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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: **Enterprise Field Services, LLC**	OGRID: **151618**
Contact Name: **Thomas Long**	Contact Telephone: **505-599-2286**
Contact email:**tjlong@eprod.com**	Incident # *(assigned by OCD)*: **NCS19155401940**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

Location of Release Source

Latitude 36.333375 Longitude -107.213957 *(NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Lateral L-11 Valve**	Site Type **Natural Gas Gathering Pipeline**
Date Release Discovered: **5/13/2019**	Serial Number *(if applicable)*: **NA**

Unit Letter	Section	Township	Range	County
E	1	24N	3W	Rio Arriba

Surface Owner: ☐ State ☐ Federal ☒ Tribal ☐ Private (*Name*: **Jicarilla Apache Tribe**)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls): **3-5 BBLS**	Volume Recovered (bbls): **None**
☐ Natural Gas	Volume Released (Mcf):	Volume Recovered (Mcf):
☐ Other (describe)	Volume/Weight Released (provide units):	Volume/Weight Recovered (provide units)

Cause of Release: On May 13, 2019, Enterprise responded to a possible release of condensate on the Lateral L-11 pipeline valve. Enterprise dispatched a technician and confirmed the release. The pipeline was isolated, depressurized, locked out and tagged out. An area of approximately 12 feet long by two feet wide was affected by the release fluids. Enterprise began the remediation on May 31, 2019, and determined the release was reportable per NMOCD regulation on June 3, 2019, due to the volume of impacted subsurface soil. Remediation was completed on June 4, 2019. The final excavation dimensions measured approximately 26 feet long by 12 feet wide by ranging from one (1) to five (5) feet deep. Approximately 28 cubic yards of hydrocarbon impacted soil were excavated and transported to a New Mexico Oil Conservation Division approved land farm facility. A third party closure report is included with this "Final." C-141.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jon E. Fields Title: Director, Environmental

Signature: Jon E. Fields Date: 5/26/2020

email: jefields@eprod.com Telephone: (713) 381-6684

OCD Only

Received by: OCD Date: 6/2/2020

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Cory Smith Date: 8/26/2020

Printed Name: Cory Smith Title: Environmental Specialist

Enterprise Products, LLC

Lateral L-11 Valve Release:
Release Assessment and Final Remediation Report

Latitude 36.333375°, Longitude -107.213957°
Section 1, T24N, R4W
Rio Arriba County, New Mexico

January 6, 2020

Submitted To:
Enterprise Products
Field Environmental-San Juan Basin
614 Reilly Avenue
Farmington, NM 87401

Submitted By:
Souder, Miller & Associates
401 West Broadway
Farmington, NM 87401
(505) 325-7535

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Appendix B: NMOSE Wells Report
Appendix C: Field Notes
Appendix D: Site Photography
Appendix E: Laboratory Analytical Reports
Appendix F: Executed C-138 Form

1.0 Executive Summary

On May 15, 2019, Souder, Miller & Associates (SMA) was contacted by an Enterprise field representative regarding a potential hydrocarbon release associated with the Lateral L-11 valve.

From May 31 to June 4, 2019, SMA oversaw excavation of contaminated soils from the release site. The New Mexico Oil Conservation Division (NMOCD) approved confirmation sampling of the walls and base of the final excavation. Final laboratory results for the walls and base demonstrated hydrocarbon concentrations below NMOCD closure criteria. The excavation was approved for backfill with clean soil.

The table below summarizes information about the remediation activities.

Table 1: Release Information and Closure Criteria

Name	Lateral L-11 Valve	Company	Enterprise Field Services, LLC
API Number	NA	Location	36.333375 -107.21395
Date of Release	May 13, 2019		
Land Owner	Jicarilla Apache Tribe	Reported To	NMOCD
Source of Release	Pipeline valve		
Released Volume	3-5 BBLS	Released Material	Condensate
Recovered Volume	0 BBLS	Net Release	3-5 BBLS
NMOCD Closure Criteria	<50 to groundwater		
SMA Response Dates	May 31 and June 4, 2019		

2.0 Introduction

On May 13, 2019, surface staining was discovered at a valve associated with the Lateral L-11 pipeline. Initial response activities were conducted by Enterprise, and included

source elimination. Figure 1 illustrates the vicinity and site location, Figure 2 illustrates the release location.

3.0 Site Ranking and Land Jurisdiction

The Lateral L-11 Valve release is located nine (9) miles northwest of Lindrith, New Mexico on Jicarilla Tribal land at an elevation of approximately 6,900 feet above mean sea level (amsl).

Based upon a C-144 form for the Jicarilla 126 1 (Appendix B), depth to groundwater in the area is estimated to be 36 feet below grade surface (bgs). There are two (2) known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 5/30/2019). The nearest significant watercourse is a Cańada Larga tributary located approximately 867 feet to the south.

The applicable NMOCD Closure Criteria for this site is for a groundwater depth of less than 50 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC.

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

4.0 Remediation Activities

Between May 31 and June 4, 2019, SMA was on site to guide the excavation of contaminated soil. SMA guided the excavation activities by collecting soil samples for field screening. Samples were screened for hydrocarbon impacts using a calibrated MiniRAE 3000 photoionization detector (PID) equipped with a 10.6 eV lamp and a Dexsil® PetroFLAG TPH Analyzer. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met.

On May 31, 2019 and June 4, 2019, SMA conducted confirmation sampling of the excavation, which measured, at the widest points, approximately 26 feet by 12 feet and ranged in depth from 1 foot to 5 feet in depth.

Confirmation samples were comprised of five-point composites of the excavated area. The base of the excavation measured 197 ft^2. The sidewalls ranged in depth from 1 to 5 feet with a total surface area measurement of 167 ft^2. Sample SC-1 was collected from the base of the excavation and sample SC-2 was collected from the sidewalls of the excavation. Analytical results demonstrated that SC-2, a side wall composite sample, exceeded Closure Criteria and was therefore further excavated and resampled (SC-3).

A total of three (3) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix E).

Figure 3 shows the extent of the excavation and sample locations. Laboratory results are summarized in Table 3. Laboratory reports are included in Appendix E.

Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours. Twenty-eight (28) cubic yards of contaminated soil was transported and disposed of at Envirotech Landfarm, Bloomfield, New Mexico, an NMOCD permitted disposal facility.

5.0 Closure and Limitations

The scope of our services included: assessment sampling; verifying release stabilization; regulatory liaison; remediation; and preparing this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the San Juan Basin in New Mexico.

If there are any questions regarding this report, please contact either Ashley Maxwell or Shawna Chubbuck at 505-325-7535.

