

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	NAPP2131670294
District RP	
Facility ID	
Application ID	

## Remediation Plan

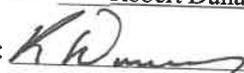
**Remediation Plan Checklist:** Each of the following items must be included in the plan.

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** Each of the following items must be confirmed as part of any request for deferral of remediation.

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Robert Dunaway Title: Senior Environmental Engineer  
Signature:  Date: 11/30/22  
email: rhodunaway@eprod.com Telephone: 575-628-6802

**OCD Only**

Received by: Jocelyn Harimon Date: 11/30/2022

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

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

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

Incident ID	NAPP2131670294
District RP	
Facility ID	
Application ID	

## Remediation Plan

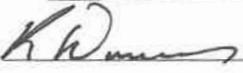
**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Robert Dunaway Title: Senior Environmental Engineer  
 Signature:  Date: 11/30/22  
 email: rhodunaway@eprod.com Telephone: 575-628-6802

**OCD Only**

Received by: Jocelyn Harimon Date: 11/30/2022

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature: Robert Hamlet Date: 4/20/2023



November 18, 2022

#5E31002-BG10

Mr. Robert Hamlet  
 NMOCD District 2  
 811 S. First St  
 Artesia, New Mexico 88210

SUBJECT: Remediation Plan for the A-18 Lateral Release (nAPP2131670294), Eddy County, New Mexico

Mr. Hamlet:

On behalf of Enterprise Field Services LLC (Enterprise), Souder, Miller & Associates (SMA) has prepared this Remediation Plan for a release of produced water and natural gas related to oil and gas gathering activities at the A-18 Lateral (nAPP2131670294) site. The site is in Unit J, Section 28, Township 22S, Range 26E, Eddy County, New Mexico, on Federal land managed by the Bureau of Land Management (BLM). A topographic map showing the release location is included as Figure 1 and an aerial site map is included as Figure 2.

The gas portion of this release constitutes venting that occurred during an emergency or malfunction, as authorized by New Mexico Oil Conservation Division (NMOCD) regulations at NMAC 19.15.28.8.A and B(1). This release therefore is not prohibited by NMAC 19.15.29.8.A.

Table 1, summarizes information regarding the release.

Table 1: Release Information and Closure Criteria			
Name	A-18 Lateral	Company	Enterprise Field Services LLC
Incident Number	nAPP2131670294	Location	32.360476, -104.29649
Date Release Discovered	November 12, 2021	Land Status	Federal (BLM)
Source of Release	Hole in gathering pipeline		
Released Volume	4 barrels (bbls) Produced Water 1,193 Mcf Natural Gas	Recovered Volume	0 bbls Produced Water 0 Mcf Natural Gas
NMOCD Closure Criteria	<50 feet to groundwater		

## **1.0 Background**

On November 12, 2021, a release of produced water and natural gas was discovered at the A-18 Lateral site due to a hole in the gathering pipeline. Site characterization including initial excavation, sampling, and delineation of the release area has been performed and is described in SMA's *Site Characterization Report for the A-18 Lateral Release (nAPP2131670294), Eddy County, New Mexico* dated August 3, 2022. The initial excavation area and delineation boring locations are illustrated on Figure 3 and an interpretive cross section is included as Figure 4. A copy of the approved request for extension is included in the attachments.

## **2.0 Site Information and Closure Criteria**

The A-18 Lateral is an active gathering pipeline located approximately one mile west of Carlsbad, New Mexico on Federal (BLM) land at an elevation of approximately 3,266 feet above mean sea level (amsl).

### **Depth to Groundwater**

A search of the New Mexico Office of the State Engineer (OSE) New Mexico Water Rights Reporting System (NMWRRS) and the United States Geological Society (USGS) National Water Information System yielded three results within ½-mile of the site (Appendix B). Two USGS wells are reported to be within 500 feet of the site with depths to groundwater of 166 and 199 feet below ground surface (bgs). Additionally, one OSE well is reported within ½-mile of the site and reports a depth to groundwater of 187 feet bgs. Based on this data and the elevation differential between the site and the wells, it is estimated that depth to groundwater at the site is 156 feet bgs. Registered wells in the vicinity are shown on Figure 1. Also, no groundwater was encountered in the borings advanced during site characterization activities, of which one boring was advanced to a depth of 101 feet bgs.

### **Wellhead Protection Area**

As stated above, there are three known groundwater sources within ½-mile of the location, according to the OSE NMWRRS and USGS National Water Information System. At least one source appears to be used for livestock water.

### **Distance to Nearest Significant Watercourse**

The site is located within McKittrick Draw as illustrated on Figures 1 and 2.

### **Closure Criteria**

Table 2 demonstrates the Closure Criteria applicable to this location. Figures 1 and 2 demonstrate that, due to the proximity of McKittrick Wash and the high karst potential of underlying rock, the site does lie within a sensitive area as described in Paragraph (4) of Subsection (C) of 19.15.29.12 NMAC.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of less than 50 feet bgs.

