

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Kari Brown

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 #: 37995 Initial Form 27 Document #: 403971629

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>469711</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Miller 7-7 and 2-7 battery</u>	Latitude: <u>40.154669</u>	Longitude: <u>-104.818496</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNE</u>	Sec: <u>7</u>	Twp: <u>2N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>489966</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Miller 2 & 7-7 Facility</u>	Latitude: <u>40.154770</u>	Longitude: <u>-104.818578</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNE</u>	Sec: <u>7</u>	Twp: <u>2N</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 Crop Land

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Surface water: Platte Valley Ditch is approximately 340 feet northwest of the location.

Wetlands: An area with wetland characteristics is located 340 feet northwest of the location.

Water Wells: The nearest water well is located 841 feet southeast of the location.

Springs: None.

Occupied Building: A building is located approximately 398 feet west-southwest of the location.

Livestock: Livestock is located approximately 112 feet west of the location.

High Priority Habitats: The location resides within 1/4-mile of the boundary of a Bald Eagle Roost or Communal Roost High Priority Habitat (HPH).

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	Inspection/groundwater samples/laboratory analytical results
Yes	SOILS	See attached data	Inspection/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.

Production facility decommissioning activities were initiated at the Miller 2&7-7 production facility location on April 3, 2025. Visual inspection and field screening of soils was conducted following facility decommissioning activities, and five (5) soil samples were collected from the base of the former separator (SEP), above-ground storage tank (AST), and produced water vessel (PWV) locations and submitted for laboratory analysis of the full ECMC Table 915-1 analytical suite using standard ECMC-approved methods to determine if a release had occurred. Analytical results indicate that constituent concentrations in the confirmation soil samples were in compliance with ECMC Table 915-1 standards and/or site specific background levels (x 1.25 for metals), with the exception to the benzo(a)anthracene (b(a)a) concentration in soil sample PW-W01@2' and b(a)a and various metals in soil sample SEP-B01@4'. As such, a Form 19-Initial Spill/Release Report (Document No. 404177867) was submitted on April 25, 2025, and the ECMC issued Spill/Release Point ID 489966. Additionally, soil sample SEP-B01@4' will be remediated and reported under Miller 2-7 wellhead (Rem # 37989). The soil sample and field screening locations are illustrated on Figure 1. Soil sample location and field screening data are presented in Table 1. Soil analytical results are summarized in Tables 2 through 5.

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 May 2, 2025, over-excavation activities were completed to address remaining impacts at soil sample location PW-W01@2'. Four (4) confirmation soil samples were collected from the excavation extent and submitted for laboratory analysis of the full ECMC Table 915-1 analytical suite. Analytical results indicate that the b(a)a concentration in soil sample PW-N02@2' exceeded the Table 915-1 standard for soil. Site activities to address remaining impacts to soil are pending and will be summarized in a forthcoming Form 27-Supplemental update. Over-excavation soil sample locations are illustrated on Figure 2.

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 to-date. If groundwater is encountered during future facility decommissioning activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted to an accredited laboratory for all analytes listed in ECMC Table 915-1 Organic Compounds in Groundwater and Groundwater Inorganic Parameters using standard methods appropriate for detecting the target analytes in ECMC Table 915-1.

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 April 3, 2025, field screening of soils was conducted at one (1) location at the former AST, three (3) sidewall locations in the PWV excavation area, one (1) location at the former enclosed combustion device (ECD), one (1) location at the former meter house (MH), and one (1) dump line (DL) removal pothole location. Based on the inspection and screening results, hydrocarbon-impacted soil was not observed at the soil screening locations, and no soil samples were submitted for laboratory analysis from these areas in accordance with ECMC Operator Guidance. The laboratory analytical reports, field notes, and a photographic log are provided as attachments.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 8

Number of soil samples exceeding 915-1 2

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 530

NA / ND

ND Highest concentration of TPH (mg/kg) _____

ND Highest concentration of SAR _____

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

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?

