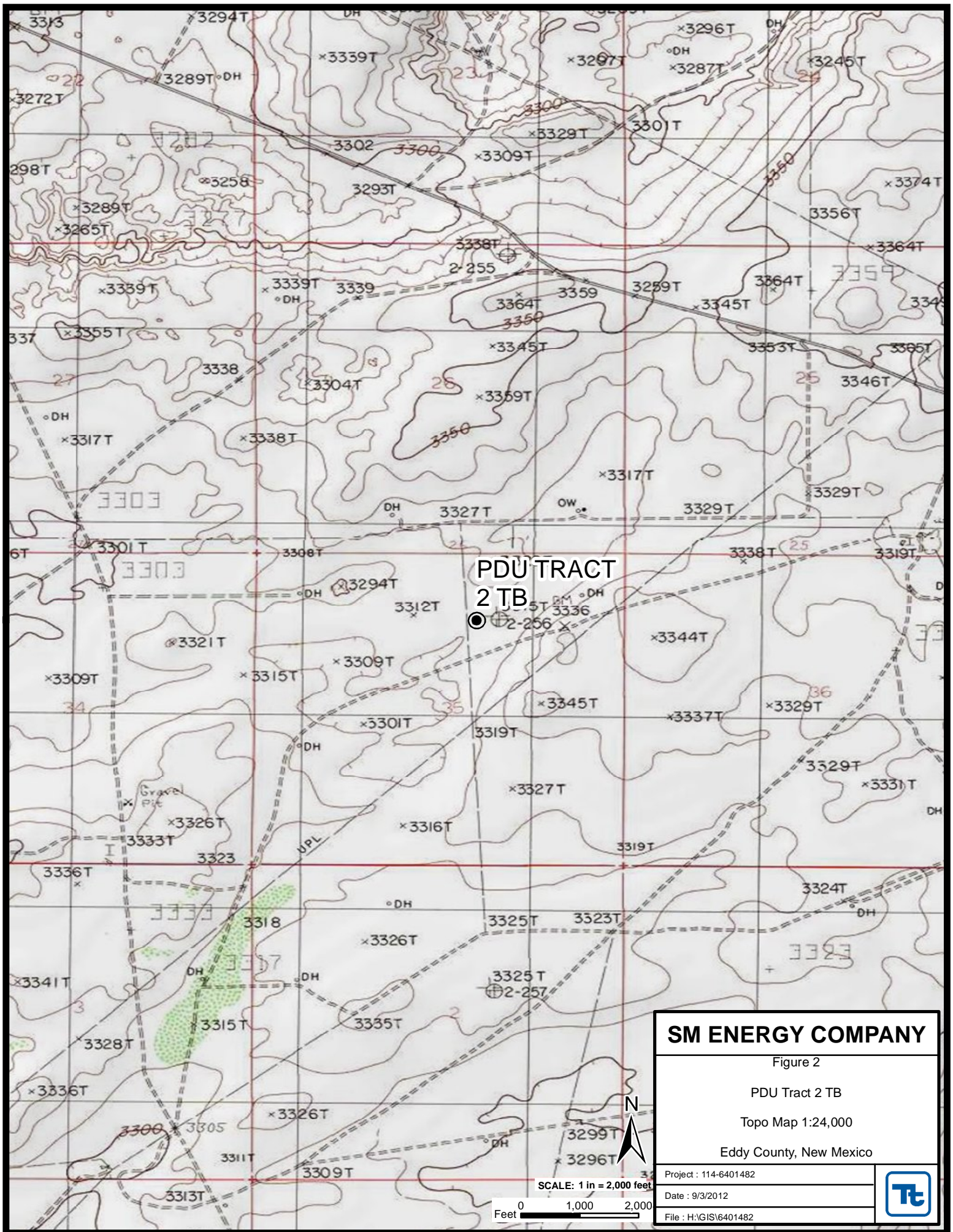


Ike Tavaréz,
Senior Project Manager

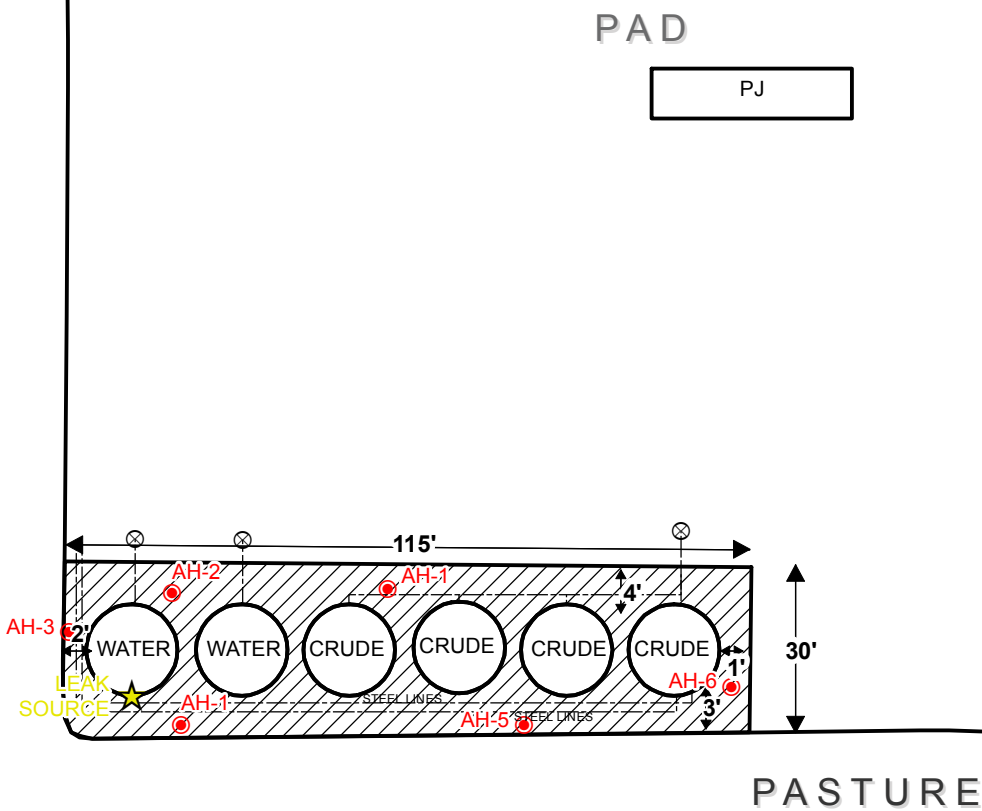
cc: Zach Luikens – SM Energy
BLM – Jim Amos

Figures





PASTURE



EXPLANATION

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

SCALE: 1 IN = 40 FEET

Feet 0 20 40



SM ENERGY COMPANY

Figure 3

PDU Tract 2 TB

Spill Assessment Map

Eddy County, New Mexico

Project : 114-6401482

Date : 9/17/2012

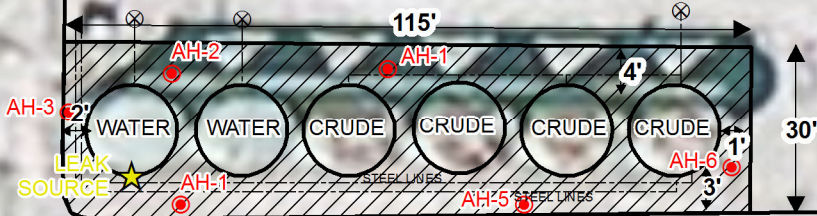
File : H:\GIS\6401482



PASTURE

PAD

PJ



PASTURE

EXPLANATION

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



SCALE: 1 IN = 40 FEET

Feet 0 20 40

SM ENERGY COMPANY

Figure 3a

PDU Tract 2 TB

Spill Assessment Map w/ Aerial

Eddy County, New Mexico

Project : 114-6401482

Date : 9/17/2012

File : H:\GIS\6401482



Tables

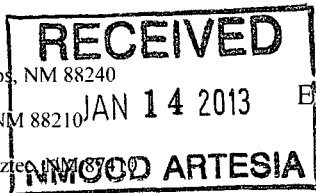
Table 1
SM Energy
Parkway Delaware Unit Tract 2
Eddy County, New Mexico