## **3.0 Proposed Remediation Strategy**

Based on the discussions with NMOCD personnel via web-conference on August 10 and November 2, 2022, SMA proposes to utilize a semi-active vapor extraction system to remediate the residual impacted soil and underlying rock at the release site. The semi-active system was discussed as favorable to accommodate the remote location of the release site which has no feasible access to an electrical connection. Placement of a generator within the channel of McKittrick Draw is inadvisable. The proposed system will employ solar-powered, inline ventilation fans mounted on vapor extraction wells. Lithology at the site appears to be favorable for vapor extraction and generally consists of alluvial fill underlain by dolomite interbedded with siltstone. The dolomite exhibits karst features with small vugs concentrated in lenses disbursed throughout the unit.

### **Source Removal Excavation**

Following pipeline repair and initial remedial excavation and sampling, the excavation was backfilled with the stockpiled spoils to allow for drill rig access to the release area. Prior to installation of the vapor extraction system, the spoils will be re-excavated from the original excavation footprint and delivered to Lea Land, LLC's landfarm near Hobbs, New Mexico for disposal/remediation. The excavation will be backfilled with clean, imported material and graded to match existing surface topography.

### Vapor Extraction System Pilot Test

A pilot test is planned to determine the suitability of the proposed vapor extraction system. The pilot test system will be based on three vapor extraction wells to be installed within the main body of the contaminant plume as identified on Figure 5.

Borings will be installed using a combination of hollow-stem auger and air-rotary drilling techniques. Following boring advancement, a four-inch diameter Schedule 40 PVC well casing with 0.020 slot screen will be installed within the boring. Total well depths and screening intervals will be determined based on the position of the borings within the contaminant plume and field data collected during well installation. The screened casing will be surrounded with 20-30 grade silica sand and topped with three feet of hydrated bentonite pellets to act as a seal to prevent surface water from entering the boring. The remainder of the well would be grouted to the surface with neat Portland cement.

Each well will be completed on the surface with an elevated six-inch diameter steel enclosure that will extend two feet above the ground surface. The steel enclosure will protect the PVC well casing and allow for a solar-powered, inline ventilation fan to be installed on top of the well. The elevated completion will be concreted in place with a two-foot by two-foot, four-inch thick concrete pad sloped away from the well to encourage drainage. A small ball valve sampling port will be installed near the base of the well enclosure to allow monitoring of the well gases. A solar panel and ancillary equipment will be installed immediately adjacent to the well on a separate support. The well construction detail is included as Figure 6.

SMA proposes to sample each vapor extraction well at the immediately after startup of the system, 12 hours after startup, 24 hours after startup and then weekly for two months. Sampling will be performed utilizing the small ball valve installed near the base of the steel vent surface enclosure; a flexible tube will be attached to the ball valve and gas from the wells will be collected using a XiTech 1060H sampling box in one-liter Tedlar sample bags for laboratory analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260 and total petroleum hydrocarbons by EPA Method 8015. The samples will also be field screened for volatile organic compounds (VOCs) using a calibrated photoionization detector (PID) and for CO<sub>2</sub> concentrations using a multi-gas monitor.

A trend analysis of constituent concentrations will be conducted following the final sampling event to assess the effectiveness of pilot vapor extraction system. Should the system be deemed to be effective, the remainder of the system will be constructed as described below. Should the system be deemed ineffective, modifications will be evaluated, or the pilot system will be decommissioned.

### Full Vapor Extraction System

Should the pilot test system be deemed effective as described above, the full vapor extraction system will include the three pilot study wells supplemented with an additional nine vapor extraction wells to achieve coverage of the contaminant plume as illustrated on Figure 5. The wells will be constructed and sampled in the same manner as the pilot study wells, with the sampling schedule modified to a quarterly basis.

## **4.0 Proposed Site Closure Determination Criteria**

Based on the results of the pilot study and after consultation with the NMOCD, Closure Criteria will be proposed for NMOCD concurrence in the Pilot Study Report.

Upon approval of no further action required from the NMOCD, the vapor extraction wells will be properly plugged and abandoned in accordance with the well plugging plan of operations filed with the New Mexico Office of the State Engineer

A-18 Lateral Remediation Plan  
November 18, 2022

Page 4 of 4

## **5.0 Scope and Limitations**

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

If there are any questions regarding this remediation plan, please contact Heather Woods at 505-325-7535.

