

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>(713) 350-4906</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>		Mobile: <u>()</u>
Contact Person: <u>Ariana Ochoa</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: Request Director's Approval to establish site specific waste profile

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	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 dumphole 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 ECOMC 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 ECOMC 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

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 ECOMC-approved methods. Results indicated that all samples at the final excavation extents were within the ECOMC 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 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.

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.

REMEDICATION 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 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. 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.

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.

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: \$ 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. 03/06/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 11/06/2024

Proposed date of completion of Remediation. 03/06/2026

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:

OPERATOR COMMENT

Per the conditions of approval issued by the ECMC for Document No. 404230588. :

COA #1: Per Rule 915.e.(2).C, discrete grab samples [AST02@0.5', SEP03-INLET@3', SEP05-INLET@3', SEP05-OUTLET@3', and SEP06-INLET@3'] locations were collected from the most impacted material available in the source area on 11/6/2024. The laboratory report and results summary table are attached. Based on these results, KMOG requests approval to amend confirmation sampling and analysis to only include hydrocarbon and metal analytes detected above laboratory reporting limits and reclamation parameters exceeding Table 915-1 allowable levels, specifically:

Boron, arsenic, barium, lead, and nickel for AST02@0.5'.

BTEX, TMBs, arsenic, barium, cadmium, lead, and nickel for SEP03-INLET@3'.

BTEX, TMBs, PAHs, boron, arsenic, barium, cadmium, copper, lead, nickel, silver and zinc for SEP05-INLET@3'.

BTEX, TMBs, arsenic, barium, cadmium, copper, lead, nickel, and zinc for SEP05-OUTLET@3'.

Total petroleum hydrocarbons (TPH), BTEX, TMBs, PAHs, arsenic, barium, cadmium, copper, lead, and nickel for SEP06-INLET@3'.

COA #2 and #3: A Soil Sample Location Map which includes the locations of the site-specific background samples and off-location background samples, the NRCS soil types, the distance from the site, the field logged soil type, and same land use has been included. The original off-location background sample laboratory analytical report has been provided.

COA #4: Tables 1 and 2 have been updated to differentiate which samples remain in situ and have been removed has been provided.

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: 09/12/2025

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: Taylor Robinson

Date: 03/24/2026

Remediation Project Number: 36896

COA Type

Description

0 COA	
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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

404337814	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404339622	SOIL SAMPLE LOCATION MAP
404339746	SOIL SAMPLE LOCATION MAP
404339909	LABORATORY ANALYTICAL REPORT
404339965	LABORATORY ANALYTICAL REPORT
404346853	ANALYTICAL DATA SUMMARY TABLE(S)
404594398	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 7 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)