FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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Document Number: 404230588
Receive Date: 06/13/2025
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 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: Erik Mickelson Email: DJRemediation_Forms@oxy.com

Phone Numbers
Phone: (720) 929-4306
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 36896 Initial Form 27 Document #: 403885970

PURPOSE INFORMATION

- [ ] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [X] 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: TANK BATTERY Facility ID: 487359 API #: County Name: WELD
Facility Name: Moseman 5-25 Turner Facility Latitude: 40.199827 Longitude: -104.729636
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWNW Sec: 25 Twp: 3N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 488692 API #: County Name: WELD
Facility Name: Moseman 5-25, Turner Facility Latitude: 40.199934 Longitude: -104.729714
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWNW Sec: 25 Twp: 3N Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications: SM

Most Sensitive Adjacent Land Use: Rangeland

Is domestic water well within 1/4 mile? No

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

No other potential receptors were identified in a ¼ mile radius.

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
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.

Decommissioning activities were completed at the Moseman 5-25, Turner facility on 11/6/24. Groundwater was not encountered during decommissioning activities. Visual inspection & field screening of soil at 3 former aboveground storage tanks (AST), 1 produced water vessel (PWV), 6 separators, 1 meter house, 1 emission control device (ECD), & 5 dumpline potholes were conducted after decommissioning activities. Soil samples (AST01@0.5', AST02@0.5', AST03@0.5', PWV-N01@2', PWV-B01@5', SEP01-INLET@3' through SEP06-INLET@3', & SEP01-OUTLET@3' through SEP06-OUTLET@3') were submitted for analysis of full list ECMC Table 915-1 constituents to determine if a release occurred. Initial results indicated that 1,2,4-& 1,3,5-trimethylbenzene (TMBs), naphthalene, & barium concentrations above the Table 915-1 allowable levels & background levels were present at the SEP03-INLET, SEP05-INLET, SEP05-OUTLET, AST02, & PWV-N01 locations. Polycyclic aromatic hydrocarbons (PAHs) impacts above the Table 915-1 allowable levels were identified at the SEP-RISER(22-25) location associated with the Camp 22-25 wellhead cut & cap activities (Rem# 36892). Given the proximity of the impacts to the separator impacts identified as part of facility decommissioning activities, the Camp 22-25 riser impacts were reported as part of this remediation number. A Form 19 Spill/Release Report (Doc# 403987056) was submitted on 11/8/24, & the ECMC issued Spill/Release Point ID 488692. Verification samples were collected to confirm the initial inorganic results. Final results confirmed that barium impacts exceeding the Table 915-1 allowable level & background level were present at the AST02 location.

Excavation activities at the SEP05-INLET location are pending. Assessment activities are ongoing & details will be provided in a subsequent Form 27 supplemental report.

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 11/6/24 and 1/10/25, excavation activities were conducted to address remaining soil impacts at the SEP03-INLET, SEP05-OUTLET, AST02, & SEP-RISER(22-25) locations. Thirty-five confirmation soil samples were collected from the base & sidewalls of the final excavation extents at depths ranging from 2 ft below ground surface (bgs) to 6 ft bgs. The impacted soil at the AST02 location was excavated to liner. The four tank battery base samples were collected beneath the removed liner. The soil samples were submitted for analysis of the excavation specific waste profile, including TMBs, PAHs, benzene, toluene, ethylbenzene, total xylenes (BTEX), boron, &/or select Table 915-1 metals using ECMC-approved methods. Results indicated that all samples at the final excavation extents were within the ECMC Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. Excavation activities at the SEP05-INLET location are pending.

Proposed Groundwater Sampling

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

Groundwater was not encountered during facility decommissioning 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 November 6, 2024, visual inspection and field screening of soil were conducted at the base and three sidewall locations within the PWV excavation, the hatch and drain of the AST01 and AST02 locations, the hatch and footprint of the AST03 location, the meter house, the ECD, and five dumpline 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.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 57
Number of soil samples exceeeding 915-1: 54
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet): 3204

NA / ND

-- Highest concentration of TPH (mg/kg): 0.513
-- Highest concentration of SAR: 2.52
BTEX > 915-1: No
Vertical Extent > 915-1 (in feet): 5

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?

One tank battery background soil sample (TB-BG01@0.5') was collected from the soil used to construct the tank battery but is not being applied because it was consumed by the tank battery excavation. Eight native background soil samples were collected from native material outside of the facility excavations. Twelve background samples were also collected as part of the HSR-Scott 6-25 wellhead decommissioning activities (Rem# 36894), located 810 ft southeast, from similar depths (3' & 6' bgs), & NCRS soil type (sand). Background soil samples were submitted for laboratory analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron & Table 915-1 metals using ECMC-approved methods. Analytical results indicate that pH, arsenic, barium, lead, & selenium are naturally outside of the Table 915-1 levels 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?

Excavation activities at the SEP05-INLET location are pending. Assessment activities are ongoing and details will be provided 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 tank battery and separator excavations will be removed and transported to a licensed disposal facility. Final disposal information will be provided upon completion of assessment activities. Disposal records are 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.

Excavation activities at the SEP05-INLET location are pending. Laboratory data indicate that TMB, PAH, and barium impacts at all other locations 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 not encountered during facility decommissioning activities. Assessment activities are ongoing and details will be provided 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.

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

[ ] 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: $ 25000

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

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. 11/08/2024

Actual Spill or Release date, or date of discovery. 11/07/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/06/2024

Proposed site investigation commencement. 11/06/2024

Proposed completion of site investigation. 12/05/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 11/06/2024

Proposed date of completion of Remediation. 12/05/2025

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

No additional work has been done since the previous Form 27 and, as such, none of the previous attachments have been included with this form. The implementation schedule has been updated.

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: 06/13/2025 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: 07/21/2025

Remediation Project Number: 36896

COA Type	Description
	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. Note: Operator did not request and receive Director Approval of a reduced list of contaminants of concern to address the soil impacts at the SEP03-INLET, SEP05-OUTLET, AST02, & SEP-RISER(22-25) locations.
	If Operator requests to use off-location background samples, Operator shall provide a NRCS map showing all sample points, the distance from the site that the background samples were taken, soil type, and a confirmation of the same land use. Operator shall also provide original laboratory analytical reports.
	Operator shall include a Soil Sample Location Map which includes background samples on the subsequent Supplemental Form 27. Background sampling locations should be sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity, and should be obtained from similar depths and soil horizons or lithologic materials for comparison to confirmation soil samples.
	Operator shall differentiate samples which remain in situ or have been over-excavated in the Soil Analytical Summary Tables on the subsequent Supplemental Form 27.
4 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
404230588	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
404287667	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 2 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)