



December 28, 2022

**New Mexico Oil Conservation Division**

New Mexico Energy, Minerals, and Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: Remediation Work Plan  
East Vacuum Unit 1904-001  
Incident Number NAPP2210950771  
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Natural Resources, LLC (Maverick), has prepared this *Remediation Work Plan* (RWP) to document site assessment and soil sampling activities and provide supplemental information requested in the denial of a *Closure Request* submitted to the New Mexico Oil Conservation Division (NMOCD) on October 31, 2022. Maverick received the denial notice from the New NMOCD on November 28, 2022. In the denial, NMOCD stated:

*Closure Report Denied. The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater. Release has not been adequately delineated both vertically and laterally. Lateral samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Please submit a revised closure report to the OCD portal by December 28, 2022.*

The following RWP proposes installation of a depth to water boring to confirm the Closure Criteria and proposes collection of samples outside the release area, even though Maverick and Ensolum believe the edge of the release, which occurred on pad, was laterally defined according to Table I Closure Criteria through the excavation sidewall sample results. Based on driller and Ensolum availability, there is not enough time to collect the additional data and submit a revised closure report by December 28<sup>th</sup>. Instead, Maverick is submitting this RWP, agreeing to the denial conditions.

## BACKGROUND

The Site is located in Unit N, Section 19, Township 17 South, Range 35 East, in Lea County, New Mexico (32.81388° N, 103.49916° W) and is associated with oil and gas exploration and production operations on New Mexico State Land. On April 6, 2022, a stuffing box leak resulted in the release of approximately 0.07 barrels (bbls) of crude oil and 7.13 bbls of produced water onto the well pad. The Site was previously characterized in the *Closure Request* and the following NMOCD Table I Closure Criteria were applied:

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants  
601 North Marienfeld Street | Midland, TX 79701 | [ensolum.com](http://ensolum.com)  
Texas PG Firm No. 50588 | Texas PE Firm No. F-21843

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

Site assessment and excavation activities were conducted at the Site and laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Closure Criteria. Details of the previously conducted soil sampling and excavation activities were included in the denied *Closure Request*.

## PROPOSED REMEDIATION WORK PLAN

Maverick will collect soil samples from the ground surface outside of the excavation extent. Samples will be collected from the ground surface to approximately 0.5 feet depth bgs and be analyzed for BTEX, TPH, and chloride. Proposed sample locations are presented in Figure 1.

In order to confirm depth to groundwater is greater than 100 feet bgs at the Site and confirm the applied Closure Criteria, Maverick proposes to complete a depth to water boring within ½-mile of the release. The soil boring will be advanced until groundwater is encountered or to a maximum depth of approximately 110 feet bgs. An Ensolum geologist will log and describe soil continuously and will document observations on a lithologic/soil sampling log. The borehole will be left open for a minimum of 72 hours to allow for the potential slow infill of groundwater. Following the 72-hour waiting period, depth to groundwater will be measured or the Ensolum geologist will confirm groundwater is absent in the boring. The borehole will be properly abandoned following New Mexico Office of the State Engineer (NMOSE) procedures. Ensolum and Maverick will include documentation of the soil boring installation and lithologic/soil sampling log in the subsequent closure request if groundwater is confirmed to be greater than 100 feet bgs. The depth to water boring will be completed as soon as possible following approval from the surface landowner and scheduling with a New Mexico licensed driller. Ensolum will present the drilling schedule within 60 days of approval of the Work Plan.

East Vacuum Unit 1904-001



If you have any questions or comments, please contact Ms. Kalei Jennings at (817) 683-2503 or [kjennings@ensolum.com](mailto:kjennings@ensolum.com).

Sincerely,  
**Ensolum, LLC**

A handwritten signature in black ink that reads "Hadlie Green".

Hadlie Green  
Staff Geologist

A handwritten signature in black ink that reads "Kalei Jennings".

Kalei Jennings  
Senior Scientist

cc: Bryce Wagoner, Maverick Natural Resources  
New Mexico State Land Office

Appendices:

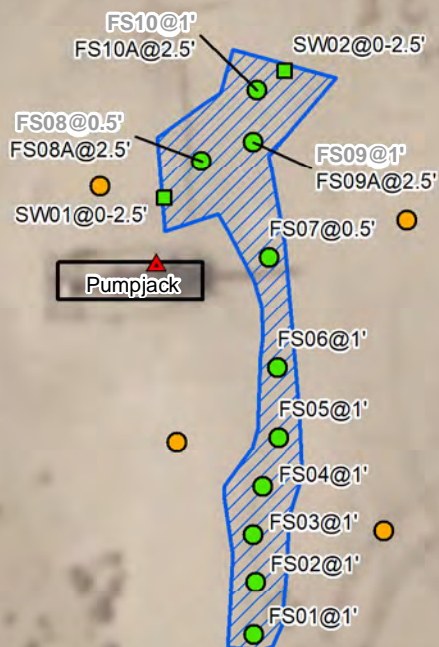
Figure 1      Excavation Soil Sample Locations  
Appendix A    Final C-141



