

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:  
404368519  
Receive Date:  
10/22/2025  
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: <u>KERR MCGEE OIL &amp; GAS ONSHORE LP</u> | Operator No: <u>47120</u>                 | <b>Phone Numbers</b>         |
| Address: <u>P O BOX 173779</u>                               |   | Phone: <u>(720) 929-4307</u> |
| City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>  |   | Mobile: <u>( )</u>           |
| Contact Person: <u>Max Moran</u>                             | Email: <u>DJRemediation_Forms@oxy.com</u> |                              |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 39809 Initial Form 27 Document #: 404058867

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: Request Director's Approval to establish site-specific waste profile

SITE INFORMATION

Yes  Multiple Facilities

|  |                            |                               |   |
|--|----------------------------|-------------------------------|---|
| Facility Type: <u>WELL</u>                     | Facility ID: _____         | API #: <u>123-20344</u>       | County Name: <u>WELD</u>  |
| Facility Name: <u>WARDELL H 18-16JI</u>        | Latitude: <u>40.219464</u> | Longitude: <u>-104.698500</u> |   |
| ** correct Lat/Long if needed: Latitude: _____ |                            | Longitude: _____              |   |
| QtrQtr: <u>SESE</u>                            | Sec: <u>18</u>             | Twp: <u>3N</u>                | Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u> |

|  |                            |                               |   |
|--|----------------------------|-------------------------------|---|
| Facility Type: <u>SPILL OR RELEASE</u>           | Facility ID: <u>490695</u> | API #: _____                  | County Name: <u>WELD</u>  |
| Facility Name: <u>Wardell H 18-16JI Wellhead</u> | Latitude: <u>40.219471</u> | Longitude: <u>-104.698520</u> |   |
| ** correct Lat/Long if needed: Latitude: _____   |                            | Longitude: _____              |   |
| QtrQtr: <u>SESE</u>                              | Sec: <u>18</u>             | Twp: <u>3N</u>                | Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u> |

|   |                            |                               |   |
|---|----------------------------|-------------------------------|---|
| Facility Type: <u>SPILL OR RELEASE</u>                          | Facility ID: <u>491242</u> | API #: _____                  | County Name: <u>WELD</u>  |
| Facility Name: <u>Wardell H 18-16JI Flowline</u>                | Latitude: <u>40.220639</u> | Longitude: <u>-104.699246</u> |   |
| ** correct Lat/Long if needed: Latitude: _____ Longitude: _____ |                            |                               |   |
| QtrQtr: <u>SESE</u>   | Sec: <u>18</u>             | Twp: <u>3N</u>                | Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u> |

**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? 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 180' E  
 Wetland: none  
 Spring: none  
 Livestock: none  
 Occupied Building: none  
 High Priority Habitats: 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 | GROUNDWATER    | TBD              | Groundwater samples/laboratory analytical results     |
| Yes          | SOILS          | TBD              | 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.

Wellhead cut and cap operations and flowline removal activities were completed at the Wardell H 18-16JI wellhead on May 15, 2025 through July 31, 2025. Groundwater was not encountered in the wellhead cut and cap excavation area or flowline removal pothole excavation areas. Visual inspection and field screening of soils around the well, associated pumping equipment, and flowline removal potholes was conducted following wellhead cut and cap operations and flowline removal activities, and soil samples (WH-B01@6', WH-RIS@4', SEP-RIS@4', FL-B06@4' and FL-B07@4') were submitted for laboratory analysis of Table 915-1 Contaminants of Concern to determine if a release occurred. Laboratory analytical results indicated that the pH concentration in soil sample WH-B01@6', and the benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, naphthalene, and/or pyrene concentrations in WH-RIS@4', FL-B06@4', and FL-B07@4' exceeded the applicable ECMC Table 915-1 standards and/or background limits. As such, Form 19 Initial/Supplemental Spill/Release Reports (ECMC Documents #404229204, and #404320596) were submitted on June 6, 2025 and August 19, 2025, and the ECMC issued Spill/Release Point IDs 490695 and 491242. Verification soil samples were collected on 5/15/25 at the same time as initial sampling to confirm concentrations. However, based on ECMC updates, this is no longer an acceptable practice, and as such, this data has been omitted from this report. Soil sample location and field screening data are presented in Table 1. Soil analytical results are presented in Tables 2 through 5. The secured laboratory analytical report is attached. The field notes and a photographic log 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 5/15/25 - 7/31/25, soil samples were collected from the base of the cut and cap excavation area (WH-B01@6'), from the locations where the flowline risers were disconnected at the wellhead and separator (WH-RIS@4', SEP-RIS@4'), and from the area where the flowline crossed a wetland (FL-B06@4', FL-B07@4'). The soil samples were submitted for analysis of the full ECMC Table 915-1 analytical suite. Laboratory analytical results indicated that the pH concentration in soil sample WH-B01@6', and the benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, naphthalene, and/or pyrene concentrations in WH-RIS@4', FL-B06@4', and FL-B07@4' exceeded the applicable ECMC Table 915-1 standards and/or background limits. Additional assessment and/or excavation activities are ongoing to address the remaining soil impacts.

