

State of Colorado
Energy & Carbon Management Commission

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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 INFORMATION

Name of Operator: <u>KERR MCGEE OIL & GAS ONSHORE LP</u>	Operator No: <u>47120</u>	Phone Numbers
Address: <u>P O BOX 173779</u>		Phone: <u>(720) 929-4306</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>		Mobile: <u>()</u>
Contact Person: <u>Erik Mickelson</u>	Email: <u>DJRemediation_Forms@oxy.com</u>	

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.
- 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: <u>TANK BATTERY</u>	Facility ID: <u>487359</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Moseman 5-25 Turner Facility</u>	Latitude: <u>40.199827</u>	Longitude: <u>-104.729636</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNW</u>	Sec: <u>25</u>	Twp: <u>3N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

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

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 1/4 mile radius.

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	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.

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 dumphline 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 ECOM 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 ECOM 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. The facility soil sample locations are depicted on Figure 1. The PID readings & soil sample results are summarized in Tables 1 & 2, respectively.

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

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 ECOM-approved methods. Results indicated that all samples at the final excavation extents were within the ECOM Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. Excavation activities at the SEP05-INLET location are pending. The laboratory reports are attached.

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. A photographic log is attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 57
Number of soil samples exceeding 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. The background soil sample analytical results are summarized in Table 2. The background soil sample locations are illustrated on Figures 1 & 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?

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.

REMIEDIATION 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

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.

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. 09/04/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 11/06/2024

Proposed date of completion of Remediation. 09/04/2025

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

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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: Erik Mickelson

Title: Environmental Lead

Submit Date: 03/11/2025

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**

	A more recent Form 27 has been submitted, Document Number: 404230588. COAs and comments on that form take precedent.
1 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**

404084995	FORM 27-SUPPLEMENTAL-SUBMITTED
404085127	SOIL SAMPLE LOCATION MAP
404085128	ANALYTICAL RESULTS
404085129	ANALYTICAL RESULTS
404085130	ANALYTICAL RESULTS
404085131	ANALYTICAL RESULTS
404085132	ANALYTICAL RESULTS
404113026	ANALYTICAL RESULTS
404113027	PHOTO DOCUMENTATION
404114563	SOIL SAMPLE LOCATION MAP
404114570	ANALYTICAL RESULTS

Total Attach: 11 Files

General Comments**User Group****Comment****Comment Date**

Environmental	Operator submitted the subject form on 02/21/2025. ECMC returned the form to draft per Operator request on 02/27/2025.	02/27/2025
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Total: 1 comment(s)