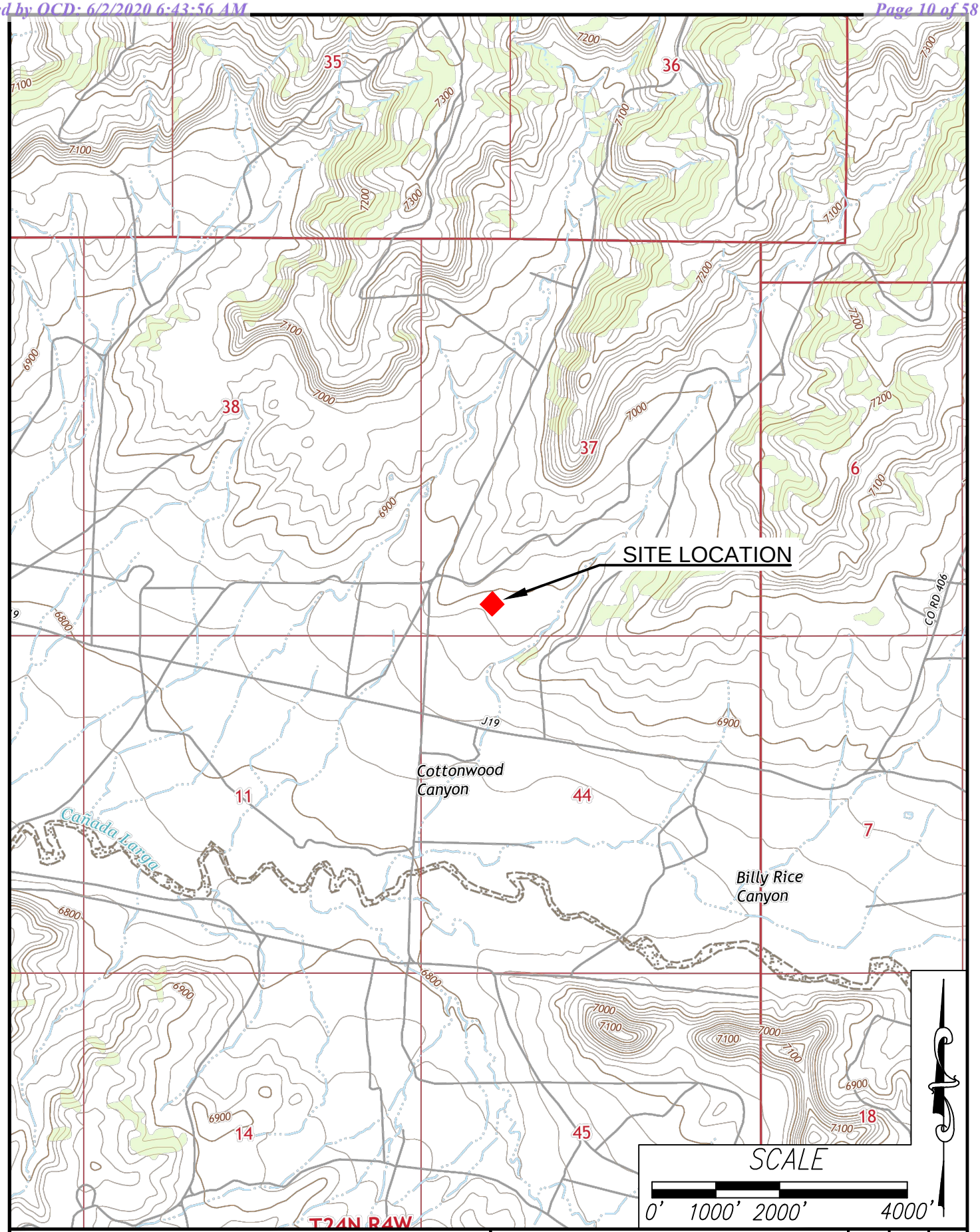
Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Ashley Maxwell
Project Scientist

Shawna Chubbuck
Senior Scientist

FIGURES



SMA
Engineering
Environmental
Surveying

Souder, Miller & Associates
401 West Broadway Avenue
Farmington, NM 87401-5907
Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045
www.soudermiller.com
Serving the Southwest & Rocky Mountains

ENTERPRISE FARMINGTON, NEW MEXICO

VICINITY MAP
LATERAL L-11 VALVE RELEASE
SECTION 1, T24N, R4W
RIO ARRIBA COUNTY

Designed	Drawn	Checked
AM	DJB	SC

Date: July 2019
Scale: Horiz: 1" = 2000'
Vert: NA
Project No: 5127965
Figure 1

W:\5-Enterprise MSA 2019 (5127965)\BG14 - Trunk 11L\5127965 Trunk 11L Riser Release.dwg, DJB, 7/24/2019 2:36 PM

Received by OCD: 6/2/2020 6:43:56 AM

W:\5-Enterprise MSA 2019 (5127965)\BG14 - Trunk 11L\5127965 Trunk 11L Riser Release.dwg, DJB, 7/24/2019 2:38 PM

Figure 2	
Project No:	5127965
Scale:	Horiz: 1"= 100' Vert: N/A
Date:	July 2019
Designed	AM
Drawn	DJB
Checked	SC

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

SMA
Engineering
Environmental
Surveying

SOUDER, MILLER & ASSOCIATES
401 West Broadway Avenue
Farmington, NM 87401-5907
Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045
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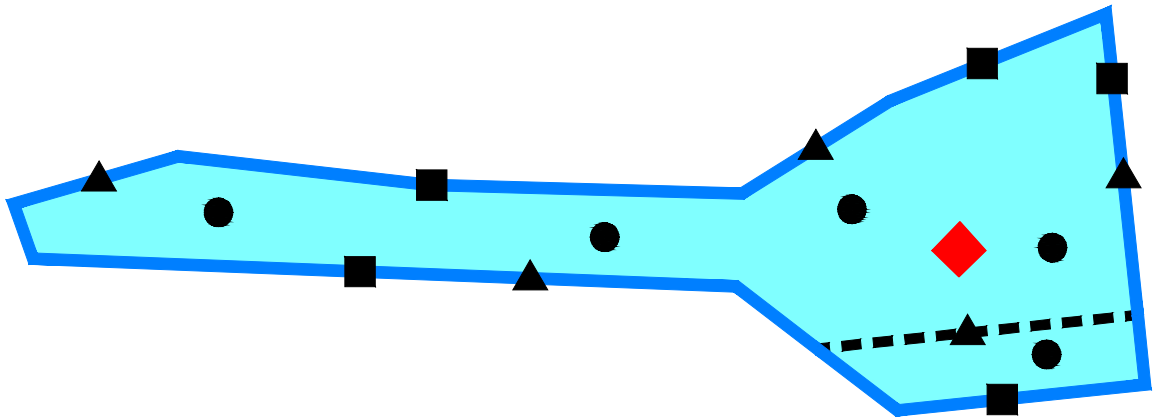
www.soudermiller.com

ENTERPRISE

FARMINGTON, NEW MEXICO

SITE MAP
LATERAL L-11 VALVE RELEASE
SECTION 1, T24N, R4W



LEGEND

- FORMER EXTENT OF EXCAVATION
- RELEASE LOCATION
- SC-1 (BASE COMPOSITE SAMPLE)
- SC-2 (SIDE WALL COMPOSITE SAMPLE)
- SC-3 (SIDE WALL COMPOSITE SAMPLE)

