FORM 27 Rev 5/22

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: 404070637
Receive Date: 04/16/2025
Report taken by: Taylor Robinson

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 INFORMATON

Name of Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator No: 47120
Address: P O BOX 173779
City: DENVER State: CO Zip: 80217-3779
Contact Person: Ariana Ochoa Email: DJRemediation_Forms@oxy.com

Phone Numbers
Phone: (713) 350-4906
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 35316 Initial Form 27 Document #: 403772825

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.
- [X] 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.
- [X] 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 #: 123-21110 County Name: WELD
Facility Name: MILLER 6-33A Latitude: 40.182710 Longitude: -104.783990
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SENW Sec: 33 Twp: 3N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 488113 API #: County Name: WELD
Facility Name: Miller 6-33A Wellhead Latitude: 40.182710 Longitude: -104.783990
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SENW Sec: 33 Twp: 3N Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications: SM

Most Sensitive Adjacent Land Use: Occupied Building

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Water well 230 feet (ft) northwest. Occupied building 1,270 ft southwest. County Road 1,170 ft north. Agriculture. Groundwater at approximately 8 ft below ground surface (bgs).

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [X] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA)
- [ ] **Non-E&P Waste**

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
No	GROUNDWATER	N/A	Groundwater Samples/Laboratory Analytical Results
Yes	SOILS	See attached data.	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 Miller 6-33A wellhead on August 30, 2024. Groundwater was not encountered in the cut and cap excavation. Visual inspection and field screening of soil around the wellhead and associated pumping equipment were conducted following cut and cap operation and a sample (B01@6') was collected for analysis of full list Table 915-1 constituents to determine if a release occurred. An additional sample (E01@3') was collected due to potential impact. Laboratory analytical results indicated that polycyclic aromatic hydrocarbon (PAH), pH, and lead impacts exceeding the ECMC Table 915-1 allowable levels or background levels were present at the former wellhead. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 403908581) was submitted on September 5, 2024 and the ECMC issued Spill/Release Point ID 488113. The flowline associated with the wellhead was removed between August 2 and August 7, 2024. Samples were collected from the locations where the flowline risers were disconnected from the wellhead (WH01-RISER@3') and from the separator (SEP02-RISER@3'). Samples were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. The wellhead excavation and flowline are depicted on Figures 1 and 2. The PID readings and soil sample results are summarized in Tables 1 and 2. The Form 44 is attached.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

Between August 30 and October 24, 2024, excavation activities were conducted to address remaining soil impacts at the former wellhead and confirmation soil samples were collected from the base and sidewalls of the final excavation extents at depths of approximately 8 ft bgs and 4 ft bgs. Confirmation soil samples were submitted for laboratory analysis of the site-specific waste profile including total petroleum hydrocarbons (TPH), PAHs, sodium adsorption ratio (SAR), pH, boron, and select Table 915-1 metals using ECMC-approved methods. Results indicated that soil samples collected from the final excavation extents were in compliance with the ECMC Table 915-1 standards and within site-specific background levels. The laboratory reports are attached.

Proposed Groundwater Sampling

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

Groundwater was encountered in the cut and cap excavation at approximately 8 ft bgs. Groundwater was not in contact with impacted soil as the soil 8 ft sample collected during excavation activities was in compliance with the ECMC Table 915-1 standards and within site-specific background levels. One groundwater sample [GW01(6-33A)@8'] was collected and submitted for analysis of full list Table 915-1 constituents in groundwater. One background groundwater sample was collected for Table 915-1 inorganic constituents in groundwater. Analytical results indicate that groundwater is within Table 915-1 allowable levels or background levels and no organic constituents were detected above the laboratory reporting limit. The groundwater and background groundwater sample locations are depicted on Figure 1. The groundwater sample analytical 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):

Between August 2 and August 30, 2024, visual inspection and field screening of soil were conducted at four sidewall locations within the cut and cap excavation area, four locations at the ground surface adjacent to the cut and cap excavation, and 11 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. A photographic log is attached.

On September 5, 2024, a soil gas survey was conducted at 5 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. The soil vapor point locations are illustrated on Figure 1. The soil vapor field form is included as an attachment.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

		NA / ND		
Number of soil samples collected	12	--	Highest concentration of TPH (mg/kg)	138
Number of soil samples exceeeding 915-1	12	--	Highest concentration of SAR	11.5
Was the areal and vertical extent of soil contamination delineated?	Yes		BTEX > 915-1	No
Approximate areal extent (square feet)	506		Vertical Extent > 915-1 (in feet)	8

Groundwater

		NA / ND		
Number of groundwater samples collected	1	ND	Highest concentration of Benzene (µg/l)	
Was extent of groundwater contaminated delineated?	Yes	ND	Highest concentration of Toluene (µg/l)	
Depth to groundwater (below ground surface, in feet)	8	ND	Highest concentration of Ethylbenzene (µg/l)	
Number of groundwater monitoring wells installed	0	ND	Highest concentration of Xylene (µg/l)	
Number of groundwater samples exceeding 915-1	0	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?

