

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
404513270

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) 929-4307
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Max Moran	Email: DJRemediation_Forms@oxy.com	Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 33813 Initial Form 27 Document #: 403662619

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 to Discontinue Groundwater Monitoring

SITE INFORMATION

Yes Multiple Facilities

Facility Type: WELL Facility ID: API #: 123-16601 County Name: WELD

Facility Name: HSR-BURMESTER 7-34 Latitude: 40.269744 Longitude: -104.760425

\*\* correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SWNE Sec: 34 Twp: 4N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 486769 API #: County Name: WELD

Facility Name: Burmester 7-34 Wellhead Latitude: 40.269744 Longitude: -104.760425

\*\* correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SWNE Sec: 34 Twp: 4N Range: 66W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Surface Water

Is domestic water well within 1/4 mile? Yes

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

Wetlands 170 feet (ft) southwest. Retention pond 450 ft south. Pond 1,030 ft northeast. Water well 250 ft southwest. Agriculture. Groundwater at approximately 6 ft below ground surface (bgs).

## 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	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 & cap operations were completed at the Burmester 7-34 wellhead on May 14, 2024. Groundwater was encountered in the cut & cap excavation. Visual inspection & field screening of soil around the wellhead & associated pumping equipment were conducted. Soil samples (B01@6' and W01@3') were submitted for analysis of full list ECOM Table 915-1 constituents to determine if a release occurred. Initial results indicated that total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH), cadmium, and/or lead impacts exceeding the Table 915-1 allowable levels & background levels were present at the W01 and B01 locations. As such, a Form 19 Spill Report (Document No. 403792543) was submitted on May 17, 2024 & the ECOM issued Spill ID 486769. The flowline associated with the wellhead was removed between May 14 and August 29, 2025. Samples were collected from where the flowline riser was disconnected from the wellhead (WH01-RISER@3') and from the separator [SEP-RISER(2,7,21,27-34)@4'] & from where the flowline changed directions [FL03(7-34)@4']. The samples were submitted for analysis of full list Table 915-1 constituents. Results indicated that pH impacts exceeding the Table 915-1 allowable level and background level were present at the WH01-RISER location.

Samples will be collected & submitted for full list Table 915-1 where the flowline changed directions from west to north. Assessment activities are ongoing and details will be provided in a subsequent Form 27 supplemental report.

### 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 ):

Between May 14 and October 16, 2024, excavation activities were conducted to address remaining soil impacts at the wellhead excavation and eight confirmation soil samples were collected from the base and sidewalls of the final excavation extents at 7 ft bgs and 4 ft bgs, respectively. The confirmation samples were submitted for analysis of the site-specific waste profile including TPH, PAHs, pH, boron, and select Table 915-1 metals using ECOM-approved methods. Analytical results indicated that all samples at the final excavation extents were within the ECOM Table 915-1 allowable levels or within background levels x1.25 for Table 915-1 metals.

#### Proposed Groundwater Sampling

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

On 5/14/2024, one groundwater sample (GW01) was collected from the wellhead excavation at a depth of 6 ft bgs. The groundwater sample was submitted for analysis of full list Table 915-1 constituents in groundwater, due to the presence of impacted soil in contact with groundwater. Groundwater concentrations were in compliance with Table 915-1 allowable levels for all organic analytes. Due to the presence of impacted soil in contact with groundwater and compliant organic detections, groundwater monitoring wells were installed to verify no dissolved-phase impacts are present. The groundwater sample is depicted on Figure 1 and results are summarized in Table 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 ):

Between May 14 and October 29, 2024, visual inspection and field screening of soil were conducted at three sidewall locations within the cut and cap excavation area, four locations at the ground surface adjacent to the excavation, and 21 flowline 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 ECOM Operator Guidance.

On May 24, 2024, a soil gas survey was conducted at five soil vapor points installed adjacent to the former wellhead location following cut and cap operations. GEM 5000 field readings were all non-detect for methane at all soil vapor points.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

Soil	NA / ND
Number of soil samples collected <u>26</u>	-- Highest concentration of TPH (mg/kg) <u>1235</u>
Number of soil samples exceeding 915-1 <u>19</u>	-- Highest concentration of SAR <u>4.03</u>
Was the areal and vertical extent of soil contamination delineated? <u>No</u>	BTEX > 915-1 <u>No</u>
Approximate areal extent (square feet) <u>899</u>	Vertical Extent > 915-1 (in feet) <u>7</u>
<b>Groundwater</b>	
Number of groundwater samples collected <u>21</u>	ND Highest concentration of Benzene (µg/l) <u>          </u>
Was extent of groundwater contaminated delineated? <u>Yes</u>	-- Highest concentration of Toluene (µg/l) <u>4.57</u>
Depth to groundwater (below ground surface, in feet) <u>4</u>	-- Highest concentration of Ethylbenzene (µg/l) <u>1.12</u>
Number of groundwater monitoring wells installed <u>5</u>	-- Highest concentration of Xylene (µg/l) <u>10.6</u>
Number of groundwater samples exceeding 915-1 <u>1</u>	NA Highest concentration of Methane (mg/l) <u>          </u>
<b>Surface Water</b>	
<u>0</u> Number of surface water samples collected	
<u>          </u> 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?