Submitted by:  
SOUDER, MILLER & ASSOCIATES

Reviewed by:



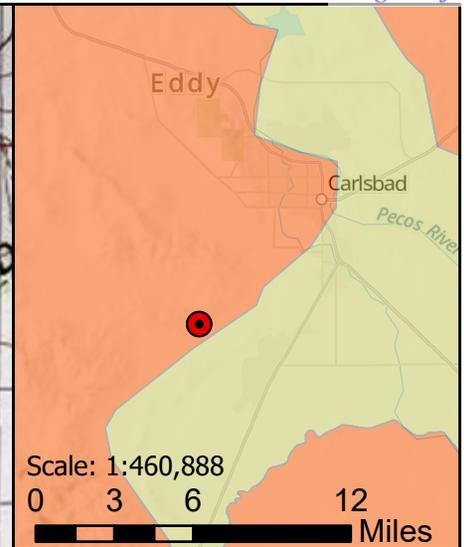
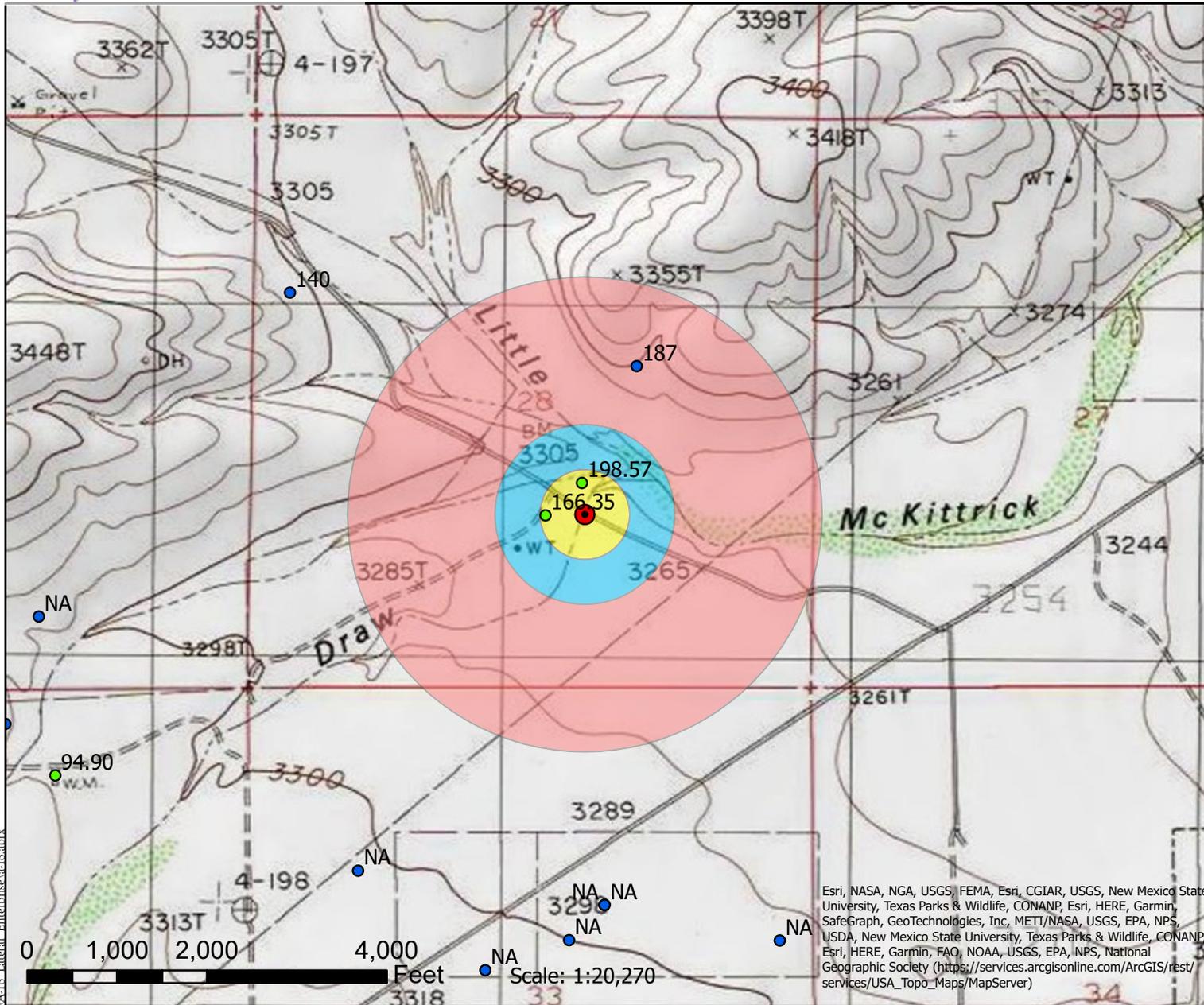
Heather M. Woods, P.G.  
Project Geoscientist



Reid S. Allan, P.G.  
Principal

### **ATTACHMENTS:**

- Figure 1: Topographic Site Map
- Figure 2: Aerial Site Map
- Figure 3: Excavation and Boring Location Map
- Figure 4: Cross Section
- Figure 5: Proposed SVE System Map
- Figure 6: Well Construction Detail
- Copy of Approved Extension Request



**Legend**

- Point of Release
- USGS GW Wells (depth in ft)
- OSE GW Wells (depth in ft)

**Buffer Distance**

- 500 feet
- 1000 feet
- 0.5 mile

**Karst Potential**

- High
- Medium
- Low

**Coordinates:**  
-104.29649W 32.360476N

Topographic Site Map  
 A-18 Lateral - Enterprise Field Services LLC  
 UL: J S: 28 T: 22S R: 26E, Eddy County, New Mexico

