

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 37791 Initial Form 27 Document #: 403921191

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

No Multiple Facilities

Facility Type: TANK BATTERY	Facility ID: 487997	API #: _____	County Name: WELD
Facility Name: Brown 23-1 Facility Tank Battery	Latitude: 40.249669	Longitude: -104.834260	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 1	Twp: 3N	Range: 67W Meridian: 6 Sensitive Area? Yes

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: Farmers Independent Ditch is approximately 453 feet southeast of the location.
Wetlands: An area with wetland characteristic is located approximately 453 feet southeast of the location.
Water Wells: The nearest water well is located 633 feet east of the location.
Springs: None.
Occupied Building: A building is located approximately 617 feet east of the location.
Livestock: Livestock is located approximately 610 feet east of the location.
High Priority Habitats: None.



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
No	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.

Tank battery decommissioning activities were completed at the Brown 23-1 production facility location on February 14, 2025. Groundwater was not encountered during facility decommissioning activities. Visual inspection and field screening of soils at the former production facility infrastructure locations were conducted following decommissioning activities, and eight (8) soil samples were submitted for laboratory analysis of the full Table 915-1 analytical suite to determine if a release occurred. Laboratory analytical results indicated that constituent concentrations were in compliance with Table 915-1 standards and/or site-specific background levels (x 1.25 for metals), with the exception of pH in soil sample AST2-B01@3" and Chromium VI (Cr VI) in soil sample SEP2-B02@3'. As such, two (2) verification soil samples were collected on March 24, 2025, (AST2-B01@3"V and SEP2-B02@3"V) to confirm the initial pH and Cr VI results. Analytical results for verification soil sample SEP2-B02@3"V were below laboratory minimum detection limits. Analytical results for pH in verification soil sample AST2-B01@3"V (8.87) exceeded the Table 915-1 standard and site-specific background level (8.81). Due to the absence of additional 915-1 exceedances or detections of organics, when compared to the background, the elevated pH at the AST2-B01@3" location is considered de minimis and not an indication of a spill or release associated with the E&P activities. Additionally, analytical results indicated that constituent concentrations in the remaining confirmation soil samples were in compliance with ECOM Table 915-1 standards and/or site specific background levels (x 1.25 for metals). A topographic Site Location Map showing the geographic setting of the site is provided as Figure 1. The soil sample and field screening locations are illustrated on Figure 2. 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 February 14, 2025, eight (8) confirmation soil samples were collected from the former separators (SEP), above-ground storage tanks (AST), and partially buried produced water vessel (PWV) locations, at depths ranging from approximately three (3) inches to three (3) feet below ground surface (bgs). The soil samples were submitted for laboratory analysis of the full Table 915-1 analytical suite. Analytical results indicate that constituent concentrations in the confirmation and verification soil samples were in compliance with ECOM Table 915-1 standards and/or site-specific background levels (x 1.25 for metals), with the exception of pH in soil sample AST2-B01@3"V (8.87), which exceeded the Table 915-1 standard and background limit (8.81), as described above.

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 February 14, 2025, visual inspection and field screening of soils was conducted at two (2) locations below the former ASTs, three (3) sidewall locations within the PWV removal excavation, one (1) location at the former meter house (MH), one (1) location at the former dump line (DL) removal pothole, and one (1) location at the former enclosed combustion device (ECD). 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 the ECOM Operator Guidance document. 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 10

Number of soil samples exceeding 915-1 2

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 0

NA / ND

ND Highest concentration of TPH (mg/kg) _____

-- Highest concentration of SAR 2.39

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 0

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?

Nine (9) background soil samples were collected from undisturbed native material adjacent to the former production facility, at comparable depths and soil composition to the confirmation soil samples. Additionally, soil samples were utilized from undisturbed native material collected adjacent to the associated UPRR 41 Pan Am I 1 Wellhead located approximately 2,535 feet north of the facility, from similar depths, and the same NRCS soil type (Dacono clay loam). The background soil samples were submitted for laboratory analysis of Table 915-1 metals and the Soil Suitability for Reclamation Parameters, using standard ECMC-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 presented in Figure 2. Proximity of the UPRR 41 Pan Am I 1 Wellhead 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?

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.

Analytical results indicate that constituent concentrations in the eight (8) confirmation and two (2) verification 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 pH in soil sample AST2-B01@3"V (8.87), which exceeded the Table 915-1 standard and background limit (8.81). Due to the absence of additional Table 915-1 exceedances or detections of organics, when compared to background, the elevated pH level is considered de minimis and not an indication of a release associated with E&P activities. As a result, no soils were removed during facility decommissioning operations. The excavation areas were subsequently backfilled and re-graded 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 analytical results indicate that constituent concentrations in the eight (8) confirmation and two (2) verification soil samples collected during facility decommissioning activities were in compliance with ECMC Table 915-1 standards and/or site specific background levels, with the exception of pH in soil sample AST2-B01@3'V (8.87), which exceeded the Table 915-1 standard and background limit (8.81). Due to the absence of additional Table 915-1 exceedances or detections of organics, when compared to background, the elevated pH level is considered de minimis and not an indication of a release associated with E&P activities. Groundwater was not encountered during facility decommissioning activities. Hydrocarbon-impacted soil was not observed during field inspection and soil screening activities. Based on the analytical results and soil screening data presented herein, assessment is complete at the Brown 23-1 production facility, and no further activities are required. As such, Kerr- McGee is requesting a No Further Action (NFA) determination for this location.

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 NFA 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? 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? Yes

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? 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 reseeded 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. 06/30/2025

Proposed date of completion of Reclamation. 09/30/2025

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. 09/11/2024

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/14/2025

Proposed site investigation commencement. 02/14/2025

Proposed completion of site investigation. 03/24/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. _____

Proposed date of completion of Remediation. _____

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 results and soil screening data presented herein, Kerr-McGee is requesting an 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: Erik Mickelson _____

Title: Environmental Lead _____

Submit Date: 06/05/2025 _____

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: 37791 _____

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
404167828	FORM 27 DENIED
404229999	SITE MAP
404230000	SOIL SAMPLE LOCATION MAP
404230001	SOIL SAMPLE LOCATION MAP
404230002	ANALYTICAL DATA SUMMARY TABLE(S)
404230003	PHOTO DOCUMENTATION
404230004	LABORATORY ANALYTICAL REPORT
404230005	LABORATORY ANALYTICAL REPORT
404230006	LABORATORY ANALYTICAL REPORT
404338334	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 10 Files

General Comments

User Group	Comment	Comment Date
Environmental	<p>ECMC has denied this Form 27 and NFA request for the following reasons:</p> <p>The selected samples to be used as 'background' were taken from over 2500' away in a different agricultural field. The site specific samples indicate that exceedances of hexavalent chromium and pH exist at this location.</p> <p>The pH of soil samples collected at the site exceeds the allowable level for Table 915-1 soil suitability for reclamation and exceeds the background sample presented. Therefore, Operator will define the extent of soil with elevated pH, and if Operator proposes to leave soil with elevated pH in place, Operator will submit a Reclamation plan pursuant to Rule 915.b.</p> <p>Operator has not provided an explanation for their scientific justification for the use of reruns/resamples. Operator shall fully remediate or clear impacted soils to within 1.25 times background.</p>	09/02/2025

Total: 1 comment(s)