

State of Colorado
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:
404050754
Receive Date:
02/04/2025
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 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 #: 36312 Initial Form 27 Document #: 403848335

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>487143</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Herman UP 41-31A/UP Facility TB</u>	Latitude: <u>40.184625</u>	Longitude: <u>-104.815295</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNE</u>	Sec: <u>31</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>488514</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Herman UP 41-31A, UP Facility</u>	Latitude: <u>40.184685</u>	Longitude: <u>-104.815362</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNE</u>	Sec: <u>31</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 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

Platteville Ditch 130 feet (ft) east. Platte Valley Canal 180 ft west. Retention Ponds 310 ft west, 470 ft southwest, and 1,000 ft northwest. Water well 1,070 ft north. Occupied buildings 1,090 ft west, 1,010 ft north, and 1,170 ft southwest. Livestock 410 ft north. Railroad 770 ft west. Highway 890 ft west. Agriculture. Groundwater at approximately 6 ft below ground surface (bgs).

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 at the Herman UP 41-31A, UP Facility were conducted on September 10, 2024. Groundwater was encountered in the produced water vessel excavation at a depth of 6 ft bgs. 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, and one separator were conducted following removal activities and soil samples (AST01@0.5', PWV-B01@4', PWV-N01@2', SEP01-INLET@3', and SEP01-OUTLET@3') were submitted for laboratory analysis of full list Table 915-1 constituents, to determine if a release occurred. Initial analytical results indicated that sodium adsorption ratio (SAR), and/or pH impacts exceeding the Table 915-1 allowable levels and site-specific background levels were present at the AST01@0.5', PWV-B01@4', and PWV-N01@2' locations. Verification samples were collected at the three locations to confirm the initial results. The PWV base verification sample was analyzed for full list Table 915-1 constituents due to field indication of impact that was not present during the initial sampling. Final analytical results confirmed that pH, naphthalene, and/or 1-methylnaphthalene impacts exceeding the Table 915-1 allowable levels and background levels were present at the AST01@0.5' and PWV-B01@4' locations. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 403966901) was submitted on 10/25/2024 and the ECMC issued Spill/Release Point ID 488514. The facility soil sample locations are 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 9/10 and 11/19/2024, excavation activities were conducted to address remaining soil impacts at the former PWV and eight confirmation soil samples were collected from the base and sidewalls of the final excavation extents at depths of approximately 6 ft bgs and 4 ft bgs, respectively. The confirmation soil samples were submitted for analysis of the site-specific waste profile, including total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), electrical conductivity (EC), SAR, pH, boron and select Table 915-1 metals using ECMC-approved methods. Analytical results indicated that all samples at the final PWV excavation extent were within the ECMC Table 915-1 allowable levels or background levels. On 1/13/2025, excavation activities were conducted at the AST01 location and final lab analytical results are pending. Once the final lab report has been received, it will be submitted in a subsequent Form 27 Supplemental report. The lab reports are attached.

Proposed Groundwater Sampling

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

On October 31, 2024, one groundwater sample GW01@6' was collected from the PWV excavation at a depth of 6 ft bgs. The groundwater sample was submitted for analysis of full list Table 915-1 constituents in groundwater. One background groundwater sample (BG-GW01@10') was collected from the UPRR 42 PAN AM X 1 wellhead cut and cap activities (Rem# 36296) for analysis of Table 915-1 inorganic constituents in groundwater. Based on the laboratory analytical results groundwater concentrations exceeded the ECMC Table 915-1 allowable levels and background levels for total dissolved solids (TDS), chloride, and sulfate. Groundwater monitoring wells will be installed to delineate the dissolved-phase impacts. The monitoring well installation scope of work will be submitted in a subsequent Form 27 Supplemental report following completion of soil assessment activities. The groundwater sample locations are depicted on Figures 1 and 2. The groundwater 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 September 10, 2024, visual inspections and field screening of soil were conducted at the hatch and base of the AST, three sidewalls of the PWV excavation, one meter house, and one ECD. 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. A photographic log is attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 18
 Number of soil samples exceeding 915-1 15
 Was the areal and vertical extent of soil contamination delineated? No
 Approximate areal extent (square feet) 278