Figure 1

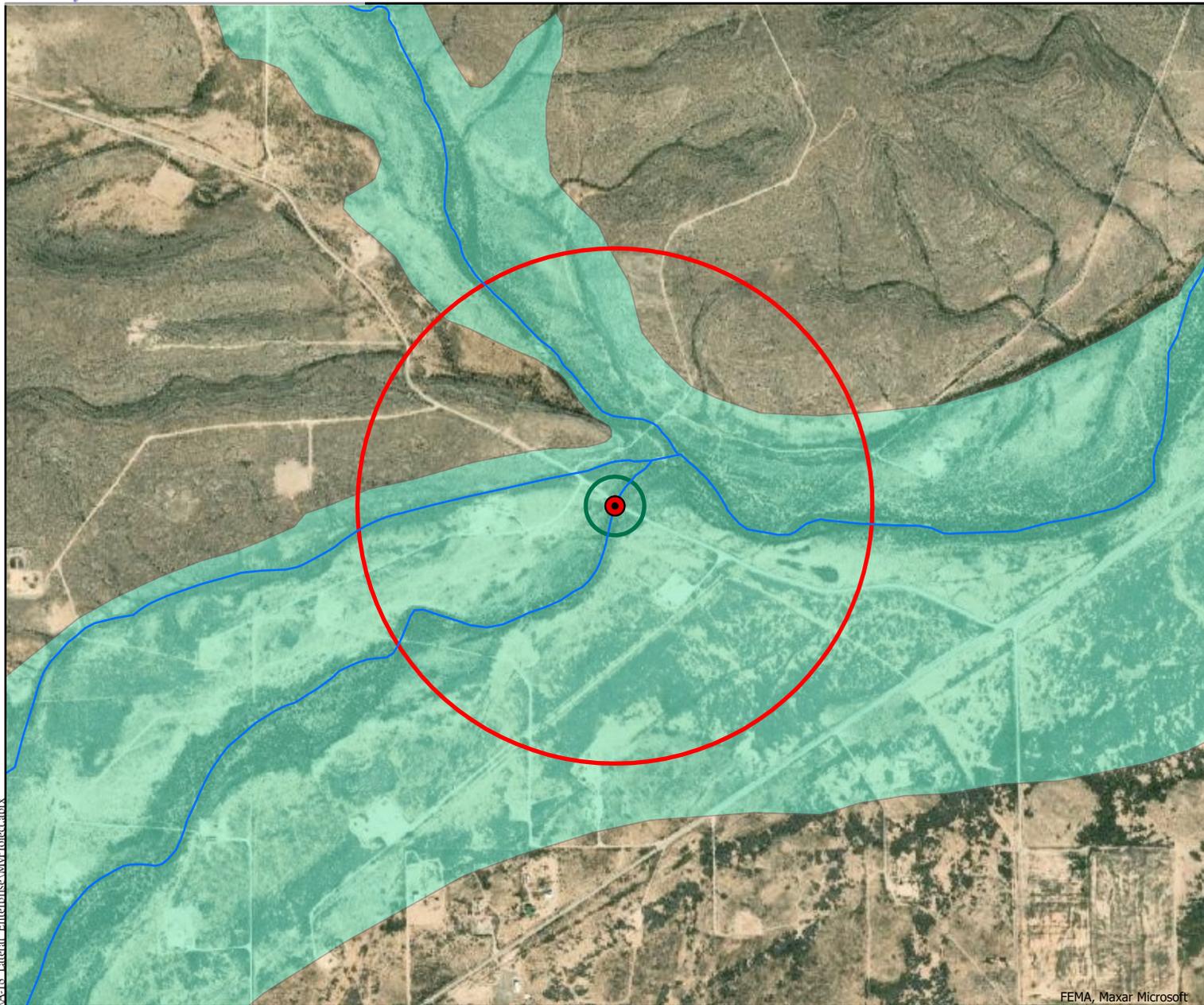
Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

© Souder, Miller & Associates, 2021, All Rights Reserved

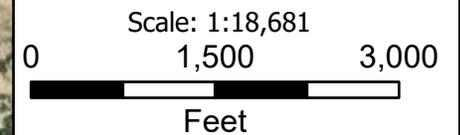
Drawn	Sarahmay Schlea
Date	8/22/2022
Checked	_____
Approved	_____



201 South Halagueno Street  
 Carlsbad, New Mexico 88221  
 (575) 689-7040  
 Serving the Southwest & Rocky Mountains



- Legend**
- Point of Release
  - Streams/Canals
  - 0.5 Mile Radius
  - 300 Foot Radius
  - FEMA Flood Zones



Coordinates:  
-104.29649W 32.360476N

FEMA, Maxar Microsoft

*Aerial Site Map*  
 A-18 Lateral - Enterprise Field Services LLC  
 UL: J S: 28 T: 22S R: 26E, Eddy County, New Mexico

