

State of Colorado  
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203

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Document Number:

403980235

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: MULL DRILLING COMPANY INC	Operator No: 61250	Phone Numbers
Address: 1700 N WATERFRONT PKWY B#1200		Phone: (316) 264-6366
City: WICHITA	State: KS	Zip: 67206-6637
Contact Person: Risa OBryhim	Email: risa@mullcompanies.com	Mobile: ( )

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 27401 Initial Form 27 Document #: 403295381

## 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: \_\_\_\_\_

## SITE INFORMATION

Yes Multiple Facilities

Facility Type: WELL	Facility ID: _____	API #: 017-07151	County Name: CHEYENNE
Facility Name: NORTHWEST ARAPAHOE UNIT 37	Latitude: 38.880570	Longitude: -102.143270	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNW	Sec: 32	Twp: 13S	Range: 42W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION	Facility ID: 321848	API #: _____	County Name: CHEYENNE
Facility Name: NORTHWEST ARAPAHOE UNIT-613S42W 32SWNW	Latitude: 38.880570	Longitude: -102.143270	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNW	Sec: 32	Twp: 13S	Range: 42W Meridian: 6 Sensitive Area? Yes

## **SITE CONDITIONS**

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Pasture Land

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

### **Other Potential Receptors within 1/4 mile**

Cattle

## 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
No	GROUNDWATER	NA	Not encountered
Yes	SOILS	~5x5'	Lab analysis

### INITIAL ACTION SUMMARY

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

Sampling was conducted on 4/1/2023, 10/26/2023, 2/29/2024, 4/10/2024, and 10/3/2024. All soil samples remain above Arsenic Table 915-1 concentration levels; background samples indicate that Arsenic Clean-Up Levels are 8.25mg/kg (1.25 x 6.6 mg/kg).

Flowline PID Field Screening was conducted on 4/10/2024 every 250' along the flowline. A soil sample was collected on 10/3/2024 at the flowline endpoint (FL 14 @ 1' and 4' bgs); analytical results are below Table 915-1 concentration levels and background local clean up levels.

Operator respectfully requests a No Further Action. A reclamation plan is attached to address the elevated pH level at SP5 (BG).

### 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 ):

#### 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 ):

#### Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

## SITE INVESTIGATION REPORT

### SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 15

Number of soil samples exceeding 915-1 1

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

Approximate areal extent (square feet) 1

-- Highest concentration of TPH (mg/kg) 109.1

-- Highest concentration of SAR 1.25

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 4

#### 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

NA Highest concentration of Benzene (µg/l)

NA Highest concentration of Toluene (µg/l)

NA Highest concentration of Ethylbenzene (µg/l)

NA Highest concentration of Xylene (µg/l)

NA Highest concentration of Methane (mg/l)

#### 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.

### OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

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

7 background samples were collected. Based on analytical results, background samples indicate that Arsenic Clean-Up Levels are 8.25mg/kg (1.25 x 6.6 mg/kg).

☐ 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.

No source removed.

#### REMEDIAL ACTION 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.

The site will be ripped 8"-12" deep and prepared for soil amendments. 1,000 lbs/acre of pelletized gypsum, 250 lbs/acre of elemental sulfur, 200 lbs/acre of Humic Acid, and 100 lbs/acre of mycorrhizal fungi. Fertilizer will be spread over location.

#### Soil Remediation Summary

☒ In Situ

☐ Ex Situ

Bioremediation ( or enhanced bioremediation )

Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards)

Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC Facility ID #

\_\_\_\_ Natural Attenuation

Yes

Other

Gypsum, Elemental Sulfur,  
Humic Acid, and Mycorrhizal  
Fungi

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

\_\_\_\_ 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.

NA

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

#### Approved Reporting Schedule:

☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Final Report

#### ☐ 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 Request for NFA

### 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.

Operator is in compliance with Rule 705 insurance requirements as well as Rule 702 Financial Assurance.

Operator anticipates the remaining cost for this project to be: \$ 0

### 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? Yes

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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

Does Groundwater meet Table 915-1 standards? Yes

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.

Reclamation shall occur as requested by surface owner and per ECMC 1000 Series Rules.

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? Yes

### **SITE RECLAMATION DATES**

Proposed date of commencement of Reclamation. 12/01/2024

Proposed date of completion of Reclamation. 03/01/2025

## 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). 01/19/2023

Proposed site investigation commencement. 11/01/2023

Proposed completion of site investigation. 10/03/2024

### **REMEDIAL ACTION DATES**

Proposed start date of Remediation. 01/19/2023

Proposed date of completion of Remediation. 11/04/2024

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:

**OPERATOR COMMENT**

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

Signed: Amber Barnett

Title: Compliance Specialist

Submit Date:

Email: abarnett@ardorenvironmental.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: 27401

**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**

403981163	SITE INVESTIGATION REPORT
403981166	RECLAMATION PLAN

Total Attach: 2 Files

**General Comments****User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)