| Sample ID | Sample Date | Sample Depth (ft) | Soil Status | | TPH (mg/kg) | | | Benzene (mg/kg) | Toluene (mg/kg) | Ethlybenzene (mg/kg) | Xylene (mg/kg) | Total BTEX (mg/kg) | Chloride (mg/kg) |
|-----------|-------------|-------------------|-------------|---------|-------------|-------|--------|-----------------|-----------------|----------------------|----------------|--------------------|------------------|
| | | | In-Situ | Removed | GRO | DRO | Total | | | | | | |
| AH-1 | 1/22/2013 | 0-1 | X | | 71.9 | 365 | 437 | <0.0200 | <0.0200 | <0.0200 | 0.521 | 0.521 | 236 |
| | " | 1-1.5 | X | | - | - | - | - | - | - | - | - | 245 |
| | " | 2-2.5 | X | | - | - | - | - | - | - | - | - | 672 |
| | " | 3-3.5 | X | | - | - | - | - | - | - | - | - | 993 |
| | | | | | | | | | | | | | |
| AH-2 | 1/22/2013 | 0-1 | X | | 265 | 912 | 1,177 | <0.100 | 0.875 | 1.30 | 3.18 | 5.36 | 76.9 |
| | | | | | | | | | | | | | |
| AH-3 | 1/22/2013 | 0-1 | X | | 4,190 | 5,440 | 9,630 | <1.00 | 13.8 | <1.00 | 90.5 | 104 | 1,260 |
| | " | 1-1.5 | X | | 3,110 | 1,590 | 4,700 | <0.400 | 6.32 | 8.17 | 36.8 | 51.3 | 692 |
| | " | 2-2.5 | X | | - | - | - | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 154 |
| | " | 3-3.5 | X | | - | - | - | - | - | - | - | - | 71.1 |
| | " | 4-4.5 | X | | - | - | - | - | - | - | - | - | 75.9 |
| | " | 5-5.5 | X | | - | - | - | - | - | - | - | - | 42.7 |
| | " | 6-6.5 | X | | - | - | - | - | - | - | - | - | <20.0 |
| | " | 7-7.5 | X | | - | - | - | - | - | - | - | - | 123 |
| | " | 8-8.5 | X | | - | - | - | - | - | - | - | - | 156 |
| | " | 9-9.5 | X | | - | - | - | - | - | - | - | - | 175 |
| | | | | | | | | | | | | | |
| AH-4 | 1/22/2013 | 0-1 | X | | 618 | 4,680 | 5,298 | <0.400 | <0.400 | <0.400 | 8.34 | 8.34 | 441 |
| | | | | | | | | | | | | | |
| AH-5 | 1/22/2013 | 0-1 | X | | 683 | 1,080 | 1,763 | <0.400 | <0.400 | <0.400 | 6.14 | 6.14 | 830 |
| | " | 1-1.5 | X | | - | - | - | - | - | - | - | - | 669 |
| | " | 2-2.5 | X | | - | - | - | - | - | - | - | - | 758 |
| | " | 3-3.5 | X | | - | - | - | - | - | - | - | - | 326 |
| | " | 4-4.5 | X | | - | - | - | - | - | - | - | - | 312 |
| | | | | | | | | | | | | | |
| AH-6 | 1/22/2013 | 0-1 | X | | 3,260 | 8,730 | 11,990 | <1.00 | 11.4 | 21.2 | 76.4 | 109 | 72.0 |
| | " | 1-1.5 | X | | 15.9 | <50.0 | 15.9 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 312 |
| | | | | | | | | | | | | | |

(--) Not Analyzed

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 87401
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

nJM W1302238706

OPERATOR

☒ Initial Report ☐ Final Report

| | |
|--|-----------------------------|
| Name of Company SM ENERGY COMPANY 154903 | Contact VICKIE MARTINEZ |
| Address 3300 N "A" STREET, BLDG 7-200 | Telephone No. (432)688-1709 |
| Facility Name PDU TRACT 2 | Facility Type BATTERY |

| | | |
|-------------------|-------------------|--------------------|
| Surface Owner BLM | Mineral Owner BLM | API No. 3001526112 |
|-------------------|-------------------|--------------------|

LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| O | 26 | 19S | 29E | 330 | SOUTH | 1980 | EAST | EDDY |

Latitude _____ Longitude _____

NATURE OF RELEASE

| | | |
|--|---|------------------------|
| Type of Release PRODUCED WATER | Volume of Release 35 | Volume Recovered 30 |
| Source of Release WATER TANK | Date and Hour of Occurrence 12/6/12 6:30 AM | Hour of Discovery SAME |
| Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom? JIM AMOS W/BLM & NMOC GENERAL MAILBOX | |
| By Whom? BILL HEARNE | Date and Hour 12/6/12 9:37 PM | |
| 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.* N/A |
|--|

| |
|--|
| Describe Cause of Problem and Remedial Action Taken.* MURPHY SWITCH MALFUNCTION WAS CAUSE OF PROBLEM. SM ENERGY WILL BE TURNING THIS OVER TO TETRA TECH FOR FURTHER EVALUATION. |
|--|

| |
|---|
| Describe Area Affected and Cleanup Action Taken.* SPILL AREA: 40'X30' = 1200 SQ FT. PICKED UP 30 BBLs WHICH WERE ALL CONTAINED INSIDE BERM AREA. |
|---|

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC 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, NMOC 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: Vickie Martinez | OIL CONSERVATION DIVISION | |
| Printed Name: VICKIE MARTINEZ | Approved by Environmental Specialist: <i>Mike B...</i> | |
| Title: ENGINEER TECH II | Approval Date: JAN 22 2013 | Signed By: <i>Mike B...</i> |
| E-mail Address: VMARTINEZ@SM-ENERGY.COM | Expiration Date: | Attached <input type="checkbox"/> |
| Date: 01/03/2013 | Phone: (432)688-1709 | Conditions of Approval: |

Remediation per OCD Rule &
Guidelines. SUBMIT REMEDIATION
PROPOSAL NO LATER THAN:
February 22, 2013

2RP-1511

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
SM ENERGY COMPANY - PARKWAY DELAWARE UNIT TRACT 2
Eddy County, New Mexico

| 18 South | | | 28 East | | |
|----------|----|-----|---------|----|----|
| 6 | 5 | 4 | 3 | 2 | 1 |
| | | 108 | | | |
| 7 | 8 | 9 | 10 | 11 | 12 |
| | 69 | | | | |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| | | 226 | | | |
| 49 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |
| | | | | 65 | |

| 18 South | | | 29 East | | |
|----------|----|----|---------|----|----|
| 6 | 5 | 4 | 3 | 2 | 1 |
| | | | | | |
| 7 | 8 | 9 | 10 | 95 | 11 |
| | | | | | |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| | | | | | |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |
| | | | | | |

| 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 | 24 |
| | | | | | |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |
| | | | | | |

| 19 South | | | 28 East | | |
|----------|----|-----|---------|----|----|
| 6 | 5 | 4 | 3 | 2 | 1 |
| | | | | | |
| 7 | 8 | 9 | 246 | 10 | 11 |
| | | 265 | | | |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 91 | | | | | |
| 19 | 20 | 21 | 22 | 23 | 24 |
| | | | | | |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |
| | | | | | |

| 19 South | | | 29 East | | |
|----------|------|----|---------|-----|-----|
| 6 | 5 | 4 | 3 | 2 | 1 |
| | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | |
| 18 | 17 | 16 | 15 | 14 | 13 |
| | | | | 123 | |
| 19 | 20 | 21 | 22 | 23 | 24 |
| | 62.9 | | | | 101 |
| 30 | 29 | 28 | 27 | 26 | 25 |
| | | | | | |
| 31 | 32 | 33 | 34 | 62' | 35 |
| | | | 60 | 110 | 121 |
| | | | | | 115 |

| 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 | | | | | |
| 115 | 32 | 33 | 34 | 35 | 36 |
| | | | | | |

| 20 South | | | 28 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 |
| | | 30 | 35 | | |
| 31 | 32 | 33 | 25 | 34 | 35 |
| 115 | | 29 | | | 19 |