Ten background samples were collected outside of the wellhead excavation. 36 background samples were collected as part of the Carrico 3-34, Pierson 18-34, and HSR-Cole 6-34 decommissioning activities (Rem #s 33811, 33331, & 33815), located approximately 2,200 ft northwest, 1,500 ft northwest, and 1,500 ft, west from similar depths (3' to 8' bgs), & NCRS soil type (Sandy Loam/Loamy Sand), and the same contiguous land use. The background soil samples were submitted for analysis of electrical conductivity (EC), sodium adsorption ratio (SAR), pH, boron, & Table 915-1 metals, using ECOM-approved methods. Results indicate that SAR, pH, arsenic, barium, cadmium, hexavalent chromium, lead, and selenium are naturally high in the native soil.

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?

Samples will be collected and submitted for full list Table 915-1 where the flowline changed directions from west to north. Assessment activities are ongoing and details will be provided in a subsequent Form 27 supplemental report.

Due to the presence of benzo(a)anthracene above the Table 915-1 allowable level at soil boring location SB02 and the presence of benzo(a)anthracene in previous excavation confirmation samples where other organic constituents were not detected, additional background samples will be collected to determine whether benzo(a)anthracene is present due to field burning activities associated with agriculture. The results 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.

Impacted soil from the wellhead cut and cap excavation will be removed and transported to a licensed disposal facility. Final disposal information will be provided upon completion of excavation activities. Disposal records will be kept on file and available upon request. The wellhead cut and cap excavation area will be backfilled and contoured to match pre-existing 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.

Laboratory data indicate that TPH and PAH impacts in the wellhead cut and cap excavation have been remediated and all soil at the final excavation extents is within the ECMC Table 915-1 allowable levels or within background levels x1.25 for Table 915-1 metals. Groundwater was encountered in the wellhead excavation at approximately 6 ft bgs. Analytical results indicate that groundwater was in compliance with Table 915-1 allowable levels for organic constituents.

Due to the presence of impacted soil in contact with groundwater and the compliant organic detections, groundwater monitoring wells were installed on January 28, 2025, to verify no dissolved-phase impacts are present. One soil sample was collected from each soil boring location advanced outside of the excavation backfill material (SB02 through SB05) and the samples were submitted for analysis of full list Table 915-1 constituents. Laboratory analytical results indicate that benzo(a)anthracene and copper exceeding the Table 915-1 allowable level or background level are present at the SB02 location. Additional background samples will be collected to determine whether benzo(a)anthracene is present due to field burning activities associated with agriculture. The results will be summarized in a subsequent Form 27 Supplemental report.

Samples will be collected and submitted for full list Table 915-1 where the flowline changed directions from west to north. Assessment activities are ongoing and details will be provided in a subsequent Form 27 supplemental report.

### 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

\_\_\_\_\_ 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.

Groundwater monitoring of wells MW01 through MW05 was conducted on a quarterly basis for full list Table 915-1 constituents in groundwater. Upgradient and compliant monitoring well MW05 was used for determining inorganic compliance at the site. Laboratory analytical results indicate that groundwater is in compliance with the Table 915-1 allowable levels or background levels.

Groundwater has been in compliance with Table 915-1 allowable levels or background levels for four consecutive quarters and no organic detections above the laboratory reporting limits have been present in any samples collected from the monitoring wells. As no impacts to groundwater associated with E&P activities are present at the site, KMOG is requesting to discontinue groundwater monitoring at this location. The monitoring well locations are depicted on Figure 1. The groundwater elevation contour maps generated using the February, May, August, and November 2025 gauging data are provided as Figures 2A through 2D. The groundwater analytical results are summarized in Table 1 and the laboratory analytical reports from the February, May, August, and November 2025 monitoring events are attached.

## 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: \$ 14500 \_\_\_\_\_

### 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? No

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

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.

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. 05/16/2024

Actual Spill or Release date, or date of discovery. 05/15/2024

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 05/14/2024

Proposed site investigation commencement. 05/14/2024

Proposed completion of site investigation. 07/21/2026

### **REMEDIAL ACTION DATES**

Proposed start date of Remediation. 05/14/2024

Proposed date of completion of Remediation. 07/21/2026

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**

Groundwater has been in compliance with Table 915-1 allowable levels or background levels for four consecutive quarters and no organic detections above the laboratory reporting limits have been present in any samples collected from the monitoring wells. As no impacts to groundwater associated with E&P activities are present at the site, KMOG is requesting to discontinue groundwater monitoring at this location.

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:

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: 33813

**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**

404513272	LABORATORY ANALYTICAL REPORT
404513273	LABORATORY ANALYTICAL REPORT
404513274	LABORATORY ANALYTICAL REPORT
404513275	ANALYTICAL DATA SUMMARY TABLE(S)
404513277	SITE MAP
404513724	LABORATORY ANALYTICAL REPORT
404513754	GROUND WATER ELEVATION MAP

Total Attach: 7 Files

**General Comments**

**User Group**

**Comment**

**Comment Date**

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)