

State of Colorado  
Energy & Carbon Management Commission

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Document Number:

404123522

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 ECOM 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: MURFIN DRILLING COMPANY INC	Operator No: 61650	<b>Phone Numbers</b>
Address: 250 N WATER ST STE 300		Phone: (316) 858-8664
City: WICHITA State: KS Zip: 67202		Mobile: ( )
Contact Person: Cristina Goodrich	Email: cgoodrich@murfininc.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 32761 Initial Form 27 Document #: 403571720

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 #: 017-06031	County Name: CHEYENNE
Facility Name: UPRR 1-1	Latitude: 38.689281	Longitude: -102.408843	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 1	Twp: 16S	Range: 45W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION	Facility ID: 321546	API #: _____	County Name: CHEYENNE
Facility Name: UPRR-616S45W 1SWSE	Latitude: 38.689281	Longitude: -102.408843	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 1	Twp: 16S	Range: 45W Meridian: 6 Sensitive Area? Yes

Facility Type: OFF-LOCATION FLOWLINE Facility ID: 461952 API #: \_\_\_\_\_ County Name: CHEYENNE  
Facility Name: LOWE-616S45W 12NENW Latitude: 38.682260 Longitude: -102.411330  
\*\* correct Lat/Long if needed: Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
QtrQtr: NENW Sec: 12 Twp: 16S Range: 45W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 486305 API #: \_\_\_\_\_ County Name: CHEYENNE  
Facility Name: UPRR 1-1 Wellhead Latitude: 38.689281 Longitude: -102.408843  
\*\* correct Lat/Long if needed: Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
QtrQtr: SWSE Sec: 1 Twp: 16S Range: 45W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 489416 API #: \_\_\_\_\_ County Name: CHEYENNE  
Facility Name: UPRR 1-1 Tank Historical Release Latitude: 38.689219 Longitude: -102.408029  
\*\* correct Lat/Long if needed: Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
QtrQtr: SWSE Sec: 1 Twp: 16S Range: 45W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 489520 API #: \_\_\_\_\_ County Name: CHEYENNE  
Facility Name: UPRR 1-1 Separator Release Latitude: 38.689226 Longitude: -102.408334  
\*\* correct Lat/Long if needed: Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
QtrQtr: SWSE Sec: 1 Twp: 16S Range: 45W Meridian: 6 Sensitive Area? Yes

### **SITE CONDITIONS**

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use pasture

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

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

The location is within Lesser Prairie Chicken Estimated Occupied Range.

# SITE INVESTIGATION PLAN

## **TYPE OF WASTE:**

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids             | _____                                  |
| <input checked="" type="checkbox"/> Oil            | <input type="checkbox"/> Tank Bottoms                |  |
| <input type="checkbox"/> Condensate                | <input type="checkbox"/> Pigging Waste               |  |
| <input type="checkbox"/> Drilling Fluids           | <input type="checkbox"/> Rig Wash                    |  |
| <input type="checkbox"/> Drill Cuttings            | <input type="checkbox"/> Spent Filters               |  |
|  | <input type="checkbox"/> Pit Bottoms                 |  |
|  | <input type="checkbox"/> Other (as described by EPA) | _____                                  |

## **DESCRIPTION OF IMPACT**

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	GROUNDWATER	NA	lab analysis if encountered
Yes	SOILS	TBD	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.

On 2/20/25, initial assessment of the decommissioned production facility occurred. Grab soil samples were collected from the dumpline and flowline risers of the former separator location and the footprints of the former tank locations and submitted to Origins Laboratory in Denver, Colorado for full ECMC Table 915-1 analysis. Laboratory analytical results confirm historical release soil impacts exist at the former separator and tank battery locations. See attached figures, tables, photos, closure checklist, and laboratory analytical reports for all work completed since previously approved SF27 document number 404088806 was submitted on 2/11/25.

## **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 ):

Excavation of impacted soil and grab confirmation soil sampling will occur at the former wellhead. Wellhead excavation confirmation soil samples will be submitted to Origins for TPH (C6-C36), EC, SAR and Arsenic analysis only per COA #1 on approved SF27 document number 403692116. Excavation of impacted soil will occur at former separator and tank battery locations. Sidewall and floor grab confirmation soil samples from the separator and tank battery excavations will be submitted to Origins. Murfin would like to request ECMC approval for a reduced analysis of TPH (C6-C36), Organic Compounds in Soils, EC, and SAR only for the separator excavation. Murfin would like to request ECMC approval for a reduced analysis of TPH (C6-C36), Organic Compounds in Soils, EC, pH, and SAR only for the tank battery excavation.

