

State of Colorado  
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
403964463

Receive Date:

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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: KERR MCGEE OIL & GAS ONSHORE LP	Operator No: 47120	<b>Phone Numbers</b>
Address: P O BOX 173779		Phone: (720) 929-4306
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Erik Mickelson		Mobile: ( )
		Email: DJRemediation_Forms@oxy.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 25138 Initial Form 27 Document #: 403166631

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 #: 123-17974	County Name: WELD
Facility Name: FREAUFF 33-4A	Latitude: 40.253040	Longitude: -104.892920	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSE	Sec: 4	Twp: 3N	Range: 67W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 487752	API #: _____	County Name: WELD
Facility Name: Freauff 33-4A Flowline	Latitude: 40.253040	Longitude: -104.892920	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSE	Sec: 4	Twp: 3N	Range: 67W Meridian: 6 Sensitive Area? Yes

## **SITE CONDITIONS**

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use crop land

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

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

Domestic water well: none

Surface water: approximately 665' SE

Wetlands: none

Spring: none

Livestock: none

Occupied Building: multiple occupied buildings within 1/4 mile

High Priority Habitats: within Mule Deer Migration Corridor, Mule Deer Severe Winter Range, Mule Deer Winter Concentration Area and Bald Eagle Roost Site; within 1/4 mile of the boundary of Bald Eagle Active Nest Site Half Mile buffer, Aquatic Native Species Conservation Waters

# 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 checked="" 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
No	GROUNDWATER	Groundwater not encountered	Groundwater samples/laboratory analytical results
No	SOILS	No impacted soil	inspection/soil samples/laboratory analytical results

## INITIAL ACTION SUMMARY

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

Flowline removal operations were completed at the Freauff 33-4A flowline on October 25, 2023, through August 8, 2024. The Freauff 33-4A wellhead was previously plugged and abandoned. Groundwater was not encountered in the flowline removal pothole excavation areas. Visual inspection and field screening of soils around the flowline potholes following flowline removal activities were conducted and soil samples (FL-B01@4', FL-B03@4', FL-B19@4', FL-B20@4') were submitted for laboratory analysis to determine if a release occurred. Laboratory analytical results indicated that the SAR concentration in soil sample FL-B19@4' and the lead and pH concentrations in soil sample FL-B20@4' exceeded the applicable ECOM Table 915-1 standards and site-specific background limits. As such, verification soil samples (FL-B19-01@4', FL-B20-01@4') were collected and submitted for laboratory analysis of SAR, pH, and/or lead only, as applicable. Analytical results indicated that the SAR concentration in soil sample FL-B19-01@4' was within ECOM Table 915-1 standards. Analytical results for FL-B20-01@4' confirmed that the lead concentration in FL-B20@4' exceeded Table 915-1 standards and background limits. As such, a Form 19-Initial/Supplemental Spill/Release Report (ECMC Document No. 403884769) was submitted on August 12, 2024, and the ECOM issued Spill/Release Point ID 487752. Soil sample location and field screening data are presented in Table 1. The soil sample and field screening locations are illustrated on Figure 2. The field notes and a photographic log are provided as Attachment A. The laboratory analytical reports are attached.

## 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 ):

On 10/25/23 - 8/8/24, soil samples were collected from the flowline (FL-B01@4', FL-B03@4', FL-B19@4', FL-B20@4'), and submitted for analysis to determine if a release occurred. The soil samples were submitted for analysis of BTEX, naph., TMBs, TPH, pH, EC, SAR, & boron, as approved in the Form 27-Initial (Doc No. 403166631) dated 9/16/22. Sample FL-B20@4' was submitted for analysis of the full Table 915-1 analytical suite. Final analytical results indicated that constituent concentrations in the soil samples were in compliance with the Table 915-1 standards and/or within background limits, with the exception to the pH concentration in soil sample FL-B20@4' (8.54), which exceeded Table 915-1 standard and background limit (8.48). Due to the absence of additional Table 915-1 exceedances or detections of organics, when compared to background, the elevated pH level is considered de minimis and not an indication of a release associated with E&P activities.

### Proposed Groundwater Sampling

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

Groundwater was not encountered during flowline removal activities.