Six (6) background samples were collected from undisturbed native material adjacent to the Miller 2&7-7 production facility, at comparable depths and soil composition to the confirmation soil samples. An additional nine (9) background soil samples were utilized from the nearby Miller 7-7 wellhead located approximately 212 feet to the south, and were collected at comparable depths, soil composition (Altvan loam), and land use (crop land) to the confirmation soil samples. The background soil samples were submitted for laboratory analysis of Table 915-1 metals and the Soil Suitability for Reclamation Parameters, using standard ECOM approved methods appropriate for detecting the target analytes in Table 915-1. Analytical results for the background soil samples are presented in Tables 4 and 5. Background soil sample locations are illustrated on Figure 1. The Miller 7-7 wellhead proximity location is illustrated on Figure 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?

Excavation activities to address remaining soil impacts in the PWV excavation area at sample location PW-N02@2' are ongoing and will be summarized in a forthcoming Form 27-Supplemental update.

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.

On May 2, 2025, approximately 120 cubic yards of impacted material were excavated from the PWV excavation area and were transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling.

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.

Analytical results indicate that constituent concentrations in the confirmation soil samples were in compliance with the ECMC Table 915-1 standards and/or site-specific background levels (x 1.25 for metals), with the exception of b(a) concentrations in the PWV excavation area as described above. Over-excavation and site assessment activities are ongoing and will be summarized in a forthcoming Form 27-Supplemental update.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____ 120

_____ 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 Project status update

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: \$ 10000

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:

Approximately 120 cubic yards of impacted material were excavated from the PWV excavation areas and were transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling.

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: Kerr-McGee Land Treatment Facility - Weld County, Colorado

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? 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? No

Does the previous reply indicate consideration of background concentrations? _____

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 initiation 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. _____

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. 08/21/2024

Actual Spill or Release date, or date of discovery. 04/24/2025

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/03/2025

Proposed site investigation commencement. 04/03/2025

Proposed completion of site investigation. 12/31/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/03/2025

Proposed date of completion of Remediation. 12/31/2025

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

Analytical results indicate that impacts to soil remain at the Miller 2&7-7 production facility location. Over-excavation and site assessment activities are ongoing and will be summarized in a forthcoming Form 27-Supplemental update.

Per Rule 915.e.(2).C, discrete grab soil samples were collected [PW-B01@4', PW-W01@2', PW-W02@2', PW-N02@2', PW-S02@2' and PW-E02@2'] from the most impacted material available in the source/over-excavation area on 4/3/2025 and 5/2/2025. The laboratory reports and analytical results summary table are attached. Based on these results, KMOG requests approval to amend potential 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: Benzo(a)A, benzo(a)P, chrysene, fluoranthene, pyrene, boron, and all Table 915-1 metals excluding hexavalent chromium.

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: 07/29/2025

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: Kari Brown

Date: 03/13/2026

Remediation Project Number: 37995

COA Type**Description**

	ECMC agrees to the reduced analyte list based on waste characterization data provided to date. However, if during subsequent site investigation/remediation soil that appears to be more impacted (based on PID readings, visual and/or olfactory indicators) is discovered, Operator shall collect a sample(s) from that location (those locations) for laboratory analysis of full ECMC Table 915-1 contaminants of concern. If analytes beyond those proposed in the above amended sampling plan are detected, those compounds will be added to the sampling plan and additional confirmation samples may be required.
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**

404192460	FORM 27-SUPPLEMENTAL-SUBMITTED
404297023	SITE MAP
404297024	SOIL SAMPLE LOCATION MAP
404297025	SOIL SAMPLE LOCATION MAP
404297026	ANALYTICAL DATA SUMMARY TABLE(S)
404297027	PHOTO DOCUMENTATION
404297028	ANALYTICAL RESULTS
404297029	ANALYTICAL RESULTS
404297030	ANALYTICAL RESULTS
404297031	ANALYTICAL RESULTS

Total Attach: 10 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)