

State of Colorado
Energy & Carbon Management Commission

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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	Phone Numbers
Address: P O BOX 173779		Phone: (970) 515-1110
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Macy Kiel	Email: DJRemediation_Forms@oxy.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 36240 Initial Form 27 Document #: 403853915

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 #: 123-18533	County Name: WELD
Facility Name: BAKER RED V 1-14A		Latitude: 40.161386	Longitude: -104.841558
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: SESW	Sec: 1	Twp: 2N	Range: 67W
Meridian: 6	Sensitive Area? Yes		

Facility Type: SPILL OR RELEASE	Facility ID: 488160	API #: _____	County Name: WELD
Facility Name: Baker Red V 1-14A Wellhead		Latitude: 40.161385	Longitude: -104.841576
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: SESW	Sec: 1	Twp: 2N	Range: 67W
Meridian: 6	Sensitive Area? Yes		

Facility Type: <u>SPILL OR RELEASE</u>		Facility ID: <u>488161</u>	API #: _____	County Name: <u>WELD</u>	
Facility Name: <u>Baker Red V 1-14A Flowline</u>			Latitude: <u>40.161765</u>	Longitude: <u>-104.842041</u>	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____					
QtrQtr: <u>SESW</u>	Sec: <u>1</u>	Twp: <u>2N</u>	Range: <u>67W</u>	Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications <u>SM</u>	Most Sensitive Adjacent Land Use <u>Surface Water</u>
Is domestic water well within 1/4 mile? <u>Yes</u>	Is surface water within 1/4 mile? <u>Yes</u>
Is groundwater less than 20 feet below ground surface? <u>Yes</u>	

Other Potential Receptors within 1/4 mile

An area with wetland characteristics are located approximately 1,110 feet (ft) northeast. Water well 450 ft southwest. Occupied buildings 750 ft southwest and 1,240 ft northwest. Livestock 420 ft southwest and 910 ft northwest. Agriculture. The site is located within the Mule Deer Migration Corridor and Bald Eagle Roost Site and within ¼ mile of the Aquatic Native Species Conservation Waters, Mule Deer Severe Winter Range, and Mule deer Winter Concentration Area High Priority Habitat (HPH) areas. The site is located in a 100-year floodplain.

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
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.

Partial flowline removal activities were completed at the Baker Red V 1-14A wellhead on March 29, 2024. Groundwater was encountered in the flowline potholes at approximately 3 ft bgs. Visual inspection and field screening of soil around the flowline was conducted following removal, and soil samples were collected from the locations where groundwater was encountered in the flowline potholes [FL01(1-14)@3', FL02(1-14)@3', and FL03(1-14)@3']. The soil samples were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Initial analytical results indicated that benzo(a)anthracene, SAR, arsenic, cadmium, copper, lead, selenium, silver, and/or zinc impacts were present at the FL01(1-14)@3' and FL02(1-14)@3' locations. Verification samples were collected to confirm the initial results. Final analytical results indicate that SAR, arsenic, cadmium, copper, lead, silver, and/or zinc impacts are present in both locations. As such, Form 19 Initial/Supplemental Spill/Release reports (Document Nos. 403946924 and 403946942) were submitted on October 7, 2024 and the ECMC issued Spill/Release Point IDs 488160 and 488161. Flowline pothole samples where the flowline changed directions from south to east and from east to south were collected as part of the Kuipers 15-1A/Baker Facility sales line removal activities (Remediation No. 36242) as the lines were running in the same potholes during removal. A separator riser sample was not collected as the location was removed during separator excavation activities under Remediation No. 36242. Please refer to the Form 27 dated October 25, 2024 (Document No. 403960392) for information regarding the additional flowline pothole samples. The flowline is depicted on Figure 1. The Form 44 is attached.

Wellhead cut and cap was completed on November 15, 2024 and results are pending. Assessment activities are ongoing and will be summarized 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):

On August 29, 2024, soil samples were collected from the locations where groundwater was encountered in the flowline potholes [FL01(1-14)@3', FL02(1-14)@3', and FL03(1-14)@3']. The soil samples were submitted for analysis of full list Table 915-1 constituents, using ECMC-approved methods. Initial analytical results indicated that benzo(a)anthracene, SAR, arsenic, cadmium, copper, lead, selenium, silver, and/or zinc impacts were present at the FL01 (1-14)@3' and FL02(1-14)@3' locations. Verification samples were collected to confirm the initial results. Final analytical results indicate that SAR, arsenic, cadmium, copper, lead, silver, and/or zinc impacts are present in both locations. Assessment activities are ongoing. The PID readings and soil sample results are summarized in Tables 1 and 2. The laboratory report is attached.

