

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404190676
Receive Date:
06/27/2025

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 ECOM 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> | | |
| City: <u>DENVER</u> | State: <u>CO</u> | Phone: <u>(720) 929-4306</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 #: 37719 Initial Form 27 Document #: 403882182

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>488015</u> | API #: _____ | County Name: <u>WELD</u> |
| Facility Name: <u>Sarchet 41-23&42-23 Facility</u> | Latitude: <u>40.212344</u> | Longitude: <u>-104.735894</u> | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: <u>SENE</u> | Sec: <u>23</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>489161</u> | API #: _____ | County Name: <u>WELD</u> |
| Facility Name: <u>Sarchet41-23&42-23 Facility</u> | Latitude: <u>40.212409</u> | Longitude: <u>-104.736179</u> | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: <u>SENE</u> | Sec: <u>23</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 Occupied Buildings

Is domestic water well within 1/4 mile? Yes

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

Water well 400 feet (ft) southeast. Commercial Buildings 480 ft south and 710 ft southwest. Occupied Building 880 ft northeast. Livestock 830 ft northeast, 930 ft west, 940 ft north, and 1,070 ft northeast. County Road 410 ft east.

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 Sarchet 41-23&42-23 facility on 12/6/2024. Water was encountered in the produced water vessel excavation above the liner at a depth of 5 ft bgs. The water above the liner was determined to not be groundwater. Visual inspection and field screening of soil at one above ground storage tank (AST), one produced water vessel (PWV), one separator, one meter house, one emission control device (ECD), and two dumphines were conducted following removal activities. Soil samples (AST01@0.5', PWV-B01@5', PWV-W01@2', SEP-INLET@3', and SEP-OUTLET@3') were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Initial laboratory analytical results indicated that pH and arsenic results exceeding the Table 915-1 allowable levels and background levels are present at the AST01@0.5' and PWV-W01@2' locations. Verification samples were collected at both locations to confirm the initial results. Final laboratory analytical results confirmed that pH impacts exceeding the Table 915-1 allowable level and background level is present at the AST01@0.5' location. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 404061394) was submitted on 1/17/2025 and ECOM issued Spill/Release Point ID 489161. The facility is depicted on Figure 1. The PID readings and soil sample results are summarized in Tables 1 and 2, respectively.

Assessment activities are ongoing and 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 12/6/2024 and 3/17/2025, excavation activities were conducted to address remaining soil impacts at the tank battery excavation and eleven confirmation soil samples were collected from the base and sidewalls of the final excavation extents at depths of approximately 7 ft below ground surface (bgs) and 4 ft bgs, respectively. The confirmation soil samples were submitted for laboratory analysis of the site-specific waste profile, including pH and select Table 915-1 metals using ECOM-approved methods. Initial analytical results indicated that pH, arsenic, and barium exceedances were present in the tank battery location. Final results confirmed pH and arsenic exceedances are present in the tank battery excavation. The laboratory reports are attached.

Proposed Groundwater Sampling

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

On 12/6/2024, one water sample (GW-PWV-B01@5') was collected from the PWV excavation above the liner at a depth of 5 ft bgs. The water above the liner was determined to not be groundwater. The water sample was submitted for analysis of full list Table 915-1 constituents in groundwater. Analytical results indicated that the water sample is in compliance with Table 915-1 organic constituents. No organic constituents were detected above the laboratory reporting limits. The water sample location is depicted on Figure 1. The water sample analytical results are summarized in Table 3.

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 12/6/2024, visual inspection and field screening of soil were conducted at the footprint and hatch of the AST, three sidewall locations within the PWV excavation, one meter house, one ECD, and two dumpline locations. 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 ECOM Operator Guidance. A photographic log is attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 32

Number of soil samples exceeding 915-1 8

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

Approximate areal extent (square feet) 1050

NA / ND

ND Highest concentration of TPH (mg/kg) _____

-- Highest concentration of SAR 0.552

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 7

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 sample was collected from the soil used to construct the tank battery. Due to excavation activities the TB-BG sample is no longer being applied. Sixteen background soil samples were collected from the native material outside of the facility excavations. Sixteen background samples were also collected as part of the Sarchet 41-23 & Sarchet UPRR 42-23 3X wellhead cut and cap activities (Rem#. 36822), located approximately 100 ft north and northeast, from similar depths (3' and 6' bgs), and NCRS soil type (Sand). Background soil samples were submitted for laboratory analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, and Table 915-1 metals using ECOMC-approved methods. Analytical results indicate that pH, arsenic, and barium are naturally high in the native soil. The background soil sample analytical results are summarized in Table 2. The background soil sample locations are illustrated on Figure 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?

Assessment activities are ongoing and will be summarized 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 former tank battery location 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 pH and arsenic results exceeding the ECMC Table 915-1 allowable level and background level are present in the tank battery excavation. Water was encountered at approximately 5 ft bgs in the PWV excavation above the liner. The water above the liner was determined to not be groundwater. Analytical results indicate that the water concentrations were in compliance with ECMC Table 915-1 allowable organic constituents. No organic constituents were detected above the laboratory reporting limits. 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: \$ 13500 _____

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? _____

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. 01/16/2025

Actual Spill or Release date, or date of discovery. 01/16/2025

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/06/2024

Proposed site investigation commencement. 12/06/2024

Proposed completion of site investigation. 11/21/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/06/2024

Proposed date of completion of Remediation. 11/21/2025

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

| |
|--|
| |
|--|

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: 06/27/2025

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: 09/26/2025

Remediation Project Number: 37719

COA Type**Description**

| | |
|--------|--|
| | All laboratory analytical results for Table 915-1 Soil TPH, Organic Compounds in Soils, and Metals in Soils shall be reported on a dry weight basis. |
| | Operator to provide further explanation for their determination that the water found under the PWV was not groundwater and how it was removed. |
| 2 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**

| | |
|-----------|----------------------------------|
| 404190676 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 404196114 | LABORATORY ANALYTICAL REPORT |
| 404196116 | LABORATORY ANALYTICAL REPORT |
| 404196118 | LABORATORY ANALYTICAL REPORT |
| 404232151 | SOIL SAMPLE LOCATION MAP |
| 404232158 | LABORATORY ANALYTICAL REPORT |
| 404232190 | ANALYTICAL DATA SUMMARY TABLE(S) |
| 404232206 | PHOTO DOCUMENTATION |
| 404235281 | SOIL SAMPLE LOCATION MAP |

Total Attach: 9 Files

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

| | | |
|--|--|---------------------|
| | | Stamp Upon Approval |
|--|--|---------------------|

Total: 0 comment(s)