Ten background soil samples were collected from the native material outside of the wellhead cut and cap excavation area. An additional 14 background soil samples were collected as part of and six native background soil samples were collected as part of the Miller 3&6-33A Facility & Miller 18, 21, 22, 31-33 wellheads decommissioning activities (Remediation No. 35310) located 850 ft northwest, from similar depths (3-6 ft bgs), and the same NRCS soil type (sandy loam). Background soil samples were submitted for analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron and/or Table 915-1 metals. Analytical results indicate that levels of EC, SAR, pH, boron, arsenic, barium, cadmium, lead, nickel, and selenium are naturally high in the native soil.

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

The background soil and groundwater sample analytical results are summarized in Tables 2 and 3.

☐ 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?

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.

Approximately 120 cubic yards of impacted soil were removed from the site and transported to the Buffalo Ridge Landfill in Keenesburg, Colorado for disposal. Disposal records are kept on file and available upon request. The excavation area was 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 data indicate that impacted soil from the wellhead excavation area has been removed and all remaining soil at the extent of the cut and cap excavation is in compliance with the ECMC Table 915-1 standards or within site-specific background levels. Groundwater was encountered in the wellhead excavation at approximately 8 ft bgs. Analytical results indicate that groundwater is within Table 915-1 allowable levels or background levels and no organic constituents were detected above the laboratory reporting limit. Based on the analytical and soil screening data presented herein, assessment is complete at this site and no further activities are required. As such, KMOG is requesting a No Further Action (NFA) determination for this location.

Soil Remediation Summary

☐ **In Situ**

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

☒ **Ex Situ**

Yes Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) 120

Name of Licensed Disposal Facility or ECMC Facility ID # _____

No 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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] 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

[X] Other NFA Status Request

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: $ 0

WASTE DISPOSAL INFORMATION

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

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

N/A

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

E&P waste (solid) description Impacted Soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Buffalo Ridge Landfill in Keenesburg, CO

Volume of E&P Waste (liquid) in barrels 0

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? Yes

If YES:

[X] 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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

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. Timeliness of reclamation and completion will be subject to NFA, surface owner discretion and land use, and suitable ground conditions which allow for execution of surface reclamation activities so as to not cause unwarranted damages.

Is the described reclamation complete? No

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? Yes

If YES, does the seed mix comply with local soil conservation district recommendations? Yes

Did the local soil conservation district provide the seed mix? No

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 01/27/2025

Proposed date of completion of Reclamation. 01/27/2026

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. 09/04/2024

Actual Spill or Release date, or date of discovery. 09/03/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/02/2024

Proposed site investigation commencement. 08/02/2024

Proposed completion of site investigation. 10/24/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/30/2024

Proposed date of completion of Remediation. 10/24/2024

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 the analytical and soil screening data provided herein, assessment is complete, and Kerr-McGee is requesting a NFA determination for this location.

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

Signed: Ariana Ochoa Title: Sr. HSE Advisor

Submit Date: 04/16/2025 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: Date:

Remediation Project Number: 35316

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
404070637	FORM 27 DENIED
404071453	SOIL SAMPLE LOCATION MAP
404071455	SOIL SAMPLE LOCATION MAP
404071456	CORRESPONDENCE
404071459	PHOTO DOCUMENTATION
404071460	OTHER
404071462	LABORATORY ANALYTICAL REPORT
404071465	LABORATORY ANALYTICAL REPORT
404071466	LABORATORY ANALYTICAL REPORT
404071469	LABORATORY ANALYTICAL REPORT
404140165	SOIL SAMPLE LOCATION MAP
404140167	ANALYTICAL DATA SUMMARY TABLE(S)
404293019	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 13 Files

General Comments

User Group	Comment	Comment Date
Environmental	ECMC has denied this Form 27 and NFA request. Several of the selected samples to be used as 'background' are within the excavation associated with Remediation Project # 35310 and are not representative of background conditions at the locations. Additionally, the samples were taken from over 800' away and are not from the same land use as the spill/release. The site specific samples indicate that exceedances of SAR and exceedances of 1.25 x background of Arsenic, Barium, Cadmium, and Nickel exist at this location.	07/24/2025

Environmental	Due to the presence of impacted soil in contact with groundwater (groundwater observed within the excavation) Operator shall: - Comply with Table 915-1 Protection of Groundwater Soil Screening Level Concentrations. - Operator will install monitoring wells (within the spill/release area, cross-gradient, down-gradient, and up-gradient) to properly characterize groundwater pursuant to Rule 915 and determine hydraulic gradient, as required by Rule 915.e.(3)A.ii. All monitoring wells shall be constructed as permanent monitoring wells in accordance with the State Engineer's Water Well Construction and Permitting Rules - Operator will analyze groundwater samples from all monitoring wells for Table 915-1 organic and inorganic parameters for a minimum of four quarterly monitoring events.	07/24/2025
Environmental	ECMC notes that soil sample SEP02-RISER@3' may have been removed by the excavation associated with Remediation Project # 35310. Operator shall include this information on the replacement Form 27.	07/24/2025

Total: 3 comment(s)