

**State of Colorado**  
**Energy & Carbon Management Commission**

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Document Number:  
404624007

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 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 #: 32821 Initial Form 27 Document #: 403582644

**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 #: 123-19183 County Name: WELD

Facility Name: HSR-COGBURN 6-29 Latitude: 40.198350 Longitude: -104.915780

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

QtrQtr: SENW Sec: 29 Twp: 3N Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL Facility ID: \_\_\_\_\_ API #: 123-19298 County Name: WELD

Facility Name: HSR-COGBURN 4-29 Latitude: 40.198421 Longitude: -104.915585

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

QtrQtr: NWNW Sec: 29 Twp: 3N Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 488569 API #: \_\_\_\_\_ County Name: WELD

Facility Name: Cogburn 4-29 Wellhead Latitude: 40.198430 Longitude: -104.915586

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

QtrQtr: NWNW Sec: 29 Twp: 3N Range: 67W 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**

St. Vrain River 100 feet (ft) northwest/north and irrigation ditch 1,170 ft east/southeast. Water well 1,020 ft southeast. Livestock 1,050 ft northwest. The site is located within a Mule Deer Migration Corridor, Mule Deer Severe Winter Range, Aquatic Native Species Conservation Waters, and Bald Eagle 1/2 Mile Nest Buffer High Priority Habitat (HPH) areas. Groundwater at approximately 8 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 and cap operations were completed at the Cogburn 4-29 and 6-29 wellheads on September 24, 2024 and November 12, 2025. Groundwater was encountered in the wellhead cut and cap excavations at 6 and 8 ft bgs. Visual inspection and field screening of soil around the wellheads and associated pumping equipment were conducted following cut and cap operations, and soil samples [B01(4-29)@6' and B01(6-29)@6'] were submitted for analysis of full list ECMC Table 915-1 constituents, to determine if a release occurred. The flowlines associated with the wellheads were removed between September 24, 2024 and December 2, 2025, and soil samples were collected from the locations where the flowline risers were disconnected from the wellheads [WH01-RISER(4-29)@3' and WH-RISER(6-29)@3'], where the flowlines changed directions [FL01(4,5&6-29)@4' and FL04(4,5&6-29)@4'], and where the flowlines crossed a ditch [FL02(4,5&6-29)@4' and FL03(4,5&6-29)@4']. The samples were submitted for laboratory analysis of full list Table 915-1 constituents to determine if a release occurred. Laboratory analytical results indicated that pH exceeding the ECMC Table 915-1 allowable level and background level was present at the B01(4-29) location. As such, a Form 19 Initial/Supplemental Spill/Release report (Document No. 403972086) was submitted on October 31, 2024, and the ECMC issued Spill/Release Point ID 488569.

**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 September 24 and November 6, 2024, excavation activities were conducted to address the remaining soil impacts at the former 4-29 wellhead and five confirmation soil samples were collected from the base and sidewalls of the excavation at approximately 8 and 4 ft bgs, respectively. The samples were submitted for analysis of the site-specific waste profile including pH, boron, and select Table 915-1 metals, using ECMC-approved methods. Laboratory results indicated that soil at the final excavation extents is within the ECMC Table 915-1 allowable levels or background levels. Per the condition of approval (COA) issued by the ECMC to Document No. 404185038, additional sample volume will be collected at the 4-29 excavation and analyzed for the constituents not previously analyzed in the initial waste profile to achieve analysis of full list Table 915-1 constituents.

**Proposed Groundwater Sampling**

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

Groundwater was encountered in the cut & cap excavations & flowline potholes at 4 to 8 ft bgs. Four groundwater samples were submitted for full list Table 915-1 constituents in groundwater. One background groundwater sample was submitted for Table 915-1 inorganic constituents in groundwater. Concentrations exceeded the Table 915-1 allowable levels for total dissolved solids (TDS) & sulfate at 4-29, 6-29, FL01, & FL03. Based on groundwater in contact with impacted soil, monitoring wells will be installed at 4-29 to verify that no dissolved-phase impacts are present. The wells will be sampled for full list Table 915-1 constituents in groundwater. Soil was compliant at 6-29, FL01, & FL03 & no organic detections were above the lab reporting limits in soil or groundwater. Therefore, the inorganic concentrations are not considered indicative of a spill associated with E&P 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 December 1, 2025 and December 2, 2025, visual inspection and field screening of soil were conducted at eight sidewall locations within the cut and cap excavation areas, eight locations at the ground surface adjacent to the cut and cap excavations, and eleven 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 ECMC Operator Guidance.

On October 2, 2024, and December 3, 2025, soil gas surveys were conducted at six soil vapor points (SVPs) installed adjacent to the former wellheads following cut and cap activities. Four additional points were blocked or destroyed and could not be screened. GEM 5000 readings were non-detect for methane at the remaining SVPs.