| 20 South | | | 29 East | | |
|----------|----|----|---------|----|----|
| 6 | 5 | 4 | 3 | 2 | 1 |
| | | | 91 | | |
| 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | |
| 18 | 17 | 16 | 15 | 14 | 13 |
| | | | | | |
| 19 | 20 | 21 | 22 | 23 | 24 |
| | 62 | | | | |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 52 | | | | | |
| 31 | 32 | 33 | 34 | 35 | 36 |
| | | | | | |

| 20 South | | | 30 East | | |
|----------|-----|-----|---------|----|----|
| 6 | 5 | 3.5 | 4 | 3 | 2 |
| | | | | 6 | 1 |
| 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | |
| 18 | 17 | 16 | 15 | 14 | 13 |
| | | 29 | | | |
| 19 | 20 | 21 | 22 | 23 | 24 |
| | 29 | 150 | | | |
| 30 | 29 | 28 | 27 | 26 | 25 |
| | | | | | |
| 31 | 32 | 33 | 34 | 35 | 36 |
| | 170 | 191 | | | |

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- New Mexico Water and Infrastructure Data System
- Tetra Tech Temporary well (TD 180' - Dry Well)



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 | | Q Q Q | | | | Sec | Tws | Rng | X | Y | Depth | Depth | Water |
|--------------------------|------|----------|--------|----|----|---|-----|-----|-----|--------|----------|-------|-----------------|--------|
| | Code | Subbasin | County | 64 | 16 | 4 | | | | | | Well | Water | Column |
| CP 00681 | | | ED | 1 | 1 | 3 | 34 | 19S | 29E | 587230 | 3609127* | | | |
| CP 00703 | | | ED | | 4 | 1 | 36 | 19S | 29E | 590945 | 3609441* | 225 | 115 | 110 |
| CP 00739 | | | ED | 3 | 4 | 4 | 35 | 19S | 29E | 589246 | 3608217 | 200 | 110 | 90 |
| CP 00741 | | | ED | 1 | 3 | 2 | 34 | 19S | 29E | 588030 | 3609533* | 230 | 60 | 170 |
| Average Depth to Water: | | | | | | | | | | | | | 95 feet | |
| Minimum Depth: | | | | | | | | | | | | | 60 feet | |
| Maximum Depth: | | | | | | | | | | | | | 115 feet | |

Record Count: 4

PLSS Search:

Section(s): 34-36

Township: 19S

Range: 29E

*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.

Appendix C

Summary Report

Aaron Hale
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: January 29, 2013

Work Order: 13012322



Project Location: Eddy Co., NM
Project Name: SM Energy/PDU Tract #2
Project Number: 114-6401482

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|---------------|--------|------------|------------|---------------|
| 319127 | AH-1 (0-1') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319128 | AH-1 (1-1.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319129 | AH-2 (0-1') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319130 | AH-3 (0-1') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319131 | AH-3 (1-1.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319132 | AH-3 (2-2.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319133 | AH-3 (3-3.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319134 | AH-3 (4-4.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319135 | AH-3 (5-5.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319136 | AH-3 (6-6.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319137 | AH-3 (7-7.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319138 | AH-3 (8-8.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319139 | AH-3 (9-9.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319140 | AH-4 (0-1') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319141 | AH-5 (0-1') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319142 | AH-5 (1-1.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319143 | AH-5 (2-2.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319144 | AH-5 (3-3.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319145 | AH-5 (4-4.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319146 | AH-6 (0-1') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319147 | AH-6 (1-1.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319148 | AH-1 (2-2.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |
| 319149 | AH-1 (3-3.5') | soil | 2013-01-22 | 00:00 | 2013-01-23 |

| Sample - Field Code | BTEX | | | | TPH DRO - NEW | TPH GRO |
|-----------------------------|--------------------|--------------------|-------------------------|-------------------|----------------|----------------|
| | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethylbenzene (mg/Kg) | Xylene (mg/Kg) | DRO (mg/Kg) | GRO (mg/Kg) |
| 319127 - AH-1 (0-1') | <0.0200 | <0.0200 | <0.0200 | 0.521 | 365 | 71.9 |

continued ...