SCALE

0' 2.5' 5' 10'

Sample ID	Sample Date	Sample Location	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10				100	600
SC-1	5/31/2019	Base Composite	1-5	<0.185	<0.021	<4.1	20	<49	20	79
SC-2*	5/31/2019	Sidewalls Composite	1-5	<0.245	<0.027	<5.4	51	61	**112**	310
SC-3	6/4/2019	Sidewalls Composite	1-5	<0.228	<0.026	<5.1	38	<48	38	65

* = Removed by excavation

Figure 3

Project No: 5127965

Scale: Horiz: 1"= 5 Vert: N/A

Date: August 2019

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed AM | Drawn DJB | Checked SC

SOUDER, MILLER & ASSOCIATES
401 West Broadway Avenue
Farmington, NM 87401-5907
Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045
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www.soudermiller.com
SMA Engineering Environmental Surveying

ENTERPRISE FARMINGTON, NEW MEXICO

SAMPLE LOCATION MAP
LATERAL L-11 VALVE RELEASE
SECTION 1, T24N, R4W

TABLES

Table 2:
NMOCD Closure Criteria

Enterprise Field Services, LLC
Lateral L-11 Valve Release

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	36	Jicarilla 126 1 Pit Registration
Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)	5,505	NMOSE
Hortizontal Distance to Nearest Significant Watercourse (ft)	867	Figure 1

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		**Closure Criteria (units in mg/kg)**				
		Chloride *numerical limit or background, whichever is greater	**TPH**	**GRO + DRO**	**BTEX**	**Benzene**
< 50' BGS	X	600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'		20000	2500	1000	50	10
Surface Water	**yes or no**	**if yes, then**				
<300' from continuously flowing watercourse or other significant watercourse?	No	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	No					
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No					
<1000' from fresh water well or spring?	No					
Human and Other Areas						
<300' from an occupied permanent residence, school, hospital, institution or church?	No					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	No					
<100' from wetland?	No					
within area overlying a subsurface mine	No					
within an unstable area?	No					
within a 100-year floodplain?	No					

Table 3:
Summary of Sample Results

Enterprise Field Services, LLC
Lateral L-11 Valve Release

Sample ID	Sample Date	Sample Location	Depth (feet bgs)	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	**Total TPH** mg/Kg	Cl- mg/Kg
NMOCD Closure Criteria				50	10				100	600
SC-1	5/31/2019	Base Composite	1-5	<0.185	<0.021	<4.1	20	<49	20	79
SC-2*	5/31/2019	Sidewalls Composite	1-5	<0.245	<0.027	<5.4	51	61	**112**	310
SC-3	6/4/2019	Sidewalls Composite	1-5	<0.228	<0.026	<5.1	38	<48	38	65

"--" = Not Analyzed
* = Removed by excavation

APPENDIX A
FORM C-141

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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: **Enterprise Field Services, LLC**	OGRID: **151618**
Contact Name: **Thomas Long**	Contact Telephone: **505-599-2286**
Contact email:**tjlong@eprod.com**	Incident # *(assigned by OCD)* **N/A**
Contact mailing address: **614 Reilly Ave, Farmington, NM 87401**	

Location of Release Source

Latitude **36.333375** Longitude **-107.213957** *NAD 83 in decimal degrees to 5 decimal places)*

Site Name **Lateral L-11 Valve**	Site Type **Natural Gas Gathering Pipeline Valve**
Date Release Discovered: **5/13/2019**	Serial # *(if applicable)*:

Unit Letter	Section	Township	Range	County
E	**1**	**24N**	**3W**	**San Juan**

Surface Owner: ☐ State ☐ Federal ☒ Tribal ☐ Private (*Name:* **Jicarilla Apache Tribe**)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls): **Estimated 3-5 BBLs**	Volume Recovered (bbls): **None**
☐ Natural Gas	Volume Released (Mcf):	Volume Recovered (Mcf):
☐ Other (describe)	Volume/Weight Released (provide units):	Volume/Weight Recovered (provide units)

Cause of Release: On May 13, 2019, Enterprise responded to a possible release of condensate on the Lateral L-11 pipeline valve. Enterprise dispatched a technician and confirmed the release. The pipeline was isolated, depressurized, locked out and tagged out. An area of approximately 12 feet long by two feet wide was affected by the release fluids. Enterprise began the remediation on May 31, 2019, and determined the release was reportable per NMOCD regulation on June 3, 2019, due to the volume of impacted subsurface soil. A third party closure report will be submitted with the "Final C-141."

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why: Berms and dikes were installed to prevent migration of the release potable water, but some standing water was left onsite, as that a road has to be built in order for equipment to access the release location and remove the water.

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Jon E. Fields Title: Director, Field Environmental

Signature: Jon E. Fields Date: 6-6-19

email: jefields@eprod.com Telephone: 713-381-6684

OCD Only

Received by: _____ Date: _____

APPENDIX B

NMOSE WELLS REPORT

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

5041

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
- ☐ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
- ☒ Modification to an existing permit
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Energen Resources OGRID #: 162928
Address: 2010 Afton Place, Farmington, New Mexico 87401
Facility or well name: Jicarilla 126 1
API Number: 3003905611 OCD Permit Number:
U/L or Qtr/Qtr M Section 1 Township 24N Range 04W County: Rio Arriba
Center of Proposed Design: Latitude 36.33345 Longitude -107.21358 NAD: ☐ 1927 ☒ 1983
Surface Owner: ☐ Federal ☐ State ☐ Private ☒ Tribal Trust or Indian Allotment

2.
☐ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____ bbl Dimensions: L_____ x W_____ x D_____

3.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____

4.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 95 bbl Type of fluid: Produced Water
Tank Construction material: Steel
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☒ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

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MAR 2010
OIL CONS. DIV. DIST. 3

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

14

6.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*

☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☒ Alternate. Please specify___4 ft hog wire w/ top rail_____

7.
Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☒ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

8.
Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.3.103 NMAC

9.
Administrative Approvals and Exceptions:
Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☐ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10.
Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. **Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.**

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☒ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No

11.
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
- ☒ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____

☐ Previously Approved Operating and Maintenance Plan API Number: _____ *(Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)*

13.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Closed-loop System ☐ Alternative

Proposed Closure Method: ☒ Waste Excavation and Removal
- ☐ Waste Removal (Closed-loop systems only)
- ☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
  - ☐ In-place Burial ☐ On-site Trench Burial
- ☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***
- X Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- X Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- X Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- X Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- X Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- X Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)
Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:
☐ Soil Backfill and Cover Design Specifications - - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

18.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.
Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Ed Hasely Title: Sr. Environmental Engineer

Signature: Ed Hasely Date: 3/9/10

e-mail address: ed.hasely@energen.com Telephone: (505) 324-4131

20.
OCD Approval: ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: [signature] **Approval Date:** 1/25/11

Title: Enviro Ispec **OCD Permit Number:**

21.
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:**

22.
Closure Method:
☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

23.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:
Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: Disposal Facility Permit Number:

Disposal Facility Name: Disposal Facility Permit Number:

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:
☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***
☐ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☐ Disposal Facility Name and Permit Number
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)
On-site Closure Location: Latitude Longitude NAD: ☐1927 ☐ 1983

25.
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Title:

Signature: Date:

e-mail address: Telephone:

This is a modification from a closure plan to a permit due to a 19.15.17 rule amendment.

