

State of Colorado
Energy & Carbon Management Commission

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



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Report taken by:

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
Address: P O BOX 173779		Phone: (720) 929-4307
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Max Moran	Email: DJRemediation_Forms@oxy.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 39335 Initial Form 27 Document #: 404060407

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: WELL	Facility ID: _____	API #: 123-08229	County Name: WELD
Facility Name: HERMAN 1	Latitude: 40.177460	Longitude: -104.805950	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 32	Twp: 3N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 490340	API #: _____	County Name: WELD
Facility Name: Herman 1 Wellhead	Latitude: 40.177460	Longitude: -104.805950	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 32	Twp: 3N	Range: 66W 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

Water well 40 feet (ft) southwest. Platteville Ditch 100 ft north. Livestock 1100 ft southwest. Pond 1180 ft northwest. Occupied buildings 1280 ft southwest. Agriculture. Groundwater at approximately 5.5 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
Yes	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.

Wellhead cut and cap operations were completed at the Herman 1 wellhead on April 22, 2025. Groundwater was encountered in the cut and cap excavation at a depth of 5.5 ft bgs. Visual inspection and field screening of soil around the wellhead and associated pumping equipment were conducted following cut and cap operations. A soil sample [B01(1)@6'] was submitted for analysis of full list ECMC Table 915-1 constituents, including benzene, toluene, ethylbenzene (BTEX), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene (TMBs), naphthalene, total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH), pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, and Table 915-1 metals, to determine if a release occurred. The flowline associated with the wellhead was removed on April 22 and April 24, 2025. Samples were collected from the location where the flowline risers were disconnected from the wellhead [WH-RISER(1)@3'] and from the separator [SEP-RISER(32-14,1)@3']. The samples were submitted for full list Table 915-1 constituents to determine if a release occurred. Analytical results indicated that arsenic and lead exceeding the Table 915-1 allowable levels and background levels are present at the former wellhead. As such, a Form 19 Initial Spill/Release report (Document No. 404209312) was submitted on May 22, 2025 and the ECMC issued Spill/Release Point ID 490340. The wellhead excavation and flowline are depicted on Figures 1 and 2. The PID readings and analytical results are summarized in Tables 1 and 2, respectively.

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 April 22 and April 24, 2025, soil samples were collected from the wellhead excavation [B01(1)@6'] and where the flowline risers were disconnected from the wellhead [WH-RISER(1)@3'] and from the separator [SEP-RISER(32-14,1)@3'] at depths of 3 ft bgs and 6 ft bgs. The samples were submitted for analysis of full list Table 915-1 constituents, using ECMC-approved methods. Analytical results indicated that arsenic and lead exceeding the Table 915-1 allowable levels and background levels are present at the former wellhead.

Proposed Groundwater Sampling

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

On April 22, 2025, one groundwater sample (GW01@5.5') was collected from the cut and cap excavation at a depth of 5.5 ft bgs. The groundwater sample was submitted for analysis of full list Table 915-1 constituents in groundwater. One background groundwater sample (GW-BG01@6') was collected for analysis of Table 915-1 inorganic constituents in groundwater. Laboratory analytical results indicate that benzene and chloride exceeding the Table 915-1 allowable levels and background levels are present in groundwater. Monitoring wells will be installed to delineate the dissolved-phase plume. The groundwater sample location and background groundwater sample location are depicted on Figure 1. 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 April 22, 2025, visual inspection and field screening of soil were conducted at four sidewall locations within the cut and cap excavation area and four locations at the ground surface adjacent to the cut and cap excavation area. 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 ECMC Operator Guidance.

On April 28, 2025, a soil gas survey was conducted at four soil vapor points (SVPs) installed adjacent to the former wellhead following cut and cap activities. One additional SVP was blocked and could not be screened. GEM 5000 readings were non-detect at the remaining SVPs. The SVP locations are depicted on Figure 1.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 3

Number of soil samples exceeding 915-1 3

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

Approximate areal extent (square feet) 387

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 2.14

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

-- Highest concentration of Benzene (µg/l) 39.6

-- Highest concentration of Toluene (µg/l) 122

ND Highest concentration of Ethylbenzene (µg/l)

-- Highest concentration of Xylene (µg/l) 21.7

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 (NATIVE-BG01@3' through NATIVE-BG04@3' and NATIVE-BG01@6' through NATIVE-BG04@6') were collected from the native material outside of the wellhead excavation area. The background soil samples were submitted for laboratory analysis of pH, EC, SAR, boron, and ECMC Table 915-1 metals, using ECMC-approved methods. Laboratory analytical results indicate that levels of pH, arsenic, and hexavalent chromium are naturally high in soil. The background soil analytical results are summarized in Table 2.

One background groundwater sample was collected for analysis of Table 915-1 inorganic constituents in groundwater. The background groundwater analytical results are summarized in Table 3.

The background soil and groundwater sample locations are illustrated 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?

Assessment activities are on hold and details will be provided in a subsequent Form 27 supplemental report.

Groundwater monitoring wells will be installed to delineate the dissolved-phase plume. 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 will be removed and transported to a licensed disposal facility. Final disposal information will be provided following the completion of soil assessment 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

REMEDIATION 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 arsenic and lead exceeding the Table 915-1 allowable level and background level are present in the wellhead excavation. Groundwater was encountered at approximately 5.5 ft bgs. Laboratory analytical results indicate that benzene and chloride impacts are present in groundwater. Groundwater monitoring wells will be installed to delineate the dissolved-phase plume. The monitoring well installation scope of work will be submitted in a subsequent Form 27 Supplemental report following completion of soil assessment activities.

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 plume. 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: \$ 11000 _____

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. 05/20/2025

Actual Spill or Release date, or date of discovery. 05/19/2025

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/22/2025

Proposed site investigation commencement. 04/22/2025

Proposed completion of site investigation. 12/31/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/22/2025

Proposed date of completion of Remediation. 12/31/2027

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

Verification samples and re-run results for B01(1)@6'-V, WH-RISER(1)@3'-V, and SEP-RISER(32-14,1)@3'-V have been omitted from the summary table and figures due to updated ECMC instructions. All verification sample results are included in the previously attached laboratory analytical reports.

No additional work has been done since the previous Form 27 submitted on 09/19/2025 (Document No. 404356525). Additional assessment at this location is on hold. The implementation schedule has been updated.

KMOG has a large number of active remediation projects and is working diligently to bring each project to closure. These projects are prioritized based on potential environmental risk; considering factors such as size of impact, type of impact, what media is impacted, proximity to sensitive receptors and land use. Work at this site is anticipated to resume by 12/31/2026.

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: Max Moran _____

Title: Environmental Advisor _____

Submit Date: _____

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: 39335 _____

COA Type**Description**

COA Type	Description
0 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**

404585822	SOIL SAMPLE LOCATION MAP
404585823	SOIL SAMPLE LOCATION MAP
404585853	ANALYTICAL DATA SUMMARY TABLE(S)

Total Attach: 3 Files

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

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)