Figure 2

Revisions

By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

Drawn	Sarahmay Schlea
Date	4/14/2022
Checked	_____
Approved	_____



201 South Halagueno Street  
 Carlsbad, New Mexico 88221  
 (575) 689-7040  
 Serving the Southwest & Rocky Mountains

© Souder, Miller & Associates, 2021, All Rights Reserved

C:\Users\ss\Desktop\GIS\Enterprise\A-18 Lateral Enterprise\MxProject.mxd

Date Saved:  
3/16/2022



### Legend

- Point of Release
- Boreholes 02/10/22
- Boreholes 04/06/22
- Boreholes 07/06/22
- Excavation Area
- Area of Investigatory Sampling

### Pipelines

- Enterprise A-18 Lateral Pipeline
- Devon Pipeline

0 5 10 20 30 40  
  
 Feet  
 Scale: 1:349

N  
  
 Coordinates:  
 -104.29649W 32.360476N

**Boring Location Map**  
 A-18 Lateral - Enterprise Field Services LLC  
 UL: J S: 28 T: 22S R: 26E, Eddy County, New Mexico

Figure 3

Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

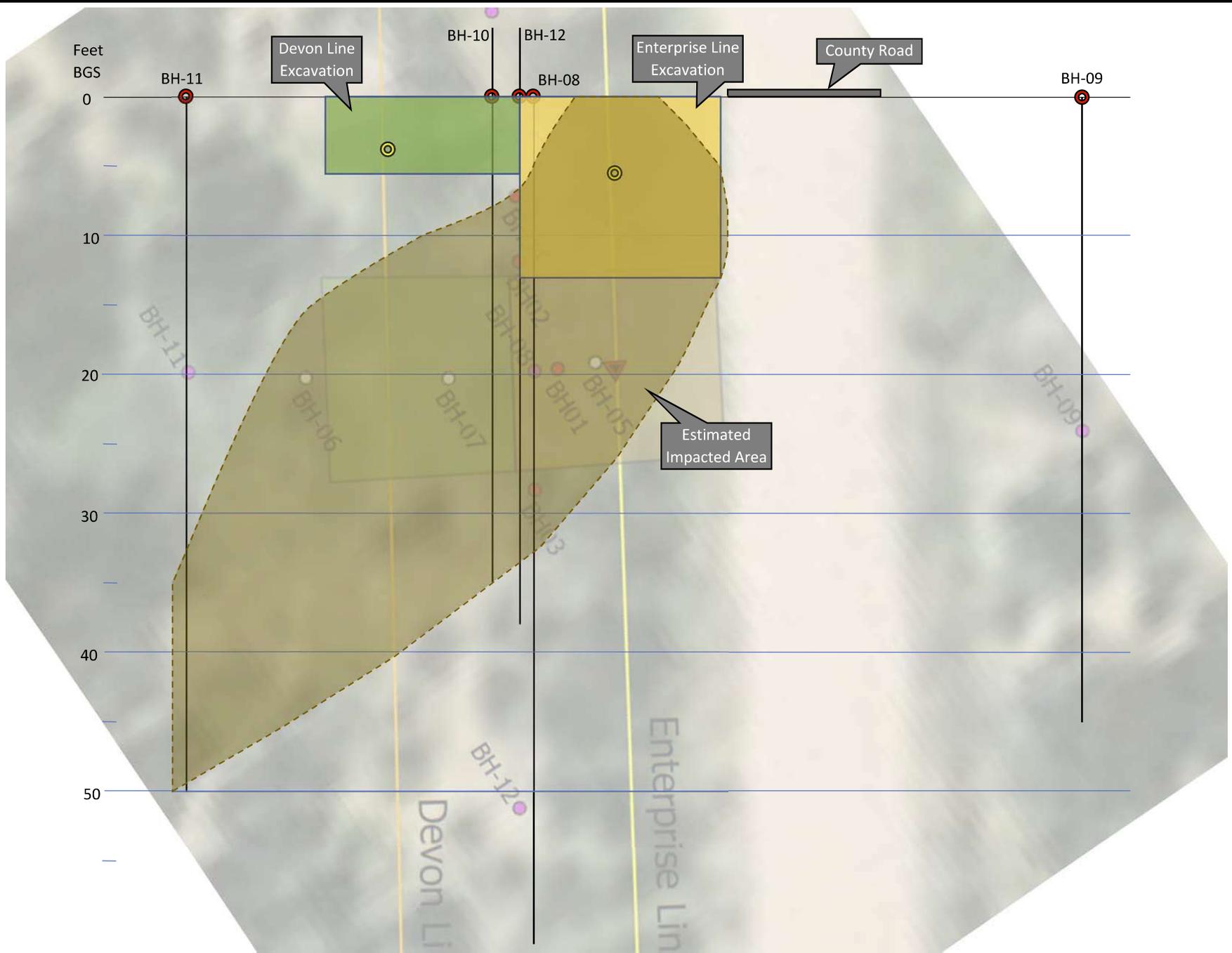
© Souder, Miller & Associates, 2021, All Rights Reserved

