

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Alexander Ahmadian

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 #: 36732 Initial Form 27 Document #: 403788401

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: TANK BATTERY Facility ID: 487142 API #: _____ County Name: WELD

Facility Name: HIGHUM/NORDEN/CLARK FACILITY TB Latitude: 40.045385 Longitude: -104.854014

** correct Lat/Long if needed: Latitude: _____ Longitude: _____

QtrQtr: SWSE Sec: 14 Twp: 1N Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 487769 API #: _____ County Name: WELD

Facility Name: Highum, Norden, Clark Latitude: 40.045444 Longitude: -104.854575

** correct Lat/Long if needed: Latitude: _____ Longitude: _____

QtrQtr: SWSE Sec: 14 Twp: 1N Range: 67W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Surface Water

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

Irrigation Ditch 280 feet (ft) southeast. Water well 580 ft south. Occupied buildings 910 ft south, 1,260 ft southwest, and 1,300 ft northeast. Livestock 1,100 ft southwest. County Road 610 ft south. Agriculture.

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 Highum,Norden,Clark Facility on September 4, 2024. Groundwater was not encountered during excavation activities. Visual inspection and field screening of soil at one aboveground storage tank (AST), one produced water vessel (PWV), one emission control device (ECD), one meter house, one scrub pot, three dumlaine potholes, and one separator were conducted following removal activities, and soil samples [AST01@0.5', PWV-B01@0.5', PWV-N01@0.5', SEP-INLET(15-14A)@3', SEP-OUTLET(15-14A)@3', and FL01@6'] were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Preliminary laboratory analytical results indicated that total petroleum hydrocarbon (TPH), polycyclic aromatic hydrocarbon (PAH), cadmium, lead, and/or selenium impacts exceeding the ECMC Table 915-1 allowable levels and/or site-specific background levels were present at the FL01@5', PWV-B01@0.5', AST01@0.5', and SEP-INLET(15-14A)@3' locations. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 403911503) was submitted on September 6, 2024 and the ECMC issued Spill/Release Point ID 487769. Additional background samples were collected and verification samples were collected at the AST01@0.5' and SEP-INLET(15-14A)@3' locations on September 5, 2024 to confirm the initial results and final analytical results are pending. Final laboratory analytical results are pending and will be submitted in a subsequent Form 27 Supplemental report. The facility soil sample locations are depicted on Figure 1. The PID readings are summarized in Table 1.

Excavation activities are ongoing and will be summarized 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):

On September 4, 2024, six confirmation soil samples were collected from the facility excavations at depths ranging from 0.5 ft below ground surface (bgs) to 6 ft bgs. The samples were submitted for analysis of full list Table 915-1 constituents using ECMC-approved methods. Preliminary laboratory analytical results indicated that TPH, PAH, cadmium, lead, and/or selenium impacts exceeding the ECMC Table 915-1 allowable levels and/or site-specific background levels were present at the FL01@5', PWV-B01@0.5', AST01@0.5', and SEP-INLET(15-14A)@3' locations. Additional background samples were collected and verification samples were collected at the AST01@0.5' and SEP-INLET(15-14A)@3' locations on September 5, 2024 to confirm the initial results and final analytical results are pending. Excavation activities are ongoing at the PWV-B01@0.5' and FL01@6' locations. Final laboratory analytical results are pending and will be submitted in a subsequent Form 27 Supplemental report.

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 September 4, 2024, visual inspections and field screening of soil were conducted at the footprint and drain of the AST, three sidewalls of the PWV excavation, two dumlaine potholes, the ECD, the meter house, and the scrub pot. Based on the inspection and screening results, hydrocarbon-impacted soils were not observed at the soil screening locations. As a result, no soil samples were submitted for laboratory analysis from these areas in accordance with the ECMC Operator Guidance for Oil & Gas Facility Closure document. A photographic log is attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 9
Number of soil samples exceeding 915-1 6
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 275

NA / ND

-- Highest concentration of TPH (mg/kg) 720
-- Highest concentration of SAR 1
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 6

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 for comparison to shallow soil samples collected within the fill material. Six background soil samples (Native-BG01@3' through Native-BG03@3' and Native-BG01@6' through Native-BG03@6') were collected from the native material outside of the facility excavations. The 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. The background soil sample laboratory analytical results are pending. The background soil sample locations are depicted on Figure 1.

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 are ongoing. The final laboratory analytical results are pending and will be submitted 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 will be removed and transported to a licensed disposal facility. Final disposal information will be provided upon completion of excavation activities. Disposal records will be 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 impacts exceeding the ECMC Table 915-1 allowable level and background levels for TPH, PAHs, cadmium, lead, and/or selenium are present at the AST01@0.5', PWV-B01@0.5', SEP-INLET(15-14A)@3', and FL01@6' locations. Additional background samples were collected and verification samples were collected at the AST01@0.5' and SEP-INLET(15-14A)@3' locations on September 5, 2024 to confirm the initial results and final analytical results are pending. Excavation activities are ongoing at the PWV-B01@0.5' and FL01@6' locations. Groundwater was not encountered in the facility excavations. Final laboratory analytical results are pending and will be summarized in a subsequent Form 27 Supplemental report.

Soil Remediation Summary

In Situ

Ex Situ

- _____ Bioremediation (or enhanced bioremediation)
- _____ Chemical oxidation
- _____ Air sparge / Soil vapor extraction
- _____ Natural Attenuation
- _____ Other _____

- _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____
- _____ Name of Licensed Disposal Facility or ECMC Facility ID # _____
- _____ Excavate and onsite remediation
- _____ 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. 09/06/2024

Actual Spill or Release date, or date of discovery. 09/05/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/04/2024

Proposed site investigation commencement. 09/04/2024

Proposed completion of site investigation. 03/23/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/04/2024

Proposed date of completion of Remediation. 03/23/2025

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: 10/22/2024 _____

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: Alexander Ahmadian _____

Date: 01/23/2025 _____

Remediation Project Number: 36732 _____

COA Type**Description**

	Operator shall provide the Document numbers or attach the Form 42 associated for the on-location flowline abandonment on the next Form 27 Supplemental.
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**

403930193	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403930201	ANALYTICAL RESULTS
403930202	PHOTO DOCUMENTATION
403930203	SOIL SAMPLE LOCATION MAP
404068074	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 5 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)