

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
404404903  
Receive Date:  
11/04/2025

Report taken by:  
Grace Rollins

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	Email: Erik_Mickelson@oxy.com	Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 35182 Initial Form 27 Document #: 403700208

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 #: 123-24729	County Name: WELD
Facility Name: MILLER 11-31	Latitude: 40.093250	Longitude: -104.708910	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NESW	Sec: 31	Twp: 2N	Range: 65W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 487945	API #: _____	County Name: WELD
Facility Name: Miller 11-31 Wellhead	Latitude: 40.093250	Longitude: -104.708910	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NESW	Sec: 31	Twp: 2N	Range: 65W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Crop Land

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? Yes

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

Domestic water well: none  
Surface water: none  
Wetland: none  
Spring: none  
Livestock: none  
Occupied Building: none  
High Priority Habitats: none

## SITE INVESTIGATION PLAN

**DENIED**

**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	GROUNDWATER	TBD	Groundwater samples/laboratory analytical results
Yes	SOILS	14' (N-S) x 11' (E-W) x 10' bgs	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.

In accordance with the remediation workplan (Rem #38129, Doc #404019399) approved on 12/9/2024, reassessment activities were conducted in response to the submittal of analytical data that was altered by a third-party contractor without the knowledge and beyond the reasonable control of Kerr-McGee Onshore Oil & Gas LP (KMOG). The pH result in sample WH-B01@6' was altered by a third-party from 10.1 to 8.86. The electric conductivity (EC) result in sample 15-11-FL-B02@4' was altered by a third-party from 4.91 to 2.91 mmhos/cm. The lead (Pb) result in sample 15-11-FLB07@4' was altered by a third-party from 18.3 to 14.2 mg/kg. In response, two verification samples (WH-B01RS@6 & 15-11-FL-B02RS@4) and twelve background samples (BG01@4, BG01@5.75, BG02@4, BG02@4.75, BG03@4, BG03@5, BG04@4, BG04@6, BG01@3, BG02@3, BG03@3, & BG04@3) were collected on 12/17/2024 and 2/4/2025. The location in which 15-11-FL-B07@4' was collected was over-excavated and further sampling (15-11-FL-B15@6') confirmed the area was within Table 915-1 criteria for lead. The analytical result of the verification sample WH-B01RS@6 was a pH of 7.83. The analytical result of the verification sample 15-11-FL-B02RS@4 was an EC of 0.434 mmhos/cm.

The analytical data altered by a third-party without the knowledge of and beyond the reasonable control of KMOG can be found in Form 27 Doc# 403514829.

Per the general comments issued by the ECMC for denied Form 27 Document No. 404102117. Additional confirmation samples were collected at sample points WH-B01@6' & 15-11-FL-B02@4' & analyzed for full Table 915-1. Laboratory analytical results indicated that both confirmation soil samples were within the ECMC Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. The PID readings and laboratory analytical results are summarized in Tables 1 and 2. The soil sample locations are depicted on Figure 1.

**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 ):

Per the general comments issued by the ECMC for denied Form 27 Document No. 404102117. Additional confirmation samples were collected at sample points WH-B01@6' & 15-11-FL-B02@4' & analyzed for full Table 915-1. Laboratory analytical results indicated that both confirmation soil samples were within the ECMC Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. The PID readings and laboratory analytical results are summarized in Tables 1 and 2. The soil sample locations are depicted on Figure 1. The laboratory reports are attached.

**Proposed Groundwater Sampling**

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

Based on the compliant organic detections in groundwater, groundwater monitoring wells were installed in the vicinity of GW01 & 15-11-GW03 to verify that no dissolved-phase impacts are present. The groundwater analytical results are summarized on Tables 3A and 3B.

**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

Number of soil samples collected 37

Number of soil samples exceeding 915-1 17

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

Approximate areal extent (square feet) 260

### NA / ND

-- Highest concentration of TPH (mg/kg) 0.999

-- Highest concentration of SAR 12.3

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 6

### Groundwater

Number of groundwater samples collected 27

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 2

Number of groundwater monitoring wells installed 10

Number of groundwater samples exceeding 915-1 0

ND Highest concentration of Benzene (µg/l)         

ND Highest concentration of Toluene (µg/l)         

ND Highest concentration of Ethylbenzene (µg/l)         

-- Highest concentration of Xylene (µg/l) 2.87

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?

Background samples were collected during wellhead cut and cap and flowline removal activities as described in the Form 27 Document No. 403514829. On December 17, 2024 and February 4, 2025, twelve additional background soil samples were collected and were submitted for analysis of EC, pH, and/or lead.

Laboratory analytical results indicate that levels of SAR, arsenic, barium, lead, and selenium are naturally high in the native soil. The background sample analytical results are summarized in Table 2.

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?

Assessment activities are ongoing and will be summarized in a subsequent Form 27 Supplemental report.