Drawn	Sarahmay Schlea
Date	8/3/2022
Checked	_____
Approved	_____



201 South Halaguena Street  
 Carlsbad, New Mexico 88221  
 (575) 689-7040  
 Serving the Southwest & Rocky Mountains

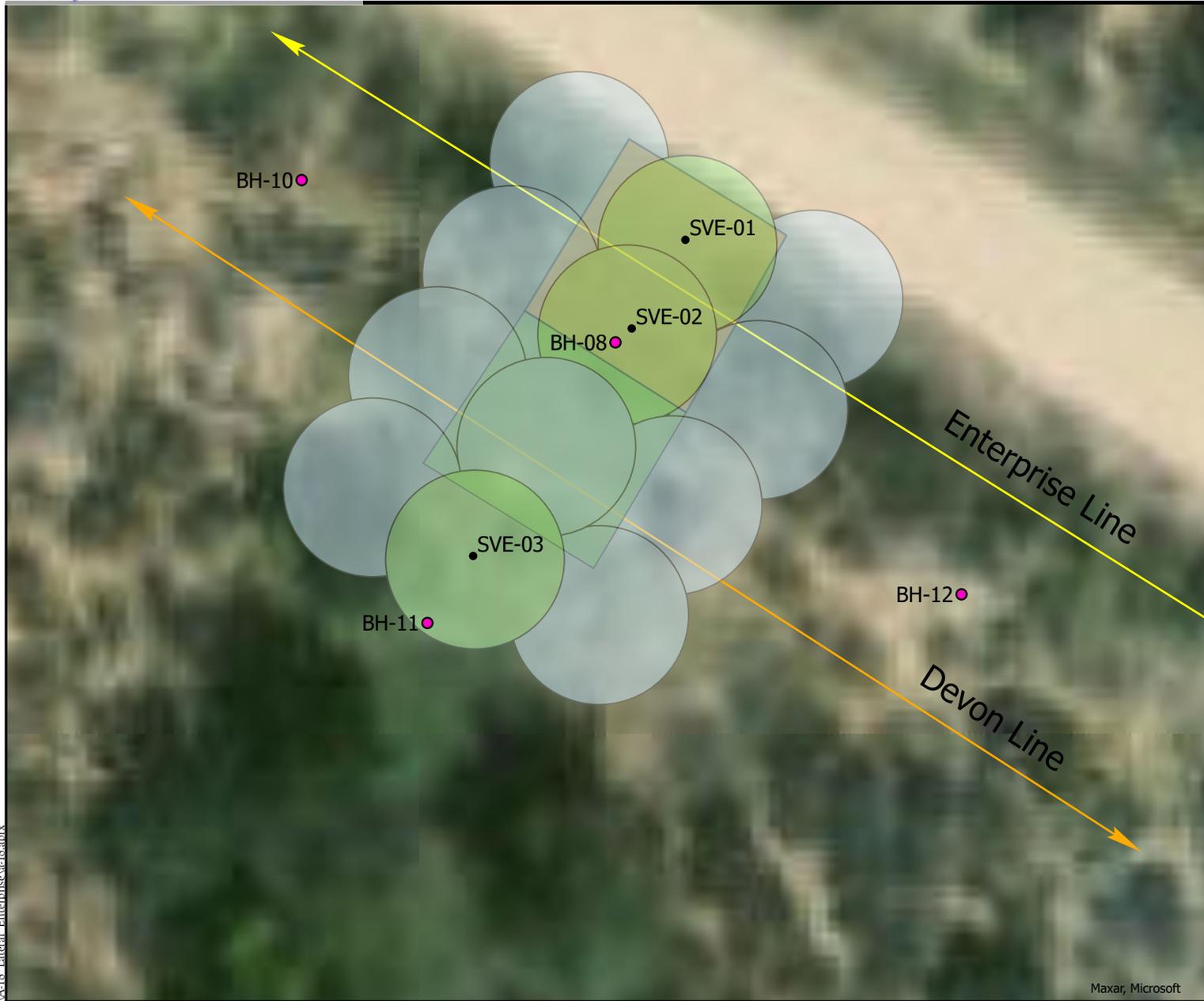
C:\Users\ss\Desktop\GIS\Enterprise\A-18 Lateral Enterprise\az18.aprx  
 Date Saved: 7/26/2022



**SOUDEY, MILLER & ASSOCIATES**  
 401 West Broadway Avenue  
 Farmington, NM 87401-5907  
 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045  
 Serving the Southwest & Rocky Mountains  
[www.soudermiller.com](http://www.soudermiller.com)

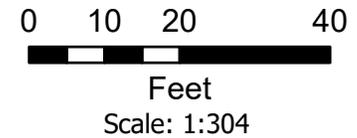
**Cross Section**  
**A-18 Lateral - Enterprise Field Services LLC**  
**UL:J S:28 T:22S R:26E, Eddy County, New Mexico**