Design Plan – Below Grade Tanks

The existing below grade tank was designed and constructed to contain liquids and solids and prevent contamination of fresh water and protect public health and the environment.

1) The below grade tank was constructed of steel that is resistant to the contents and sunlight.
2) The below grade tank is located on an existing Energen well and a sign is posted on location in accordance with 19.15.16.8 NMAC.
3) A four strand barbwire fence is constructed around the perimeter of the below grade tank with the strands evenly spaced between one and four feet from the ground. This fence is used to exclude livestock from inadvertently entering the below grade tank area.
4) The below grade tank is covered with netting or a screen.
5) The below grade tank was constructed to prevent overflow and the collection of surface water run-on.
6) The below grade tank was constructed prior to Rule 19.15.17 and is of single wall construction with the sidewalls are visible.

Operational Plan – Below Grade Tanks

The below grade tank will be operated and maintained to contain liquids and solids to aid in the prevention of contamination of fresh water sources and to protect public health and the environment. To attain this goal, the following steps will be followed;

1) No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the below grade tank.
2) The division district office will be notified within 48 hrs of the discovery of a leak from the below grade tank. Liquids above the leak will be removed within 48 hours and the below grade tank will be closed pursuant to 19.15.17.13.
3) Perimeter berms and/or ditches are constructed and maintained around the exterior of the below grade tank to prevent surface water run-on.
4) Oil accumulations are removed from the surface to prevent significant accumulations of oil over time.
5) Adequate freeboard are maintained to prevent overtopping of the below grade tank.
6) All of the above operations are inspected at least monthly and a log maintained.

BELOW-GRADE TANK CLOSURE PLAN

ENERGEN RESOURCES

CLOSURE STEPS:

NOTE: Tank must be closed prior to any sale or change of operator, upon P&A of the well, if the tank fails to demonstrate integrity, or within 60 days of the cessation of the use of the tank's operation.

(1) Notify the surface owner by certified mail, return receipt requested, of the plans to close the below-grade tank.

(2) Notify the Aztec OCD office (Brandon Powell – 334-6178, Ext 15) verbally or by other means at least 72 hours, but not more than one week, prior to the planned closure operation.

(3) Remove liquids from the below-grade tank. Dispose of the liquids and sludge in a division-approved facility.

(4) Remove the below-grade tank for re-use in an above-ground setup or for disposal in a division-approved manner.

(5) Unless the equipment is required for some other purpose, remove any on-site equipment associated with the below-grade tank.

(6) Test the soils beneath the below-grade tank to determine whether a release has occurred.

- Collect, at a minimum, a five point, composite sample;
- Collect individual grab samples from any area that is wet, discolored or showing other evidence of a release;

Analyze for BTEX, TPH and chlorides to demonstrate:

- Benzene concentration does not exceed 0.2 mg/kg, as determined by EPA SW-846 methods 8021B or 8260B
- Total BTEX concentration does not exceed 50 mg/kg, as determined by EPA SW-846 methods 8021B or 8260B
- TPH concentration does not exceed 100 mg/kg, as determined by EPA method 418.1
- Chloride concentration does not exceed 250 mg/kg, as determined by EPA method 300.1 or the background concentration, whichever is greater.

(7) IF the soil analyses show that the soils meet the concentrations specified in (6) above, backfill the excavation with compacted, non-waste containing, earthen material in a manner that will prevent ponding or erosion. If the area will not be needed for operations, reclaim the area as described in the "RECLAMATION" section.

(8) IF the soil analyses show that the soils exceed one or more of the concentrations specified in (6) above, notify the Aztec OCD office (Brandon Powell – 334-6178, Ext 15) and proceed per 19.15.3.116 NMAC.

NOTE: If groundwater is encountered at any time during the closure process, the OCD office will be notified and a specific closure plan will be submitted to the Aztec and Santa Fe OCD offices for approval.

FINAL CLOSURE REPORT:

Within 60 days of closure completion, submit a closure report on form C-144, with necessary attachments to document all closure activities including sampling results.

RECLAMATION:

If the area is not needed for operations, reclaim the area to a safe and stable condition that blends with the surrounding undisturbed area. Restore the impacted surface area to the condition that existed prior to oil and gas operations by placement of the soil cover, recontour the location and associated areas to a contour that approximates the original contour and blends with the surrounding topography and re-vegetate.

(A) Construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material. The soil cover shall consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.

If the pit is located on federal or tribal surface, seeding will be deferred to BLM requirements per the BLM / OCD MOU and this will be identified on the closure report. Otherwise:

(B) Seed or plant the disturbed areas the first growing season after closing the below-grade tank. Drill on the contour whenever practical or by other division-approved methods. The goal is to obtain vegetative cover that equals 70% of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. During the two successive growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.

(C) Repeat seeding or planting until it successfully achieves the required vegetative cover.

(D) If conditions are not favorable for the establishment of vegetation, such as periods of drought, contact the Aztec OCD office to discuss possibly delaying seeding or planting until soil moisture conditions become favorable or using additional techniques such as mulching, fertilizing, irrigating, fencing or other practices.

(E) Notify the Aztec OCD via a Form C-103 (Brandon Powell – 334-6178, Ext 15) when the area has been seeded or planted and when it successfully achieves re-vegetation.

Hydrogeologic Data:

100-year Floodplain:

There is no map available from FEMA depicting a 100-year floodplain for the subject well, Jicarilla 126 #1 located in Rio Arriba County, NM.

Site Specific:

The San Jose formation is the highest water bearing zone at this site with the exception of possible perched water. It is the youngest Tertiary bedrock unit in the San Juan Basin. The formation occurs at the surface for the Jicarilla 126 #1 location and ranges from 0' to 600' in this township and range. There are no potentially unstable areas in the region. This below grade tank is not located over a subsurface mine.

The New Mexico State Engineers Water Report shows no water wells in Sec. 1, Township 24N, Range 4W, however based on the topographic map the depth to groundwater could occur at 60'.

Geologic Summary:

The San Jose is a sequence of interbedded sandstones and mudstones deposited in an alluvial and fluvial environment. The formation accumulated in broad, wet, alluvial aprons. Groundwater is associated with the alluvial and fluvial sandstone aquifers, hence it is controlled by the distribution of these sands. The San Jose ranges in thickness from 200' to 2,700'. The San Jose can further be broken into four members: Cuba Mesa, Regina, Llaves, and Tapicitos (in ascending order). The first two, Cuba Mesa and Regina, are predominately sandstone and the latter two, Llaves and Tapicitos, are predominately mudstone.