... continued

| Sample - Field Code | BTEX | | | | TPH DRO - NEW DRO | TPH GRO GRO |
|-------------------------------|---------------------|--------------------|-------------------------|-------------------|---------------------------|----------------|
| | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethylbenzene (mg/Kg) | Xylene (mg/Kg) | | |
| 319129 - AH-2 (0-1') | <0.100 ¹ | 0.875 | 1.30 | 3.18 | 912 | 265 |
| 319130 - AH-3 (0-1') | <1.00 ² | 13.8 | <1.00 | 90.5 | 5440 | 4190 |
| 319131 - AH-3 (1-1.5') | <0.400 ³ | 6.32 | 8.17 | 36.8 | 1590 _{Qs} | 3110 |
| 319132 - AH-3 (2-2.5') | <0.0200 | <0.0200 | <0.0200 | <0.0200 | | |
| 319140 - AH-4 (0-1') | <0.400 ⁴ | <0.400 | <0.400 | 8.34 | 4680 | 618 |
| 319141 - AH-5 (0-1') | <0.400 ⁵ | <0.400 | <0.400 | 6.14 | 1080 | 683 |
| 319146 - AH-6 (0-1') | <1.00 ⁶ | 11.4 | 21.2 | 76.4 | 8730 | 3260 |
| 319147 - AH-6 (1-1.5') | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <50.0 _{Qs} | 15.9 |

Sample: 319127 - AH-1 (0-1')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 236 | mg/Kg | 4 |

Sample: 319128 - AH-1 (1-1.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 245 | mg/Kg | 4 |

Sample: 319129 - AH-2 (0-1')

| Param | Flag | Result | Units | RL |
|----------|------|-------------|-------|----|
| Chloride | | 76.9 | mg/Kg | 4 |

Sample: 319130 - AH-3 (0-1')

| Param | Flag | Result | Units | RL |
|----------|------|-------------|-------|----|
| Chloride | | 1260 | mg/Kg | 4 |

Sample: 319131 - AH-3 (1-1.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 692 | mg/Kg | 4 |

¹Dilution due to hydrocarbons.²Dilution due to hydrocarbons.³dilution due to hydrocarbons.⁴Dilution due to hydrocarbons.⁵Dilution due to hydrocarbons.⁶Dilution due to hydrocarbons.

Sample: 319132 - AH-3 (2-2.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 154 | mg/Kg | 4 |

Sample: 319133 - AH-3 (3-3.5')

| Param | Flag | Result | Units | RL |
|----------|------|-------------|-------|----|
| Chloride | | 71.1 | mg/Kg | 4 |

Sample: 319134 - AH-3 (4-4.5')

| Param | Flag | Result | Units | RL |
|----------|------|-------------|-------|----|
| Chloride | | 75.9 | mg/Kg | 4 |

Sample: 319135 - AH-3 (5-5.5')

| Param | Flag | Result | Units | RL |
|----------|------|-------------|-------|----|
| Chloride | | 42.7 | mg/Kg | 4 |

Sample: 319136 - AH-3 (6-6.5')

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 319137 - AH-3 (7-7.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 123 | mg/Kg | 4 |

Sample: 319138 - AH-3 (8-8.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 156 | mg/Kg | 4 |

Sample: 319139 - AH-3 (9-9.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 175 | mg/Kg | 4 |

Sample: 319140 - AH-4 (0-1')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 441 | mg/Kg | 4 |

Sample: 319141 - AH-5 (0-1')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 830 | mg/Kg | 4 |

Sample: 319142 - AH-5 (1-1.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 669 | mg/Kg | 4 |

Sample: 319143 - AH-5 (2-2.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 758 | mg/Kg | 4 |

Sample: 319144 - AH-5 (3-3.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 326 | mg/Kg | 4 |

Sample: 319145 - AH-5 (4-4.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 312 | mg/Kg | 4 |

Sample: 319146 - AH-6 (0-1')

| Param | Flag | Result | Units | RL |
|----------|------|-------------|-------|----|
| Chloride | | 72.0 | mg/Kg | 4 |

Sample: 319147 - AH-6 (1-1.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 312 | mg/Kg | 4 |

Sample: 319148 - AH-1 (2-2.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 672 | mg/Kg | 4 |

Sample: 319149 - AH-1 (3-3.5')

| Param | Flag | Result | Units | RL |
|----------|------|------------|-------|----|
| Chloride | | 993 | mg/Kg | 4 |

Analysis Request of Chain of Custody Record

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OF: 3

ANALYSIS REQUEST
(Circle or Specify Method No.)