### **Proposed Groundwater Sampling**

Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

If groundwater is encountered, grab sample(s) will be collected and submitted to Origins for Table 915-1 Organic Compounds in Groundwater and Groundwater Inorganic Parameters analysis.

### **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 ):

The initial assessment for the offsite location to be abandoned in place is still needed per approved IF27 document number 403571720.

# SITE INVESTIGATION REPORT

## **SAMPLE SUMMARY**

**Soil**

Number of soil samples collected 7  
Number of soil samples exceeding 915-1 7  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 81

**NA / ND**

-- Highest concentration of TPH (mg/kg) 30700  
-- Highest concentration of SAR 42.4  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 7

**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 \_\_\_\_\_

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) \_\_\_\_\_

**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?

On 1/4/24, background grab soil samples BG02@3', BG-02@6', and BG-02@9' were collected from native material adjacent to the wellhead cut and cap excavation related to remediation project number 22996 and submitted to Origins for Table 915-1 Soil Suitability for Reclamation and Metals analysis. On 2/20/25, 8 additional background grab soil samples were collected from 0.5' and 4' bgs from 4 new locations in the native field outside of the location footprint in multiple directions and submitted to Origins for Table 915-1 Soil Suitability for Reclamation and Metals analysis.

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?

See Proposed Sampling Plan

**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.

Well has been P&A'd.

**REMEDATION 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.

Excavation for offsite disposal will occur.

**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  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_  
\_\_\_\_\_ Excavate and onsite remediation  
\_\_\_\_\_ Land Treatment  
\_\_\_\_\_ Bioremediation (or enhanced bioremediation)  
\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Other \_\_\_\_\_

**Groundwater Remediation Summary**

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ 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.

# 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 \_\_\_\_\_

## 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.

Murfin is adequately bonded as shown by submitted Form 3A Doc: 403418364 and has General Liability insurance.

Operator anticipates the remaining cost for this project to be: \$ 10000 \_\_\_\_\_

## 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.

Reclamation will be completed in accordance with ECMC 1000 Series Rules or as agreed upon with the Surface Owner.

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? \_\_\_\_\_

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

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

### **SITE RECLAMATION DATES**

Proposed date of commencement of Reclamation. \_\_\_\_\_

Proposed date of completion of Reclamation. \_\_\_\_\_

## 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. 03/20/2024

Actual Spill or Release date, or date of discovery. 03/19/2024

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 02/27/2024

Proposed site investigation commencement. 02/27/2024

Proposed completion of site investigation. 08/29/2025

### **REMEDIAL ACTION DATES**

Proposed start date of Remediation. 07/16/2025

Proposed date of completion of Remediation. 08/29/2025

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**

Forms 19 document numbers 403724970, 404102214, and 404121482 are related to this form.

Due to this location being within Lesser Prairie Chicken High Priority Habitat (active March 1 - July 15), planned excavation and assessment activities are currently on hold until after 7/15/25.

Murfin would like to request ECMC approval for a reduced analysis of TPH (C6-C36), Organic Compounds in Soils, EC, and SAR only for the separator excavation.

Murfin would like to request ECMC approval for a reduced analysis of TPH (C6-C36), Organic Compounds in Soils, EC, pH, and SAR only for the tank battery excavation.

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

Signed: David Castro

Title: Senior Project Scientist

Submit Date: \_\_\_\_\_

Email: dcastro@eagle-enviro.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: 32761

**COA Type****Description**

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**

404142022	SITE INVESTIGATION REPORT
404142024	ANALYTICAL RESULTS
404142025	MAP
404142026	ANALYTICAL RESULTS
404142027	SOIL SAMPLE LOCATION MAP
404142028	SITE INVESTIGATION REPORT
404142029	ANALYTICAL DATA SUMMARY TABLE(S)
404142030	ANALYTICAL DATA SUMMARY TABLE(S)
404142031	ANALYTICAL DATA SUMMARY TABLE(S)
404142032	PHOTO DOCUMENTATION

Total Attach: 10 Files

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

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)