Reference:
Stone W.J., Lyford F.P., Frenzel P.F., Mizell N.H., and Padgett E.T.: Hydrology and water resources of San Juan Basin, New Mexico Hydrologic Report 6, 1983.

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 1 **Township:** 24N **Range:** 04W

Jicarilla Apache Indian Reservation

UNSTUDIED AREA

APPROXIMATE SCALE

2000 0 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

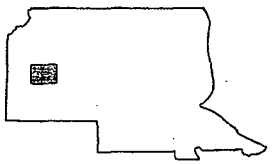
FLOOD INSURANCE RATE MAP

RIO ARRIBA COUNTY, NEW MEXICO

UNINCORPORATED AREAS

PANEL 550 OF 1325

(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

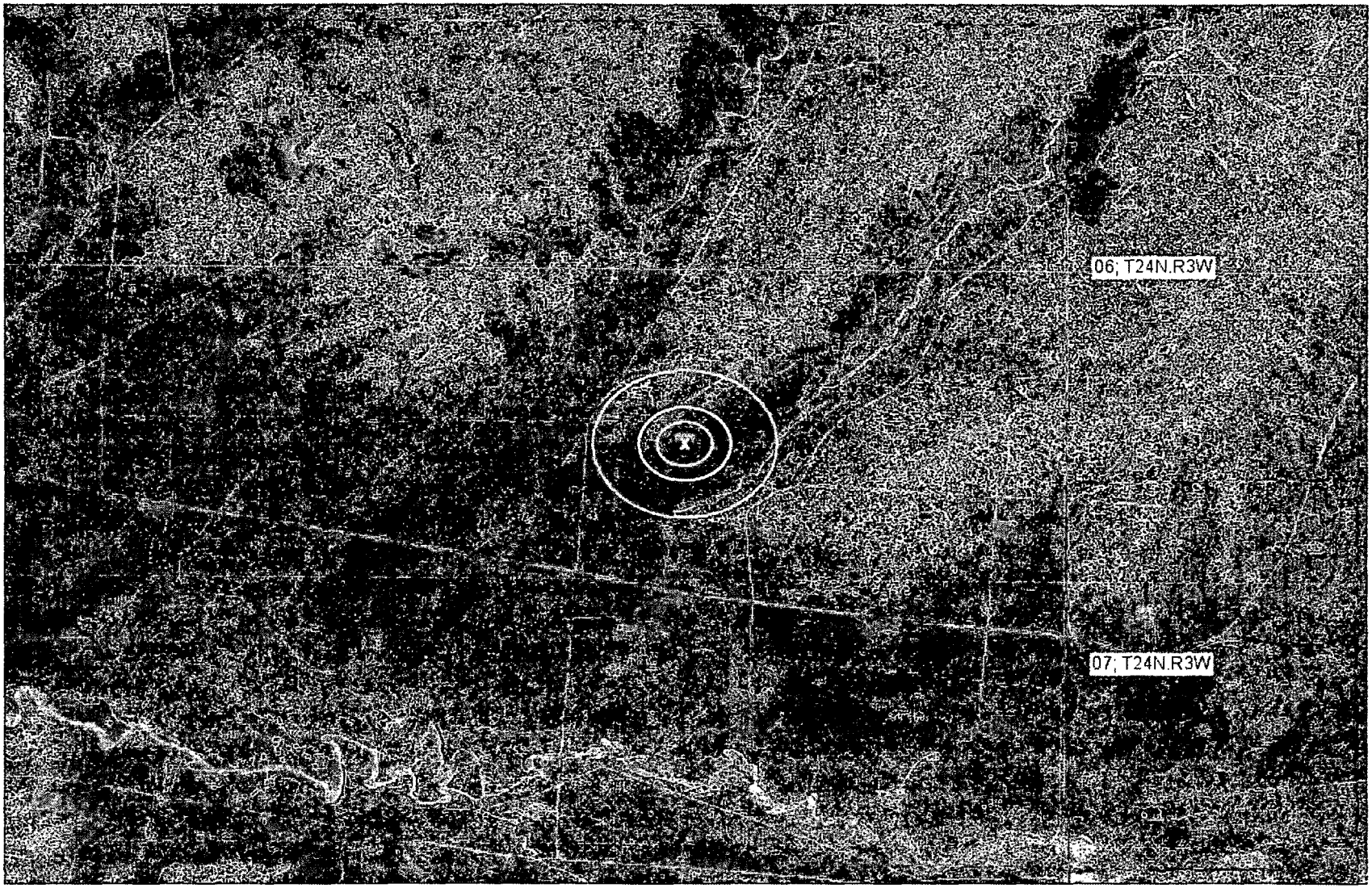
COMMUNITY-PANEL NUMBER

350049 0550 B

EFFECTIVE DATE:

JANUARY 5, 1989

Federal Emergency Management Agency

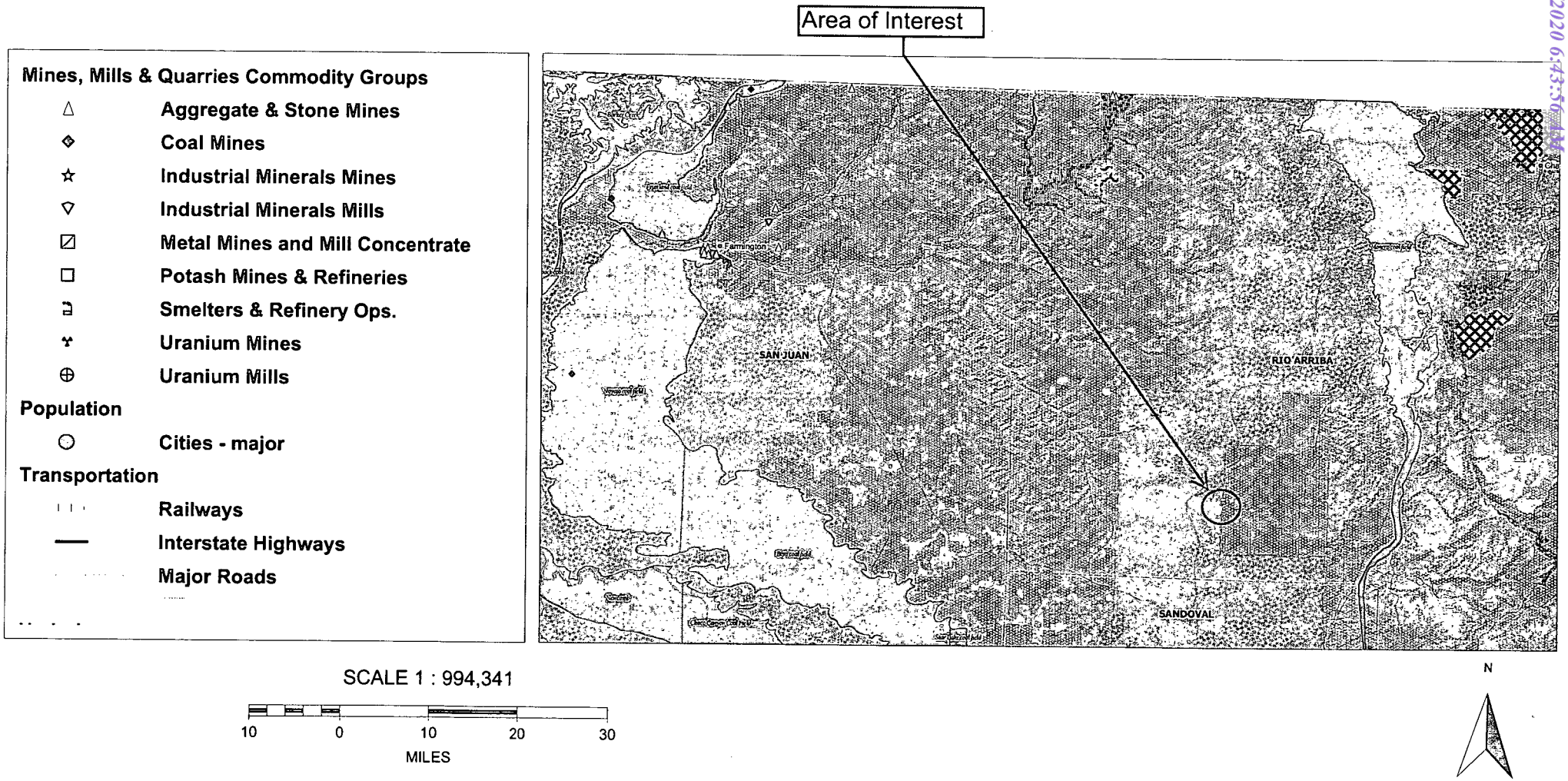


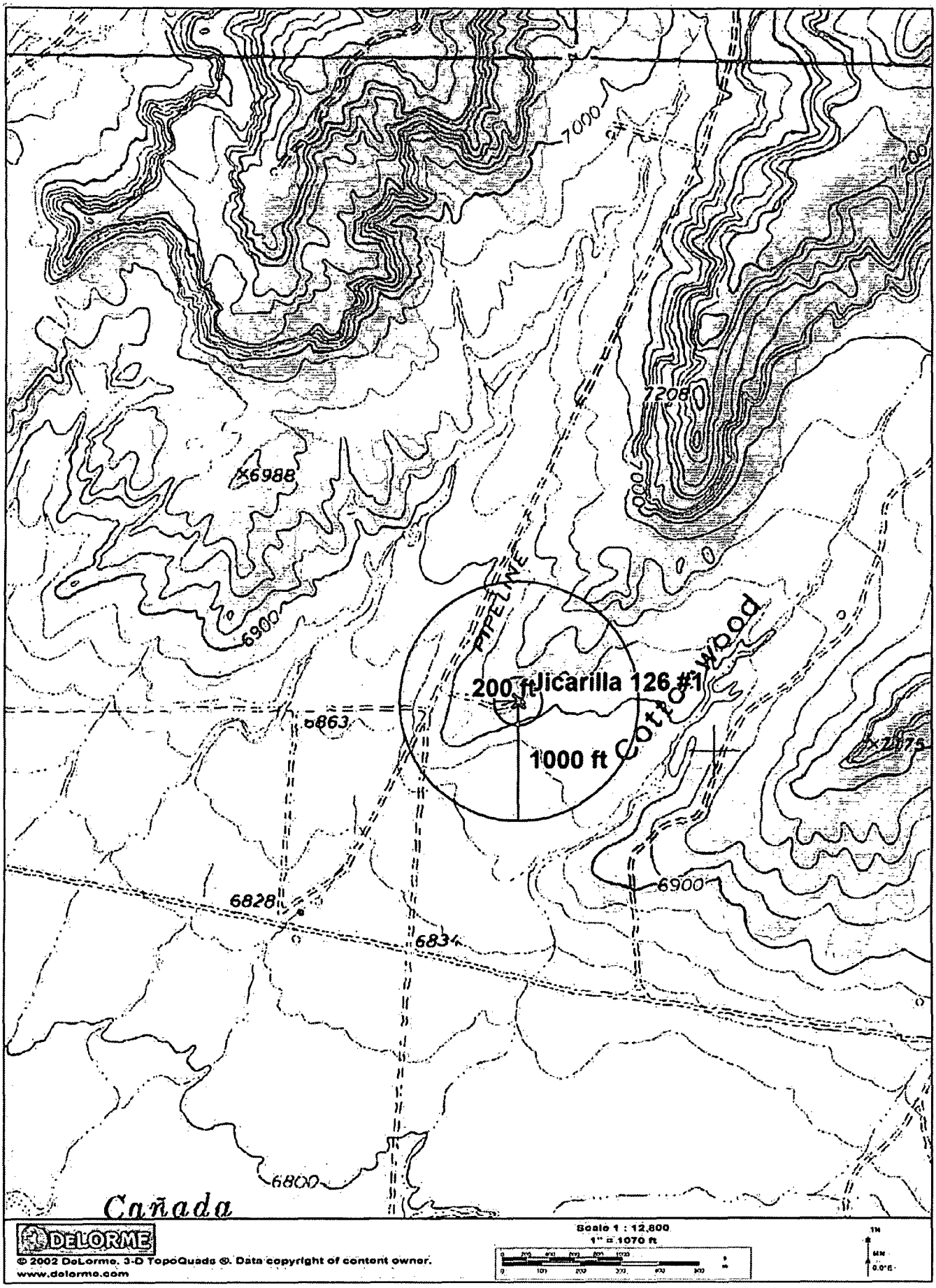
0 1000 2000ft

N W E S

Petroleum Recovery Research Center	Aerial Photo	Figure: AP
	Jicarilla 126 1/Energen Resources	Dec 29, 2009

MMQonline Public Version




7000
7200
6988
6900
PIPELINE
200 ft
Jicarilla 126 #1
1000 ft
Cottonwood
6863
6828
6834
6900
6800
Cañada
DELORME
© 2002 DeLorme. 3-D TopoQuads ®. Data copyright of content owner.
www.delorme.com
Scale 1 : 12,800
1" = 1070 ft

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 Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
SJ 02516		SJ	RA	1	3	1	06	24N	03W	302693	4024121*	1678	1000	650	350
SJ 02516 DCL	O		RA	1	3	1	06	24N	03W	302693	4024121*	1678	1000	650	350

Average Depth to Water: **650 feet**

Minimum Depth: **650 feet**

Maximum Depth: **650 feet**

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 301294.58 **Northing (Y):** 4023192.5 **Radius:** 3200