Proposed Groundwater Sampling

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

Groundwater was encountered in the flowline potholes at approximately 3 ft bgs. Three groundwater samples (GW01 through GW03) were collected and submitted for analysis of Table 915-1 organic constituents in groundwater. Laboratory analytical results indicate that all samples were in compliance with ECMC Table 915-1 allowable levels for organic constituents. Additional sample volume will be collected for GW01 and GW02 to analyze for Table 915-1 inorganic constituents in groundwater due to the presence of groundwater in contact with impacted soil. Due to the presence of groundwater in contact with impacted soil and the compliant organic detections in pothole groundwater sample GW02, groundwater monitoring wells will be installed to verify that no dissolved-phase impacts are present. The groundwater sample locations are depicted on Figure 1. The groundwater sample results are summarized in Table 3.

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 August 29, 2024, visual inspection and field screening of soil were conducted at two pothole locations during flowline removal. 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 this area, in accordance with the ECMC Operator Guidance. A photographic log is attached.

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) 20

NA / ND

-- Highest concentration of TPH (mg/kg) 28

-- Highest concentration of SAR 7.46

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 3

Groundwater

Number of groundwater samples collected 3

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 3

Number of groundwater monitoring wells installed 0

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)

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?

Sixteen background soil samples were collected from native material adjacent to the Baker Red V 1-11A wellhead (Remediation No. 35930) and the Baker Red V 1-12A wellhead (Remediation No. 35934) cut and cap excavations, located in the same quarter section and NRCS soil type. The background soil samples were submitted for laboratory analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, and Table 915-1 metals using ECMC-approved methods. Laboratory analytical results indicated that levels of SAR, pH, arsenic, barium, lead, and selenium are naturally high in the native soil. The background soil sample analytical results are summarized in Table 2. The background soil sample locations are depicted on Figure 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?

The wellhead cut and cap is pending. 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.

Impacted soil will be removed and transported to a licensed disposal facility. Final disposal information will be provided upon completion of assessment activities. 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.

Analytical results indicate that SAR, arsenic, cadmium, copper, lead, silver, and/or zinc impacts exceeding the ECMC Table 915-1 allowable levels and background levels are present in the FL01 and FL02 locations. Flowline pothole samples where the flowline changed directions from south to east and from east to south were collected as part of the Kuipers 15-1A/Baker Facility sales line removal activities (Remediation No. 36242) as the lines were running in the same potholes during removal. A separator riser sample was not collected as the location was removed during separator excavation activities under Remediation No. 36242. Please refer to the Form 27 dated October 25, 2024 (Document No. 403960392) for information regarding the additional flowline pothole samples. Groundwater encountered in the flowline potholes at approximately 3 ft bgs. Laboratory analytical results indicate that all samples were in compliance with ECMC Table 915-1 allowable levels for organic constituents. Additional sample volume will be collected for GW01 and GW02 to analyze for Table 915-1 inorganic constituents in groundwater due to the presence of groundwater in contact with impacted soil. Due to the presence of groundwater in contact with impacted soil and the compliant organic detections in pothole groundwater sample GW02, groundwater monitoring wells will be installed to verify that no dissolved-phase impacts are present. Following installation, the well network will be sampled for full list Table 915-1 constituents in groundwater. The groundwater monitoring well installation scope of work will be submitted in a subsequent Form 27 Supplemental following completion of soil assessment activities. Assessment activities are ongoing and will be summarized in a subsequent Form 27 Supplemental report.

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.

Due to the presence of groundwater in contact with impacted soil and the compliant organic detections in pothole groundwater sample GW02, groundwater monitoring wells will be installed to verify that no dissolved-phase impacts are present. Following installation, the well network will be sampled for full list Table 915-1 constituents in groundwater. The groundwater monitoring well installation scope of work will be submitted in a subsequent Form 27 Supplemental 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: \$ 12500

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. 10/04/2024

Actual Spill or Release date, or date of discovery. 10/04/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/29/2024

Proposed site investigation commencement. 08/29/2024

Proposed completion of site investigation. 04/16/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/29/2024

Proposed date of completion of Remediation. 04/16/2026

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:

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OPERATOR COMMENT

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

Signed: Macy Kiel

Title: HSE 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: 36240

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

403959993	SOIL SAMPLE LOCATION MAP
403959994	ANALYTICAL RESULTS
403959996	PHOTO DOCUMENTATION
403959997	ANALYTICAL RESULTS
403959998	CORRESPONDENCE
403998727	SOIL SAMPLE LOCATION MAP

Total Attach: 6 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)