Designed:	HMW	Date:	10/21/2022
Drawn:	HMW	Scale:	Horiz: NTS Vert: NTS
Checked:	RSA	Project No:	5E31002
Revisions:		Sheet:	Figure 4



### Legend

- Boreholes 07/06/22
- SVE
- Proposed Full System SVE Wells
- Proposed Pilot Test SVE Wells
- Excavation Area
- Area of Investigatory Sampling
- ↗ Enterprise A-18 Lateral Pipeline
- ↘ Devon Pipeline



Coordinates:  
-104.29649W 32.360476N

*Proposed SVE System Map*  
A-18 Lateral - Enterprise Field Services LLC  
UL: J S: 28 T: 22S R: 26E, Eddy County, New Mexico

Figure 5

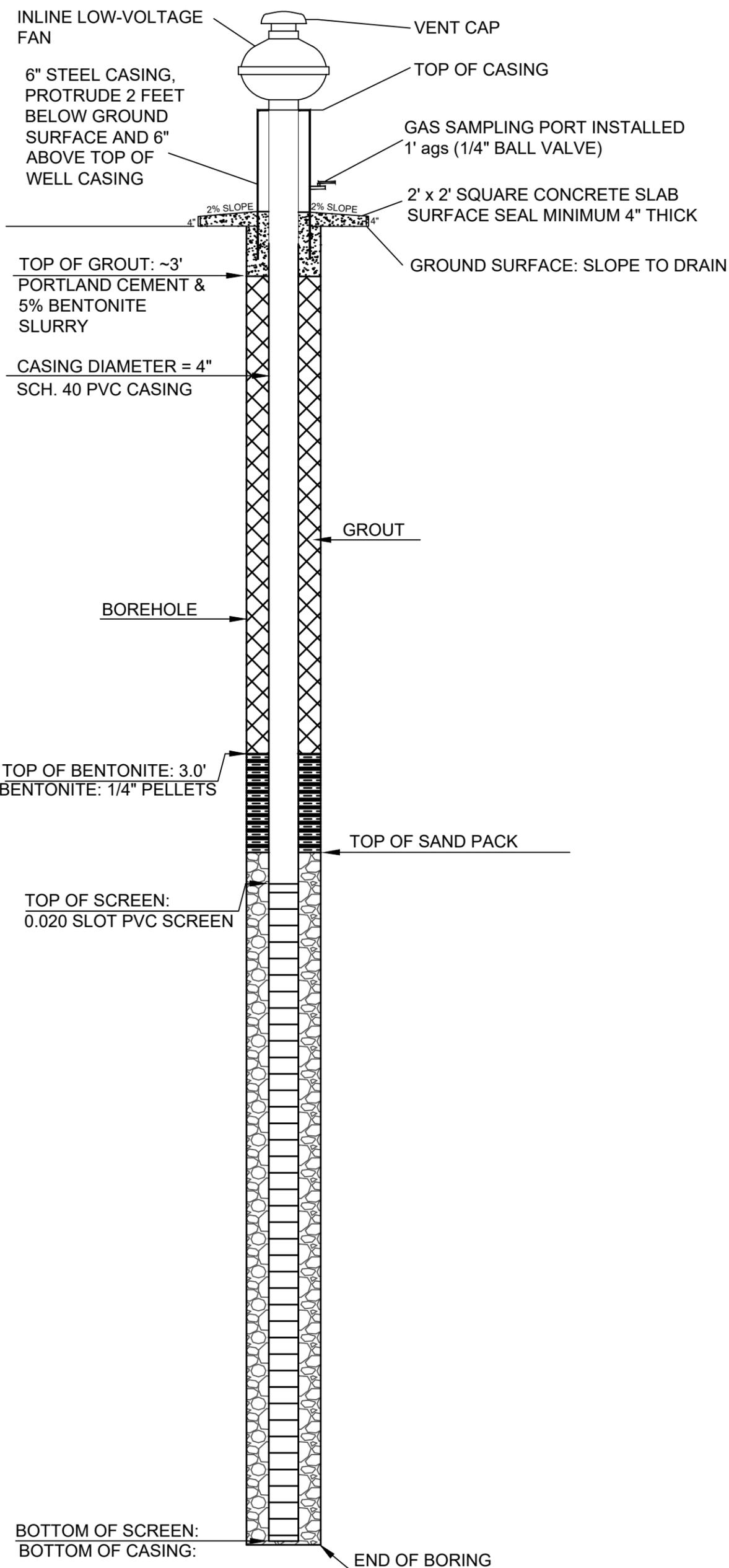
Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

© Souder, Miller & Associates, 2021, All Rights Reserved

Drawn	Sarahmay Schlea
Date	10/21/2022
Checked	_____
Approved	_____



201 South Halagueno Street  
Carlsbad, New Mexico 88221  
(575) 689-7040  
Serving the Southwest & Rocky Mountains



**SMA**  
Engineering • Environmental  
Surveying

**SOUDER, MILLER & ASSOCIATES**  
401 West Broadway Avenue  
Farmington, NM 87401  
Phone (505) 325-7535 Fax (505) 326-0045  
www.soudermiller.com  
Serving the Southwest & Rocky Mountains  
Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM  
Cortez - Grand Junction, CO - Safford, AZ - Moab, UT, El Paso, TX