***UTM location was derived from PLSS - see Help**

APPENDIX C

FIELD NOTES

Field Screening Form

Location Name: Trunk 11L

Date: 5/31/19

Location Name	Description	Depth (Feet BGS)	Time Collected	PID Reading (ppm)	Time Screened	PetroFLAG Reading	Time Screened
SC1		1.5	9:14	5269	9:28	EEEE	9:34
SC1	resample	2.5	9:37	2253	9:50	1296	9:54
SC1	resample	3.5	—	—	—	—	—
SC2	Length of natural drainage & Base	1-4.5	10:01	372.1	10:23	780	10:27
SC3	Source at riser SW	4.5	10:03	328.3	10:23	330	10:27
SC4	Length & base	1-4.5	10:44	394.5	10:47	497	11:04
SC5	sidewalls at source	4.5	10:45	336.2	10:47	294	11:05
SC-6	at source SW	5	14:45	381.6	15:16	252	15:15
SC-7	Base along length	1-5	15:04	289.4	15:16	187	15:20

Notes:

SMA

Field Screening Form

Location Name	Date
Trunk 11L	6/4/19

Location Name	Description	Depth (Feet BGS)	Time Collected	PID Reading (ppm)	Time Screened	PetroFLAG Reading	Time Screened
SC1	W wall	1-5	8:24	222.2	9:06	149	8:55
SC2	N wall	1-5	8:25	267.4	9:06	267	8:55
SC3	E wall	1-5	8:26	106.4	9:06	889	8:55
SC4	E wall	1-5	9:04	270.0	9:27	270	9:25
SC5	sideway composite	1-5	9:19	154.1	9:29	107	9:38

Notes:

APPENDIX D

SITE PHOGRAPHY

Site Photographs
Lateral L-11 Valve Release

Figure 1. View of surface stained area prior to excavation.

Figure 2. View facing north of final excavation.

APPENDIX E

LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 05, 2019

Ashley Maxwell

Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX: (505) 327-1496

RE: Trunk 11L OrderNo.: 1906005

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/1/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1906005**
Date Reported: **6/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SC2 Sidewall
Project: Trunk 11L
Collection Date: 5/31/2019 2:45:00 PM
Lab ID: 1906005-001
Matrix: MEOH (SOIL)
Received Date: 6/1/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	310	60		mg/Kg	20	6/3/2019 1:22:53 PM	45328
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	51	10		mg/Kg	1	6/3/2019 10:11:28 AM	45319
Motor Oil Range Organics (MRO)	61	50		mg/Kg	1	6/3/2019 10:11:28 AM	45319
Surr: DNOP	103	70-130		%Rec	1	6/3/2019 10:11:28 AM	45319
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.4		mg/Kg	1	6/3/2019 12:03:46 PM	R60347
Surr: BFB	95.8	73.8-119		%Rec	1	6/3/2019 12:03:46 PM	R60347
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.027		mg/Kg	1	6/3/2019 12:03:46 PM	B60347
Toluene	ND	0.054		mg/Kg	1	6/3/2019 12:03:46 PM	B60347
Ethylbenzene	ND	0.054		mg/Kg	1	6/3/2019 12:03:46 PM	B60347
Xylenes, Total	ND	0.11		mg/Kg	1	6/3/2019 12:03:46 PM	B60347
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	6/3/2019 12:03:46 PM	B60347

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1906005**
Date Reported: **6/5/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates **Client Sample ID:** SC1 Base
Project: Trunk 11L **Collection Date:** 5/31/2019 3:04:00 PM
Lab ID: 1906005-002 **Matrix:** MEOH (SOIL) **Received Date:** 6/1/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	79	59		mg/Kg	20	6/3/2019 1:35:18 PM	45328
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	20	9.7		mg/Kg	1	6/3/2019 10:33:23 AM	45319
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/3/2019 10:33:23 AM	45319
Surr: DNOP	99.5	70-130		%Rec	1	6/3/2019 10:33:23 AM	45319
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	6/3/2019 12:27:22 PM	R60347
Surr: BFB	106	73.8-119		%Rec	1	6/3/2019 12:27:22 PM	R60347
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	6/3/2019 12:27:22 PM	B60347
Toluene	ND	0.041		mg/Kg	1	6/3/2019 12:27:22 PM	B60347
Ethylbenzene	ND	0.041		mg/Kg	1	6/3/2019 12:27:22 PM	B60347
Xylenes, Total	ND	0.082		mg/Kg	1	6/3/2019 12:27:22 PM	B60347
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	6/3/2019 12:27:22 PM	B60347

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906005**

05-Jun-19

Client: Souder, Miller and Associates

Project: Trunk 11L

Sample ID: **MB-45328**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **45328**	RunNo: **60349**
Prep Date: **6/3/2019**	Analysis Date: **6/3/2019**	SeqNo: **2041072** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-45328**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **45328**	RunNo: **60349**
Prep Date: **6/3/2019**	Analysis Date: **6/3/2019**	SeqNo: **2041073** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906005**

05-Jun-19

Client: Souder, Miller and Associates

Project: Trunk 11L

Sample ID: **LCS-45319** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **45319** RunNo: **60335**

Prep Date: **6/3/2019** Analysis Date: **6/3/2019** SeqNo: **2039825** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.3	63.9	124			
Surr: DNOP	4.4		5.000		87.0	70	130			

Sample ID: **MB-45319** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **45319** RunNo: **60335**

Prep Date: **6/3/2019** Analysis Date: **6/3/2019** SeqNo: **2039826** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		93.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906005**

05-Jun-19

Client: Souder, Miller and Associates

Project: Trunk 11L

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **R60347**	RunNo: **60347**
Prep Date:	Analysis Date: **6/3/2019**	SeqNo: **2041224** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.2	80.1	123			
Surr: BFB	1100		1000		106	73.8	119			

Sample ID: **LCS-45303**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **45303**	RunNo: **60347**
Prep Date: **5/31/2019**	Analysis Date: **6/3/2019**	SeqNo: **2041225** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		109	73.8	119			

Sample ID: **MB-45303**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **45303**	RunNo: **60347**
Prep Date: **5/31/2019**	Analysis Date: **6/3/2019**	SeqNo: **2041226** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	990		1000		98.8	73.8	119			

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **R60347**	RunNo: **60347**
Prep Date:	Analysis Date: **6/3/2019**	SeqNo: **2041227** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.7	73.8	119			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906005**

05-Jun-19

Client: Souder, Miller and Associates

Project: Trunk 11L

Sample ID: **100NG BTEX LCS** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **B60347** RunNo: **60347**

Prep Date: Analysis Date: **6/3/2019** SeqNo: **2041231** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.6	80	120			
Toluene	0.94	0.050	1.000	0	94.1	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.0	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID: **LCS-45303** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **45303** RunNo: **60347**

Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041246** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID: **MB-45303** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **45303** RunNo: **60347**

Prep Date: **5/31/2019** Analysis Date: **6/3/2019** SeqNo: **2041247** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID: **RB** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **B60347** RunNo: **60347**

Prep Date: Analysis Date: **6/3/2019** SeqNo: **2041248** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **SMA-FARM** Work Order Number: **1906005** RcptNo: **1**

Received By: **Desiree Dominguez** **6/1/2019 8:30:00 AM** DD

Completed By: **Desiree Dominguez** **6/1/2019 9:21:03 AM** DD

Reviewed By: YG 6/1/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: DAD 6/1/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good	Not Present			

Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway Farmington, NM 87401

Phone #: 505 325 7535

email or Fax#: ashley maxwell

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: Same Day

☐ Standard ☒ Rush

Project Name: Trunk 11 L

Project #:

Project Manager: Ashley Maxwell

Sampler: AM

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.5-0.2 = 2.3°c

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1906005	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	+ Chlorides					
5/31/19	14:45	Soil	SC2 Sidewall	(1) 4oz	Mech Cool	-001	X	X									+					
"	15:04	"	SC1 Base	(1) 8oz	Mech Cool	-002	X	X									+					

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
5/31/19	1740		Christa Waeta		5/31/19	1740
5/31/19	1820	Christa Waeta		courier	6/1/19	8:30

Remarks: Invoice Enterprise CC Tom Long

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 07, 2019

Ashley Maxwell

Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Trunk 11L OrderNo.: 1906144

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/5/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1906144**
Date Reported: **6/7/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates **Client Sample ID:** SC3
Project: Trunk 11L **Collection Date:** 6/4/2019 9:19:00 AM
Lab ID: 1906144-001 **Matrix:** MEOH (SOIL) **Received Date:** 6/5/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Chloride	65	60		mg/Kg	20	6/5/2019 11:08:23 AM	45384
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	38	9.6		mg/Kg	1	6/5/2019 10:15:48 AM	45382
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/5/2019 10:15:48 AM	45382
Surr: DNOP	116	70-130		%Rec	1	6/5/2019 10:15:48 AM	45382
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.1		mg/Kg	1	6/5/2019 9:37:45 AM	GS60413
Surr: BFB	88.3	73.8-119		%Rec	1	6/5/2019 9:37:45 AM	GS60413
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.026		mg/Kg	1	6/5/2019 9:37:45 AM	BS60413
Toluene	ND	0.051		mg/Kg	1	6/5/2019 9:37:45 AM	BS60413
Ethylbenzene	ND	0.051		mg/Kg	1	6/5/2019 9:37:45 AM	BS60413
Xylenes, Total	ND	0.10		mg/Kg	1	6/5/2019 9:37:45 AM	BS60413
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	6/5/2019 9:37:45 AM	BS60413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906144**

07-Jun-19

Client: Souder, Miller and Associates

Project: Trunk 11L

Sample ID: **MB-45384**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **45384**	RunNo: **60433**							
Prep Date: **6/5/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043901**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-45384**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **45384**	RunNo: **60433**							
Prep Date: **6/5/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043902**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906144**

07-Jun-19

Client: Souder, Miller and Associates

Project: Trunk 11L

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS60413**	RunNo: **60413**
Prep Date:	Analysis Date: **6/5/2019**	SeqNo: **2043525** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		91.2	73.8	119			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS60413**	RunNo: **60413**
Prep Date:	Analysis Date: **6/5/2019**	SeqNo: **2043526** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	102	80.1	123			
Surr: BFB	1200		1000		115	73.8	119			

Sample ID: **1906144-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SC3**	Batch ID: **GS60413**	RunNo: **60413**
Prep Date:	Analysis Date: **6/5/2019**	SeqNo: **2043527** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.1	25.72	0	96.4	69.1	142			
Surr: BFB	1100		1029		103	73.8	119			

Sample ID: **1906144-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SC3**	Batch ID: **GS60413**	RunNo: **60413**
Prep Date:	Analysis Date: **6/5/2019**	SeqNo: **2043528** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.1	25.72	0	91.4	69.1	142	5.37	20	
Surr: BFB	1000		1029		101	73.8	119	0	0	

Sample ID: **MB-45359**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **45359**	RunNo: **60413**
Prep Date: **6/4/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043546** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		92.8	73.8	119			

Sample ID: **LCS-45359**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **45359**	RunNo: **60413**
Prep Date: **6/4/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043547** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	73.8	119			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906144**

07-Jun-19

Client: Souder, Miller and Associates

Project: Trunk 11L

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **BS60413**	RunNo: **60413**
Prep Date:	Analysis Date: **6/5/2019**	SeqNo: **2043568** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **BS60413**	RunNo: **60413**
Prep Date:	Analysis Date: **6/5/2019**	SeqNo: **2043569** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.7	80	120			
Toluene	0.96	0.050	1.000	0	96.4	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.4	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120			

Sample ID: **MB-45359**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **45359**	RunNo: **60413**
Prep Date: **6/4/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043588** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID: **LCS-45359**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **45359**	RunNo: **60413**
Prep Date: **6/4/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043589** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.2		1.000		121	80	120			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **SMA-FARM** Work Order Number: **1906144** RcptNo: 1

Received By: **Jevon Campisi** **6/5/2019 8:00:00 AM** Jevon Campisi

Completed By: **Leah Baca** **6/5/2019 8:43:42 AM** Leah SBaca

Reviewed By: DAD 6/5/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	# of preserved bottles checked for pH: (<2 or >12 unless noted)
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	Adjusted?
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: YG 6/5/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Yes			
2	2.4	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway
Farmington NM 87401

Phone #: 505 3257535

email or Fax#: ashley.maxwell

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush Same Day

Project Name: Trunk 11L

Project #:

Project Manager: Ashley Maxwell

Sampler: AM

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 2.8/2.1/+0.3CF = 3.1°C/2.4°C

HEAL No. 1906144

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	300.0 Chlorides
6/4/19	9:19	Soil	SC3	4oz		-001	X	X									X

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/4/19	1632				6/4/19	1632
6/4/19	1840			Courier	6-5-19	8:00

Remarks: Invoice Enterprise cc Tom Long

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

APPENDIX F

EXECUTED C-138 FORM

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

97057-1010

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:
Lateral 11-L Valve

3. Location of Material (Street Address, City, State or ULSTR):
Section 1 T24N R3W; 36.333375,-107.213957 May/June 2019

4. Source and Description of Waste: Hydrocarbon impacted soil/sludge.
Source: Remediation activities associated with a natural gas pipeline leak.
Description: Hydrocarbon/Condensate impacted soil/sludge associated natural gas pipeline release.
Estimated Volume (10) yd^3 / bbls Known Volume (to be entered by the operator at the end of the haul) 28 (yd^3) / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long (Thomas Long) , representative or authorized agent for Enterprise Products Operating do hereby
Generator Signature
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency* ☐ *Monthly* ☐ *Weekly* ☐ *Per Load*

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long (Thomas Long) 5-31-19, representative for Enterprise Products Operating authorizes Envirotech, Inc. to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

I, Greg Crabtree, representative for Envirotech, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: TBD OFT, Baileys Welding

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: **Envirotech Inc. Soil Remediation Facility * Permit #: NM 01-0011**
Address of Facility: **Hilltop, NM**
Method of Treatment and/or Disposal:
☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ **APPROVED** ☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: Greg Crabtree TITLE: Enviro Manager DATE: 5/31/19
SIGNATURE: _____ TELEPHONE NO.: 505-632-0615
Surface Waste Management Facility Authorized Agent