NA / ND

-- Highest concentration of TPH (mg/kg) 420
 -- Highest concentration of SAR 9.69
 BTEX > 915-1 No
 Vertical Extent > 915-1 (in feet) 6

Groundwater

Number of groundwater samples collected 1
 Was extent of groundwater contaminated delineated? No
 Depth to groundwater (below ground surface, in feet) 6
 Number of groundwater monitoring wells installed 0
 Number of groundwater samples exceeding 915-1 1

ND Highest concentration of Benzene (µg/l) _____
 ND Highest concentration of Toluene (µg/l) _____
 ND Highest concentration of Ethylbenzene (µg/l) _____
 ND Highest concentration of Xylene (µg/l) _____
 NA 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?

Eight background soil samples were collected from the native material outside of the facility excavations. Thirteen background samples were also collected as part of the Herman L 32-3, 3 JI O SA decommissioning activities (Rem# 32055), located approximately 3940 ft northeast, from similar depths (3' & 6' bgs), & NCRS soil type (Sandy Loam). Background soil samples were submitted for lab analysis of pH, EC, SAR, boron & Table 915-1 metals using ECMC-approved methods. Analytical results indicate that EC, SAR, pH, boron, arsenic, barium, cadmium, lead, nickel, & selenium are naturally high in the native soil.

One background groundwater sample (GW-BG01@10') was collected from the nearby UPRR 42 PAN AM X 1 wellhead cut and cap activities (Rem# 36296) for analysis of Table 915-1 inorganic constituents in groundwater.

The background soil and groundwater samples results are summarized in Tables 2 & 3. The background soil and groundwater sample locations are depicted 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?

Groundwater monitoring wells will be installed to delineate the dissolved-phase impacts. The monitoring well installation scope of work will be submitted in a subsequent Form 27 Supplemental report following completion of soil assessment activities.

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 PWV and AST 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 PAHs, SAR, and pH impacts have been remediated and all soil at the final PWV excavation extent is within the ECMC Table 915-1 allowable levels and background levels. On 1/13/2025, excavation activities were conducted at the AST01 location and final lab analytical results are pending. Once the final lab report has been received, it will be submitted in a subsequent Form 27 Supplemental report. Groundwater was encountered at approximately 6 ft bgs. Analytical results indicate that groundwater concentrations exceeded the ECMC Table 915-1 allowable levels for TDS, chloride, and sulfate. Groundwater monitoring wells will be installed to delineate the dissolved-phase impacts. The monitoring well installation scope of work will be submitted in a subsequent Form 27 Supplemental report following completion of soil assessment activities. 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.

Groundwater monitoring wells will be installed to delineate the dissolved-phase impacts. The monitoring well installation scope of work will be submitted in a subsequent Form 27 Supplemental report following completion of soil assessment activities.

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. 09/25/2024

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/10/2024

Proposed site investigation commencement. 09/10/2024

Proposed completion of site investigation. 07/21/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/10/2024

Proposed date of completion of Remediation. 07/21/2026

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

--

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: 02/04/2025

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: 05/30/2025

Remediation Project Number: 36312

COA Type**Description**

	Operator shall fully populate the implementation schedule in accordance with Rule 913.d on the subsequent Supplemental Form 27.
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**

404050754	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404061323	PHOTO DOCUMENTATION
404065273	ANALYTICAL RESULTS
404065274	ANALYTICAL RESULTS
404065277	ANALYTICAL RESULTS
404065278	ANALYTICAL RESULTS
404065279	ANALYTICAL RESULTS
404077342	ANALYTICAL RESULTS
404077424	SOIL SAMPLE LOCATION MAP
404077426	SOIL SAMPLE LOCATION MAP
404224385	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 11 Files

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

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

Total: 0 comment(s)