TETRA TECH

**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946**

SITE MANAGER: Ashton Hale

| | | |
|-----------------------------------|--|--------------------------------------|
| CLIENT NAME: SM Energy | SITE MANAGER: Aaron Hale | |
| PROJECT NO.: 114-6401482 | PROJECT NAME: SM Energy - DD Tract #2 - 2 nd spill | |
| LAB I.D. NUMBER: 114-6401482-1 | TIME 11:00 AM | SAMPLE IDENTIFICATION Eddy Co, NM |

| LAB. I.D. NUMBER | DATE | TIME | PROJECT NO.: | PROJECT NAME: |
|------------------|------|------|--------------|-------------------------------------|
| | | | 114-6401482 | Sm Energy - DD Tract #2 - 2nd spill |
| | | | | Eddy Co, NM |
| | | | | SAMPLE IDENTIFICATION |
| | | | | BOX |
| | | | | HP |
| | | | | B |

SAMPLE IDENTIFICATION

| | | | | | |
|---------|---------|--|---|---|---------------|
| 3/19/27 | 1/22/13 | | S | N | AH-1 (0-1') |
| 128 | | | | | AH-1 (1-1.5') |
| 129 | | | | | AH-2 (0-1') |
| 130 | | | | | AH-3 (0-1') |
| 131 | | | | | AH-3 (1-1.5') |
| 132 | | | | | AH-3 (2-2.5') |
| 133 | | | | | AH-3 (3-3.5') |
| 134 | | | | | AH-3 (4-4.5') |
| 135 | | | | | AH-3 (5-5.5') |
| 136 | | | | | AH-3 (6-6.5') |

| | | |
|------------------------------|---------------|--------------------------|
| RELINQUISHED BY: (Signature) | Date: 1-23-13 | RECEIVED BY: (Signature) |
| | Time: 12:45 | |
| RELINQUISHED BY: (Signature) | Date: _____ | RECEIVED BY: (Signature) |
| | Time: _____ | |
| RELINQUISHED BY: (Signature) | Date: _____ | RECEIVED BY: (Signature) |
| | Time: _____ | |
| RECEIVING LABORATORY: _____ | | |
| RECEIVED BY: (Signature) | | |

RECEIVING LABORATORY: _____ RECEIVED BY: (Signature) _____
 ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 CONTACT: _____ PHONE: _____ DATE: _____

| | | | |
|--|--|-----------------|--|
| SAMPLE CONDITION WHEN RECEIVED: | | REMARKS: | |
|--|--|-----------------|--|

REMARKS:

Run deeper Samples if TPH exceeds - 5,000 mg/ka
OK and if

Benzene exceeds 10 mg/kg or BTEX 50 mg/kg

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Benzene exceeds 10 mg/kg or BTEX 50 mg/kg

Analysis Request of Chain of Custody Record

ANALYSIS REQUEST
(Circle or Specify Method No.)

**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946**

| CLIENT NAME: | | SITE MANAGER: | |
|-----------------|---------|--------------------------------------|--------|
| SM - Energy | | Aaron Hale | |
| PROJECT NO.: | | PROJECT NAME: | |
| 114-6401482 | | SM Energy - RDV Tract #2 - 2nd Spill | |
| | | Eddy Co., NM | |
| | | SAMPLE IDENTIFICATION | |
| LAB I.D. NUMBER | DATE | TIME | MATRIX |
| | | | COMP. |
| | | | GRAB |
| 137 | 1/22/13 | | S |
| 138 | | | () |
| 139 | | | () |
| 140 | | | () |
| 141 | | | () |
| 142 | | | () |
| 143 | | | () |
| 144 | | | () |
| 145 | | | () |
| 146 | | | () |