### 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 ):

On October 25, 2023, through December 15, 2023, visual inspection and field screening of soils was conducted at 16 pothole locations during flowline removal activities. Based on the inspection and screening results, hydrocarbon-impacted soil was not observed at the screening locations, and no soil samples were submitted for laboratory analysis from these areas in accordance with the ECOM Operator Guidance.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 6  
Number of soil samples exceeding 915-1 5  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 0

### NA / ND

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_  
-- Highest concentration of SAR 12.4  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 0

### 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?

Background soil samples FL-BG01 - FL-BG08 were collected from non-impacted native material adjacent to the Freauff 33-4A wellhead, at depths ranging from approximately 3' - 5' bgs. Additional background samples collected at the Freauff 34-4 wellhead/flowline (located approximately 1,385' southwest) and the PSC 3-9-5Y wellhead/flowline (located approximately 2,450' southwest) collected from the same soil types (silty clay loam and sandy loam), depths, and from similar land use. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters in Soils and/or Table 915-1 metals using standard methods appropriate for detecting the target analytes in Table 915-1. Analytical results for the background soil samples are presented in Tables 3 and 5. The background soil sample locations are presented in Figures 2 through 7.

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.

Final analytical results indicated that constituent concentrations in the soil samples were in compliance with the Table 915-1 standards and/or within background limits, with the exception to the pH concentration in soil sample FL-B20@4' (8.54), which exceeded Table 915-1 standard and background limit (8.48). Due to the absence of additional Table 915-1 exceedances or detections of organics, when compared to background, the elevated pH level is considered de minimis and not an indication of a release associated with E&P activities. The excavation areas will be backfilled and contoured to match preexisting site conditions.

### REMEDICATION 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.

Final analytical results indicated that constituent concentrations in the soil samples were in compliance with the Table 915-1 standards and/or within background limits, with the exception to the pH concentration in soil sample FL-B20@4' (8.54), which exceeded Table 915-1 standard and background limit (8.48). Due to the absence of additional Table 915-1 exceedances or detections of organics, when compared to background, the elevated pH level is considered de minimis and not an indication of a release associated with E&P activities. Groundwater was not encountered. As such, Kerr-McGee is requesting a No Further Action (NFA) determination for this 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 ECOM Facility ID # \_\_\_\_\_

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

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

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

\_\_\_\_\_ 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 NFA Request

## 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.

KMOG has sufficient insurance and bonding to fully address the anticipated costs of Remediation, including the remaining estimated costs for this project. KMOG currently has over 40 million in bonds with the ECMC. The cost for remediation is a preliminary estimate only, costs may change upwards or downward based on site-specific information. KMOG makes no representation or guarantees as to the accuracy of the preliminary estimate.

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.

The site will be reclaimed in accordance with ECMC 1000 Series Reclamation Rules. Timeliness of reclamation initiation and completion will be subject to NFA, surface owner discretion and land use, and suitable ground conditions which allow for execution of surface reclamation activities so as to not cause unwarranted damages.

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? Yes

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

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

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 05/13/2025

Proposed date of completion of Reclamation. 05/13/2026

## 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. 09/16/2022

Actual Spill or Release date, or date of discovery. 08/09/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/25/2023

Proposed site investigation commencement. 10/25/2023

Proposed completion of site investigation. 11/15/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/09/2024

Proposed date of completion of Remediation. 11/15/2024

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**

In response to the COA on the previous Form 27-Supplemental (Document #403866691), the ECMC notification of status change to removal was initiated in the approved Site Investigation and Remediation Workplan (Form 27-Initial, Doc. 403166631, dated 09/16/2022). Flowline removal activities began on 10/25/23 - 12/15/23, (FL-B01-FL-B18) where a majority of the flowline was removed. The flowline is located within two separate active agricultural areas, and complete removal of the flowline was postponed due to harvest limitations. Removal of the remaining flowline resumed on 08/06/24 - 08/08/24.

This Form 27- Supplemental includes additional flowline background soil sample data collected on 11/25/24 and includes background data collected from the PSC 3-9-5Y wellhead/flowline located nearby.

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

Signed: Erik Mickelson

Title: Environmental Lead

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

Email: DJRemediation\_Forms@oxy.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: 25138

**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**

404202249	PHOTO DOCUMENTATION
404202268	LABORATORY ANALYTICAL REPORT
404229515	SITE MAP
404229516	SOIL SAMPLE LOCATION MAP
404229518	SOIL SAMPLE LOCATION MAP
404229521	LABORATORY ANALYTICAL REPORT
404229522	LABORATORY ANALYTICAL REPORT
404229524	LABORATORY ANALYTICAL REPORT
404229526	LABORATORY ANALYTICAL REPORT
404229530	LABORATORY ANALYTICAL REPORT
404229532	LABORATORY ANALYTICAL REPORT
404229533	LABORATORY ANALYTICAL REPORT
404229534	LABORATORY ANALYTICAL REPORT
404229537	LABORATORY ANALYTICAL REPORT
404229548	ANALYTICAL DATA SUMMARY TABLE(S)

Total Attach: 15 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)