

State of Colorado  
Energy & Carbon Management Commission

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Document Number:

403906512

Receive Date:

Report taken by:

## Site Investigation and Remediation Workplan (Supplemental Form)

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. However, this shall not preclude the Operator from taking immediate action to protect public health or safety, the environment, wildlife, or livestock.

This Form 27 describes site conditions as currently understood by the Operator; approval of this Form 27 by ECMC is based on the site conditions accurately described herein; any changes in site conditions identified during or subsequent to the performance of the approved workplan may necessitate additional investigation or remediation which shall be described on a supplemental Form 27. This Form 27 is intended to provide basic information regarding the proposed site investigation and remediation actions, but the workplan may be more fully described in attached documentation.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

## OPERATOR INFORMATION

Name of Operator: DESERT EAGLE OPERATING LLC	Operator No: 10797	Phone Numbers
Address: 17330 PRESTON RD STE 200D-208		Phone: (214) 88605098
City: DALLAS	State: TX	Zip: 75252
Contact Person: Wesley Marshall	Email: wmarshall@prohelium.com	Mobile: ( )

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 33149 Initial Form 27 Document #: 403611699

## PURPOSE INFORMATION

- ☐ Rule 913.c.(1): Pit or Cuttings Trench closure.
- ☐ Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- ☐ Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- ☐ Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- ☐ Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- ☐ Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- ☐ Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- ☐ Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- ☐ Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- ☐ Rule 913.g: Changes of Operator.
- ☐ Rule 915.b: Request to leave elevated inorganics in situ.
- ☒ Other: Rule 905.g (2) Drill Cuttings

## SITE INFORMATION

Yes Multiple Facilities

Facility Type: LOCATION	Facility ID: 485691	API #:	County Name: LAS ANIMAS
Facility Name: Red Rocks 1-16	Latitude: 37.464488	Longitude: -103.518825	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NENE	Sec: 1	Twp: 30S	Range: 55W Meridian: 6 Sensitive Area? No

## SITE CONDITIONS

General soil type - USCS Classifications ML

Most Sensitive Adjacent Land Use Rangeland

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

None

**SITE INVESTIGATION PLAN****TYPE OF WASTE:**☒ **E&P Waste** ☐ **Other E&P Waste** ☐ **Non-E&P Waste**☐ Produced Water☐ Workover Fluids☐ Oil☐ Tank Bottoms☐ Condensate☐ Pigging Waste☐ Drilling Fluids☐ Rig Wash☒ Drill Cuttings☐ Spent Filters☐ Pit Bottoms☐ Other (as described by EPA)**DESCRIPTION OF IMPACT**

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	Unknown	Visual

**INITIAL ACTION SUMMARY**

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&amp;P Waste.

Drill cuttings were placed on a lined and bermed area awaiting the soil analysis. Drill cuttings were trucked off location to the Trinidad Landfill.

**PROPOSED SAMPLING PLAN****Proposed Soil Sampling**☒ Will soil samples be collected as part of this investigation? ( Number, type (grab/composite), analyses, and locations of samples ):

DEO collected a 5-point composite sample from the drill cuttings stored on a lined, bermed area on the wellpad. Individual aliquots were collected across the horizontal extent of the cuttings pile. They were collected from random depths below the surface of the cuttings pile that ensure capture of the vertical profile of the cuttings pile from the surface to the base. The composite sample was analyzed for constituents in Table 915-1 by Eurofin Denver, an accredited commercial lab. Additional soil samples will be taken in the area beneath the drill cuttings impermeable tarp. Soil samples will be taken in compliance with Rule 905.e. 2 a. It is anticipated 1-2 grab samples will be taken at each identified area which represents the potentially impacted area. Soil samples will be tested for contaminants of concern listed in Table 915-1 to assess the impact. At least one background sample will be taken. No pathway to groundwater exists

**Proposed Groundwater Sampling**☐ Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):**Proposed Surface Water Sampling**☐ Will surface water samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

This location has no nearby surface water.

**Additional Investigative Actions**☐ Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):**SITE INVESTIGATION REPORT**

## **SAMPLE SUMMARY**

### **Soil**

Number of soil samples collected 1

Number of soil samples exceeding 915-1 1

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 1296

### **Groundwater**

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 915-1

### **Surface Water**

0 Number of surface water samples collected

Number of surface water samples exceeding 915-1

If surface water is impacted, other agency notification may be required.

### **NA / ND**

-- Highest concentration of TPH (mg/kg) 140

-- Highest concentration of SAR 5.2

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 3

Highest concentration of Benzene (µg/l)

Highest concentration of Toluene (µg/l)

Highest concentration of Ethylbenzene (µg/l)

Highest concentration of Xylene (µg/l)

Highest concentration of Methane (mg/l)

## **OTHER INVESTIGATION INFORMATION**

☐ Were impacts to adjacent property or offsite impacts identified?

☐ Were background samples collected as part of this site investigation?

☐ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards)

Volume of liquid waste (barrels)

☐ Is further site investigation required?

## **REMEDIAL ACTION PLAN**

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No

## **SOURCE REMOVAL SUMMARY**

Describe how source is to be removed.

Drill cuttings were placed in trucks to hauled to an approved waste facility that accepts E&P waste in compliance with Rule 905.b.(1),(3).

## **REMEDIATION SUMMARY**

Describe how remediation of existing impacts to soil and groundwater is to be accomplished (i.e. summarize remedial action plan). Provide a brief narrative description including: technical justification, schedule for implementation, estimated time to attain NFA status, plus plans and specifications for the selected remedial action technology.