| PRESERVATIVE METHOD | | NUMBER OF CONTAINERS | | FILTERED (Y/N) | | HCL | | HN03 | | ICE | | NONE | |
|---------------------|--|----------------------|--|----------------------|--|--------------------------|--|---------------------------|--|------------------------------|--|----------------|--|
| | | | | | | | | | | | | | |
| | | BTX 8021B | | TPH 8015 MOD. TX1005 | | PAH 8270 | | RCRA Metals Ag As Ba Cd | | TCLP Metals Ag As Ba Cd | | TCLP Volatiles | |
| | | TCMP Semi Volatiles | | RCI | | GC/MS Vol. B240/B260/624 | | GC/MS Semi. Vol. B270/625 | | PCBs 8080/608 | | Pest. 808/608 | |
| | | Chloride | | Gamma Spec. | | Alpha Beta (Air) | | PLM (Asbestos) | | Major Anions/Cations, pH, TD | | | |

| RELINQUISHED BY (Signature) | | Date: | Time: | RECEIVED BY (Signature) | | Date: | Time: |
|-----------------------------|--|---------|-------|-------------------------|--|---------|-------|
| | | 1-23-13 | 12:45 | | | 1-23-13 | 12:45 |

| RELINQUISHED BY (Signature) | | Date: | Time: | RECEIVED BY (Signature) | | Date: | Time: |
|-----------------------------|--|-------|-------|-------------------------|--|-------|-------|
| | | | | | | | |

| RELINQUISHED BY (Signature) | | Date: | Time: | RECEIVED BY (Signature) | | Date: | Time: |
|-----------------------------|--|-------|-------|-------------------------|--|-------|-------|
| | | | | | | | |

| RECEIVING LABORATORY: | | ADDRESS: | | CITY: | | STATE: | | ZIP: | | PHONE: | | DATE: | | TIME: | |
|-----------------------|--|----------|--|-------|--|--------|--|------|--|--------|--|-------|--|-------|--|
| | | | | | | | | | | | | | | | |

| SAMPLE CONDITION WHEN RECEIVED: | | REMARKS: | |
|---------------------------------|--|----------|--|
| 538 | | | |

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Analysis Request of Chain of Custody Record

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OF:



TETRA TECH

1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

[illegible]

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Run deeper Samples if TPH exceeds - 5,000 mg/kg and if Benzene exceeds 10 mg/kg or BTEX 50 mg/kg. AT Midland - all Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Analysis Request of Chain of Custody Record

ANALYSIS REQUEST
(Circle or Specify Method No.)

**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-4560**

SITE MANAGER: Aaron Hale

PROJECT NAME:

| | |
|---------------|--------------------------------------|
| PROJECT NAME: | SM Energy - RDV Tract #2 - 2nd spill |
| TRIX | Eddy Co2 PM |
| MP: | SAMPLE IDENTIFICATION |
| AB | |

| CLIENT NAME: SM - Energy | | SITE MANAGER: Aaron Hiale | | PROJECT NAME: SM Energy - 800 Tract #2 - 2nd spill | | NUMBER OF CONTAINERS | FILTERED (Y/N) | PRESERVATIVE METHOD | | | |
|-----------------------------|---------|------------------------------|--------|---|------|----------------------|----------------|-----------------------|-----|------|-----|
| LAB I.D. NUMBER | DATE | TIME | MATRIX | COMP | GRAB | | | SAMPLE IDENTIFICATION | HCL | HNO3 | ICE |
| 137 | 1/22/12 | | S | | X | 1 | | | X | | |
| 138 | | | | | | 1 | | | X | | |
| 139 | | | | | | 1 | | | X | | |
| 140 | | | | | | 1 | | | X | | |
| 141 | | | | | | 1 | | | X | | |
| 142 | | | | | | 1 | | | X | | |
| 143 | | | | | | 1 | | | X | | |
| 144 | | | | | | 1 | | | X | | |
| 145 | | | | | | 1 | | | X | | |
| 146 | | | | | | 1 | | | X | | |

Date: 1-23-13 RECEIVED BY: (Signature)

Time: 12:30
Date: _____
RECEIVED BY: (Signature) _____

Time: _____ Date: _____ RECEIVED BY: (Signature) _____

Time: _____

RECEIVED BY: (Signature) _____

DATE: _____ TIME: _____

REMARKS:

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Analysis Request of Chain of Custody Record

[illegible]