**WELL CONSTRUCTION DETAIL**  
A-18 LATERAL - ENTERPRISE FIELD SERVICES, LLC.  
UL:J S:28 T:22S R:26E, EDDY COUNTY, NEW MEXICO

Drawn MAE	Checked AJE	Approved SAM
Date: SEPTEMBER 2022		
Scale: Horiz: NA Vert: NA		
Project No: 5E31002		
Sheet: <b>FIGURE 5</b>		

## Heather Woods

---

**From:** Dunaway, Robert <rhodunaway@eprod.com>  
**Sent:** Tuesday, August 9, 2022 10:22 AM  
**To:** Heather Woods  
**Subject:** [EXTERNAL]FW: (Extension Approval) NAPP2131670294 A-18 LATERAL

Please include this in the A-18 final report when we finally get there.



**Robert Dunaway**  
Senior Environmental Engineer  
W: 575-628-6802  
C: 361-815-0990  
rhodunaway@eprod.com

---

**From:** Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>  
**Sent:** Tuesday, August 9, 2022 7:16 AM  
**To:** Dunaway, Robert <rhodunaway@eprod.com>  
**Cc:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>  
**Subject:** [EXTERNAL] (Extension Approval) NAPP2131670294 A-18 LATERAL

[Use caution with links/attachments]

RE: Incident #NAPP2131670294

**Robert,**

Your request for an extension to **November 6th, 2022** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

**Robert Hamlet** • Environmental Specialist - Advanced  
Environmental Bureau  
EMNRD - Oil Conservation Division  
811 S. First Street | Artesia, NM 88210  
575.909.0302 | [robert.hamlet@state.nm.us](mailto:robert.hamlet@state.nm.us)  
<http://www.emnrd.state.nm.us/OCD/>



**From:** Dunaway, Robert <[rhodunaway@eprod.com](mailto:rhodunaway@eprod.com)>  
**Sent:** Monday, August 8, 2022 5:29 AM  
**To:** Enviro, OCD, EMNRD <[OCD.Enviro@state.nm.us](mailto:OCD.Enviro@state.nm.us)>  
**Subject:** [EXTERNAL] Extension Request, nAPP2131670294

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Enterprise Field Services is requesting an extension of the A-18 Lateral remediation effort (nAPP2131670294) from 8/8/2022 to 11/8/2022. The previous request had been rejected and a Site Assessment and explanation was requested.

The Site Assessment has been completed and uploaded to the OCD portal as of Wednesday 8/3. The delay in completion was due to a two month wait time for a drilling crew for the core sampling. As mentioned in the last email (below) Enterprise has set up a meeting with OCD to discuss a path forward on Wednesday 8/10.



**Robert Dunaway**  
Senior Environmental Engineer  
W: 575-628-6802  
C: 361-815-0990  
[rhodunaway@eprod.com](mailto:rhodunaway@eprod.com)

---

**From:** Dunaway, Robert  
**Sent:** Wednesday, July 20, 2022 6:38 AM  
**To:** 'ocd.enviro@state.nm.us' <[ocd.enviro@state.nm.us](mailto:ocd.enviro@state.nm.us)>  
**Cc:** 'Mendez, Brenda ([BJMendez@eprod.com](mailto:BJMendez@eprod.com))' <[BJMendez@eprod.com](mailto:BJMendez@eprod.com)>; Reinermann, Paul ([PSREINERMANN@eprod.com](mailto:PSREINERMANN@eprod.com)) <[PSREINERMANN@eprod.com](mailto:PSREINERMANN@eprod.com)>  
**Subject:** Extension Request, nAPP2131670294

Enterprise Field Services is requesting an extension of the A-18 Lateral remediation effort (nAPP2131670294) from 8/8/2022 to 11/8/2022. Per the previous OCD and Enterprise discussions, Enterprise has completed soil boring to fully delineate the site. Lab results are forthcoming. After this, Enterprise will need to consult with the OCD to determine the best path forward to remediating the site.



**Robert Dunaway**  
Senior Environmental Engineer  
W: 575-628-6802  
C: 361-815-0990  
[rhodunaway@eprod.com](mailto:rhodunaway@eprod.com)

---

This message (including any attachments) is confidential and intended for a specific individual and purpose. If you are not the intended recipient, please notify the sender immediately and delete this message.

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 162690

**CONDITIONS**

Operator: Enterprise Field Services, LLC PO Box 4324 Houston, TX 77210	OGRID: 241602
	Action Number: 162690
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
rhamlet	The Revised Remediation Plan is Approved. Please keep the OCD updated on the effectiveness of the pilot vapor extraction system. Contact the OCD if you have any further questions.	4/20/2023