FIGURES

**LEGEND:**

- ▲ Release Point
- Proposed Delineation Soil Samples
- Excavation Floor Soil Sample in Compliance with Closure Criteria
- Excavation Sidewall Soil Sample in Compliance with Closure Criteria
- Excavation Extent

**NOTES:**

Soil samples in **bold** indicates soil concentrations exceeds the applicable regulatory closure criteria.  
 Grey text represents samples that have been excavated.  
 Sample ID @ Depth Below Ground Surface.

0 15 30  
 Feet

© 2022 Microsoft Corporation © 2022 Maxar ©CNES (2022) Distribution Airbus DS

**EXCAVATION SOIL SAMPLE LOCATIONS**

MAVERICK NATURAL RESOURCES, LLC  
 EAST VACUUM UNIT 1904-001  
 NAPP2210950771  
 Unit N, Sec 19, T17S, R35E  
 Lea County, New Mexico

**FIGURE**  
**1**





APPENDIX F

Final 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	NAPP2210950771
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

### Location of Release Source

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

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


<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

Incident ID	NAPP2210950771
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input type="checkbox"/> 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*

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
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 _____	Title: _____
Signature: <u></u>	Date: _____
email: _____	Telephone: _____
<b><u>OCD Only</u></b>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>04/19/2022</u>

Received by OCD: 12/28/2022 7:51:36 PM

Facility Name & Number: 1904-001

Asset Area: SENM (Buckeye)

Release Discovery Date & Time: 4/6/222 09:15

Release Type: Oil Mixture

Provide any known details about the event: During normal operations MSO found stuffing box leak that resulted in oil mixture spill. Immediate action was to tighten stuffing box to stop leak.

L48 Spill Volume Estimate Form

NAPP2210950771

Page 9 of 14

Spill Calculation - Subsurface Spill - Rectangle

Was the release on pad or off-pad?

On Pad - 10.5%; Off Pad - 15.12% soil spilled-fluid saturation factor

Has it rained at least a half inch in the last 24 hours?

Yes, On Pad - 8%; Off Pad - 13.57% soil spilled-fluid saturation factor; if No, use factors above.

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	33.0	8.0	2.00	10.50%	7.832	0.822	1.00%	0.008	0.814
Rectangle B	100.0	10.0	2.00	10.50%	29.667	3.115	1.00%	0.031	3.084
Rectangle C	45.0	20.0	2.00	10.50%	26.700	2.804	1.00%	0.028	2.775
Rectangle D	40.0	30.0	0.25	10.50%	4.450	0.467	1.00%	0.005	0.463
Rectangle E					0.000	0.000		0.000	0.000
Rectangle F					0.000	0.000		0.000	0.000
Rectangle G					0.000	0.000		0.000	0.000
Rectangle H					0.000	0.000		0.000	0.000
Rectangle I					0.000	0.000		0.000	0.000
Rectangle J					0.000	0.000		0.000	0.000
Total Volume Release:						7.208		0.072	7.136

Released to Imaging: 1/24/2023 12:02:02 PM

**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 99892

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 99892
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	4/19/2022

Incident ID	NAPP2210950771
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>51-100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

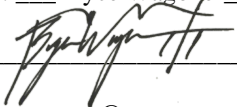
### **Characterization Report Checklist:** *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Incident ID	NAPP2210950771
District RP	
Facility ID	
Application ID	

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: Bryce WagonerTitle: HSE SpecialistSignature: Date: 12/28/2022email: bryce.wagoner@mavresources.comTelephone: 928-241-1862**OCD Only**Received by: Jocelyn HarimonDate: 12/29/2022

Incident ID	NAPP2210950771
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: Bryce WagonerTitle: HSE SpecialistSignature: Date: 12/28/2022email: bryce.wagoner@mavresources@comTelephone: 928-241-1862**OCD Only**Received by: Jocelyn Harimon Date: 12/29/2022☒ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral ApprovedSignature: Date: 01/24/2023

**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 170834

CONDITIONS

Operator:  Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID:  331199
	Action Number:  170834
	Action Type:  [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Remediation Plan Approved.	1/24/2023