**Proposed Groundwater Sampling**

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

Groundwater was not encountered during initial wellhead cut and cap operations or flowline removal activities. If groundwater is encountered during remaining assessment activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted to an accredited laboratory for all analytes listed in ECMC Table 915-1 Organic Compounds in Groundwater and Groundwater Inorganic Parameters using standard methods appropriate for detecting the target analytes in ECMC Table 915-1.

**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 5/15/25-7/31/25, visual inspection and field screening of soils was conducted at 4 sidewall locations within the cut and cap excavation area, 4 locations at the ground surface adjacent to the excavation, and 9 flowline removal potholes. 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 ECMC Operator Guidance. On May 29, 2025, a soil gas survey was conducted at three soil vapor points (SVP-01 - SVP-03) installed adjacent to the former wellhead location following cut and cap operations. Two SVP points were inaccessible and unable to be screened. GEM 5000 field readings were non-detect for methane at all three soil vapor points. SVP screening results are presented in Table 6.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 4

Number of soil samples exceeding 915-1 4

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

Approximate areal extent (square feet) 450

### NA / ND

-- Highest concentration of TPH (mg/kg) 55.9

-- Highest concentration of SAR 2.79

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 6

### 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 WH-BG01 - WH-BG05 were collected from non-impacted native material adjacent to the wellhead cut and cap excavation at depths ranging from approximately 3'-6' bgs. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters in Soils and 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.

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?

Additional assessment and/or excavation activities are ongoing to address the remaining soil impacts and will be summarized in a forthcoming quarterly Form 27-Supplemental.

## 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.

Additional assessment and/or excavation activities are ongoing to address the remaining soil impacts and will be summarized in a forthcoming quarterly Form 27-Supplemental. If required, soil will be removed and transported to a licensed disposal facility.

### 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.

Additional assessment and/or excavation activities are ongoing to address the remaining soil impacts and will be summarized in a forthcoming quarterly Form 27-Supplemental. Based on waste characterization results from the wellhead, KMOG proposes to analyze future confirmation soil samples at the wellhead for pH, boron, PAHs, arsenic, and barium. Based on waste characterization results from the flowline, KMOG proposes to analyze future confirmation soil samples along the flowline for TPH, PAHs, arsenic, and barium.

### **Soil Remediation Summary**

**In Situ**

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

**Ex Situ**

- \_\_\_\_\_ Excavate and offsite disposal
- \_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_
- \_\_\_\_\_ 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.

# REMEDATION 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 and 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: \$ 11000 \_\_\_\_\_

## WASTE DISPOSAL INFORMATION

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

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: \_\_\_\_\_

# REMEDATION COMPLETION REPORT

## REMEDATION 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. 12/18/2024

Actual Spill or Release date, or date of discovery. 06/03/2025

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/15/2025

Proposed site investigation commencement. 05/15/2025

Proposed completion of site investigation. 03/31/2026

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/03/2025

Proposed date of completion of Remediation. 03/31/2026

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**

Based on waste characterization results, KMOG proposes an amended sampling and analysis plan to include only detected organic constituents, detected metal constituents (including boron), and soil suitability parameters exceeding Table 915-1. Based on waste characterization results from the wellhead, KMOG proposes to analyze future confirmation soil samples at the wellhead for pH, boron, PAHs, arsenic, and barium. Based on waste characterization results from the flowline, KMOG proposes to analyze future confirmation soil samples along the flowline for TPH, PAHs, arsenic, and barium.

The previous Form 27-Supplemental report (Doc.#404256190, submitted 7/18/25) is still in process with the ECMC.

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

Signed: Max Moran

Title: Environmental Advisor

Submit Date: 10/22/2025

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: Grace Rollins

Date: 11/17/2025

Remediation Project Number: 39809

**COA Type****Description**

|        |  |
|--------|--|
|        | <p>ECMC does not approve the proposed reduced analyte list. Additional investigation is required to develop a waste characterization profile.</p> <p>Operator shall analyze soil samples for complete Table 915-1 Contaminants of Concern until Operator has submitted sufficient characterization data to request and receive Director Approval of reduced list of contaminants of concern.</p> |
|        | <p>The horizontal and vertical extent of impacts to soil above Table 915-1 Protection of Groundwater Soil Screening Level Concentrations have not been delineated to date. Background samples near the historic release(s) cannot be approved until impacts are fully characterized and delineated.</p>  |
| 2 COAs |  |

**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**

|           |  |
|-----------|--|
| 404368519 | INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL) |
| 404368554 | PHOTO DOCUMENTATION                              |
| 404368645 | LABORATORY ANALYTICAL REPORT                     |
| 404383696 | SOIL SAMPLE LOCATION MAP                         |
| 404383699 | ANALYTICAL DATA SUMMARY TABLE(S)                 |
| 404439484 | FORM 27-SUPPLEMENTAL-SUBMITTED                   |

Total Attach: 6 Files

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

|  |  |                     |
|--|--|---------------------|
|  |  | Stamp Upon Approval |
|--|--|---------------------|

Total: 0 comment(s)