## 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.

Please refer to the previous Form 27 Document No. 403514829.

### 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.

The analytical data altered by a third-party without the knowledge of and beyond the reasonable control of KMOG can be found in Form 27 Doc# 403514829.

Per the general comments issued by the ECMC for denied Form 27 Doc# 404102117, additional confirmation samples were collected at sample points WH-B01@6' & 15-11-FL-B02@4' & analyzed for full Table 915-1. Analytical results were within the ECMC Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals.

Due to the compliant organic detections in groundwater at GW01 & 15-11-GW03, groundwater monitoring wells were installed on August 13 and August 14, 2025, to verify that no dissolved-phase impacts are present. One soil sample was collected from each soil boring advanced outside of the excavation backfill material. The soil samples were submitted for analysis of full list Table 915-1 constituents. Results indicate that levels of EC, SAR, arsenic, barium, cadmium, hexavalent chromium, copper, lead, and selenium exceeding the ECMC Table 915-1 allowable levels and background levels are present at the SB02, SB03, SB06, SB07, SB08, SB09, and SB10 locations. Assessment activities are ongoing and will be summarized in a subsequent Form 27 Supplemental report. The soil boring and well construction logs are attached. The laboratory analytical results are summarized in Table 2 and the laboratory analytical reports are attached.

### Soil Remediation Summary

In Situ

Ex Situ

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

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

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

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 120

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

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

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

No \_\_\_\_\_ 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.

Quarterly monitoring of wells MW01 through MW10 commenced on August 22, 2025 for full list Table 915-1 constituents in groundwater. Up-/cross-gradient monitoring wells MW04 and MW06 were used to determine inorganic compliance at the GW01 and 15-11-GW03 areas, respectively. Based on the third and fourth quarter laboratory analytical results, groundwater has been in compliance with the Table 915-1 allowable levels or background levels for two consecutive quarters. The monitoring well locations are depicted on Figure 2. The groundwater elevation contour maps generated using the October 2025 gauging data are included as Figures 3A and 3B. The laboratory analytical results are summarized in Tables 3A and 3B and the laboratory analytical reports from the August and October 2025 monitoring events are attached.

Groundwater monitoring will continue on a quarterly basis until four consecutive quarters of compliant full list Table 915-1 results have been received at which point KMOG will request the discontinuation of groundwater monitoring at this location.

# 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.

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 Energy & Carbon Management Commission. 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: \$ 5000

## WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes

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

Approximately 81 barrels of non-impacted groundwater were removed from the wellhead cut and cap and flowline excavation areas and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 120

E&P waste (solid) description Impacted SOil

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-ECMC Disposal Facility: Buffalo Ridge Landfill - Keenesburg, Colorado

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_ 81

E&P waste (liquid) description Non-impacted groundwater

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_ 434766

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.

The site will be reclaimed in accordance with ECMC 1000 Series Reclamation Rules.

Is the described reclamation complete? \_\_\_\_\_

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. 01/25/2024

Actual Spill or Release date, or date of discovery. 09/06/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/30/2024

Proposed site investigation commencement. 07/30/2024

Proposed completion of site investigation. 04/24/2026

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/06/2024

Proposed date of completion of Remediation. 01/30/2027

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**

Per the condition of approval (COA) for Form 27 Document No. 404019399, the tables and figures previously submitted by third-party consultants annotating/highlighting the altered data were included in the previous Form 27 submitted on 6/25/2025 (Document No. 404242897), which is still pending ECMC review.

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: 11/04/2025

Email: Erik\_Mickelson@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: 35182

**COA Type****Description**

0 COA	
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**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**

404404903	FORM 27 DENIED
404405040	LOGS
404405051	PHOTO DOCUMENTATION
404405060	LABORATORY ANALYTICAL REPORT
404405063	LABORATORY ANALYTICAL REPORT
404405065	LABORATORY ANALYTICAL REPORT
404405071	LABORATORY ANALYTICAL REPORT
404405073	LABORATORY ANALYTICAL REPORT
404405076	LABORATORY ANALYTICAL REPORT
404405082	SOIL SAMPLE LOCATION MAP
404410447	ANALYTICAL DATA SUMMARY TABLE(S)
404410451	GROUND WATER ELEVATION MAP
404413869	SITE MAP
404413883	GROUND WATER ELEVATION MAP
404499950	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 15 Files

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

Environmental	<p>ECMC has denied this Form due to inaccurate reporting. Operator states: "The analytical data altered by a third-party without the knowledge of and beyond the reasonable control of KMOG can be found in Form 27 Doc# 403514829."</p> <p>Form 27 Doc# 403514829 was submitted under Remediation Project # 25182, which is located approximately 2.5 miles northwest of the facilities associated with the subject Remediation Project (# 35182). The information presented herein does not appear representative of information previously provided under this remediation project.</p>	01/08/2026
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Total: 1 comment(s)