Confirmation soil samples will be taken as described in Rule 915.e.(2). to assess the impact or confirm Remediation. Samples from comparable, nearby non-impacted native soil will be collected and analyzed for purposes of establishing background soil conditions including pH, EC, SAR, and other constituents as identified in the E&P Waste profile. If the samples results exceed Table 915-1, remediation in situ will be evaluated. Native soils in the area have high SAR values in excess of Table 915-1; the SAR of the drill cuttings sample also exceeded Table 915.1. As detailed in the Colorado State University Extension Fact Sheet - Managing Sodic Soil 0.504, a calcium based soil amendment such as gypsum may be added to remediate the high SAR value of the soil and bring the soil into Table 915-1 compliance. The gypsum application rate and time to implement NFA status are dependent upon the soil sample results of the affected areas. If in situ remediation is not possible or feasible, the contaminated soil will be removed and hauled to a waste facility that accepts E&P waste in accordance with ECOM Rule 905.b.(1),(3), and Rule 905.g (2)a. Any excavated areas will be filled with soil that closely matches the VT – Villedry-Travessilla complex at the location.

## Soil Remediation Summary

☐ In Situ

☒ Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

Yes \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 48

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Excavate and onsite remediation

\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ Land Treatment

\_\_\_\_\_ Bioremediation (or enhanced bioremediation)

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ Other \_\_\_\_\_

## Groundwater Remediation Summary

No \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

No \_\_\_\_\_ Chemical oxidation

No \_\_\_\_\_ Air sparge / Soil vapor extraction

No \_\_\_\_\_ Natural Attenuation

No \_\_\_\_\_ Other \_\_\_\_\_

## GROUNDWATER MONITORING

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

No impact to groundwater.

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

#### Approved Reporting Schedule:

☒ Quarterly☐ Semi-Annually☐ Annually☐ Other

#### ☐ Request Alternative Reporting Schedule:

☐ Semi-Annually☐ Annually☐ Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

#### Report Type:

☐ Groundwater Monitoring☐ Land Treatment Progress Report☐ O&M Report☒ Other Drill Cuttings

### Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Doc. No. 403614956

Operator anticipates the remaining cost for this project to be: \$ 5000

### WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Volume of E&P Waste (solid) in cubic yards

E&P waste (solid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

E&P waste (liquid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

## REMEDIATION COMPLETION REPORT

### REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

If YES:

☐ Compliant with Rule 913.h.(1).

☐ Compliant with Rule 913.h.(2).

☐ Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards?

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards?

Is additional groundwater monitoring to be conducted? \_\_\_\_\_

Operator shall comply with the ECMC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

## RECLAMATION PLAN

### RECLAMATION PLANNING

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing.

An approximately 0.02-acre production pad will not be reclaimed and will support well operation, the off-location helium gas line, and maintenance activities. To decompact soil layers, areas to be reclaimed will be ripped to an estimated depth of 18 inches unless restrictive features are encountered at a shallower depth. The Oil and Gas Location is relatively flat; there was no cut or fill needed to support well drilling. Minimal topsoil was disturbed. Additional topsoil will be brought in if required to facilitate reclamation. The reclaimed area will be blended with the surrounding surface to restore the natural grade and hydrology patterns. Staked stormwater wattles were placed to protect the area from stormwater runoff and runoff. The area will be tilled to reestablish a seedbed. The anticipated seed mix was identified as a sitespecific seed mix in coordination with the Natural Resource Conservation Service District Conservationist, the Las Animas County Extension Service, and the surface owner. The seed weight (pounds/acre) and application rate will be provided to Desert Eagle Operating by the seed mix provider. The seed mix will be certified weed-free. Interim reclamation will be performed during the first growing season after well drilling is complete. Desert Eagle Operating will monitor noxious and invasive weeds at the location. Weed treatment will be conducted, where needed, to prevent establishment and spread of noxious weeds. The weed treatment will be conducted according to Colorado Department of Agriculture recommendations by weed species.

Is the described reclamation complete? No

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

☐ Interim

☐ Final

Did the Surface Owner provide the seed mix? No

If YES, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

Did the local soil conservation district provide the seed mix? No

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 02/01/2024

Proposed date of completion of Reclamation. 12/30/2024

## IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. \_\_\_\_\_

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). \_\_\_\_\_

Proposed site investigation commencement. 10/01/2024

Proposed completion of site investigation. 12/30/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 11/01/2024

Proposed date of completion of Remediation. 12/30/2024

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

☒ Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

This request to change the implementation schedule is to accommodate scheduling of the drone for mapping, soil testing personnel to secure soil samples, lab time to analyze soil samples, and time to analyze and develop the most appropriate remediation plan if required. Personnel scheduling conflicts, erratic weather conditions including high winds, and drone connectivity issues have impeded the mapping and soil sampling planning and execution.

OPERATOR COMMENT

Operator requests a change in the Implementation Schedule. This request is to accommodate scheduling of the drone for sample mapping, scheduling soil testing personnel to secure soil samples, lab time to analyze soil samples, and sufficient time confirm the most appropriate remediation plan. This Form 27S is for Spill ID 485691.

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: Cathy Bulf Title: Manager

Submit Date: Email: cathybulf@gmail.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: Date:

Remediation Project Number: 33149

COA Type	Description
0 COA	

ATTACHMENT LIST

Upon approval, the approved Form 27 and all listed attachments will be indexed to the Remediation Project file. Only the approved Form 27 will also be indexed to the related Facilities.

Att Doc Num	Name

Total Attach: 0 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)