## **SITE INVESTIGATION REPORT**

### **SAMPLE SUMMARY**

#### **Soil**

Number of soil samples collected 13

Number of soil samples exceeding 915-1 12

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

Approximate areal extent (square feet) 345

#### **NA / ND**

ND Highest concentration of TPH (mg/kg)           

-- Highest concentration of SAR 7.58

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 8

#### **Groundwater**

Number of groundwater samples collected 4

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 4

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 4

ND Highest concentration of Benzene (µg/l)           

ND Highest concentration of Toluene (µg/l)           

ND Highest concentration of Ethylbenzene (µg/l)           

ND Highest concentration of Xylene (µg/l)           

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?

Nineteen background soil samples were collected from native material adjacent to the wellhead cut & cap excavations. Nineteen background samples were also collected as part of the Cogburn 7-29 cut & cap & the Varra 8-29A, Warren P facility decommissioning activities (Rem Nos. 23506 & 42959), located 1100 ft & 1400 ft east, from similar depths (2' to 6' bgs), the same land use, & NRCS soil type (sand). Background soil samples were submitted for analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, & Table 915-1 metals. Results indicate that EC, SAR, pH, boron, arsenic, barium, cadmium, hexavalent chromium, lead, nickel, & selenium are naturally high in the native soil.

One background groundwater sample was collected for analysis of Table 915-1 inorganic constituents in groundwater.

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?

Separator riser sample collection is on hold. Additional assessment activities are on hold until after August 1, 2026, due to this location being located within a High Priority Bald Eagle Active Nest Site 1/2 Mile HPH Buffer. Future activities will be summarized in a subsequent Form 27 Supplemental report.

Based on groundwater in contact with impacted soil, groundwater monitoring wells will be installed at the 4-29 location to verify that no dissolved-phase impacts are present. Following installation, the wells will be sampled for full list Table 915-1 constituents in groundwater. The monitoring well installation scope of work will be submitted in a subsequent Form 27 Supplemental report following completion of soil assessment activities.

## 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 4-29 cut and cap excavation will be removed and transported to a licensed disposal facility. Disposal records will be kept on file and available upon request. The excavation areas will be backfilled and contoured to match pre-existing conditions.

### 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.

Laboratory results indicated that soil at the final 4-29 cut and cap excavation extents is within the ECMC Table 915-1 allowable levels or within background levels. Per the COA issued by the ECMC to Document No. 404185038, additional sample volume will be collected at the 4-29 excavation and analyzed for the constituents not previously analyzed in the initial waste profile to achieve analysis of full list Table 915-1 constituents.

Groundwater was encountered in the wellhead excavations and flowline potholes at depths ranging from 4 to 8 ft bgs. Analytical results indicate that groundwater concentrations exceeded the Table 915-1 allowable levels for TDS and sulfate at the 4-29, 6-29, FL01, and FL03 locations. Based on groundwater in contact with impacted soil, groundwater monitoring wells will be installed at the 4-29 location to verify that no dissolved-phase impacts are present. Following installation, the wells will be sampled for full list Table 915-1 constituents in groundwater. Soil was compliant at the 6-29, FL01, and FL03 locations and no organic detections were above the laboratory reporting limits in either soil or groundwater. Therefore, the inorganic constituent concentrations at the 6-29, FL01, and FL03 locations are not considered indicative of a spill or release associated with E&P activities.

### 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.

Based on groundwater in contact with impacted soil, groundwater monitoring wells will be installed at the 4-29 location to verify that no dissolved-phase impacts are present. Following installation, the wells will be sampled for full list Table 915-1 constituents in groundwater. The monitoring well installation scope of work will be submitted in a subsequent Form 27 Supplemental report following completion of soil assessment activities.

## 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 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: \$ 14000

### 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: \_\_\_\_\_

## 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. 10/28/2024

Actual Spill or Release date, or date of discovery. 10/28/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/24/2024

Proposed site investigation commencement. 09/24/2024

Proposed completion of site investigation. 10/16/2026

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/24/2024

Proposed date of completion of Remediation. 10/16/2027

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**

KMOG will not conduct intrusive operations related to this form between 12/1 - 7/31 in compliance with the 0.5 mile Bald Eagle Nesting Buffer.

No additional work has been done since the previous Form 27 submitted on 12/30/2025 (Document No. 404451544) and, as such, none of the previous attachments have been included with this form. The implementation schedule has been updated.

KMOG has a large number of active remediation projects and is working diligently to bring each project to closure. Field work for these projects is prioritized based on potential environmental risk; considering factors such as size of impact, type of impact, what media is impacted, proximity to sensitive receptors and land use. This project is categorized as low environmental risk due to the absence of hydrocarbons or other organic impacts in soil, the absence of groundwater impacts, the only ECMC Table 915-1 exceedance associated with this project is pH, and the current land use is undeveloped/rangeland.

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: 32821

**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**

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Total Attach: 0 Files

**General Comments**

**User Group**

**Comment**

**Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)