

State of Colorado
Energy & Carbon Management Commission

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404439069
Receive Date:
12/02/2025

Report taken by:
Kari Brown

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 Phone: <u>(832) 814-7792</u> Mobile: <u>()</u>
Address: <u>P O BOX 173779</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80217-3779</u>
Contact Person: <u>Ariana Ochoa</u>	Email: <u>DJRemediation_Forms@oxy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 36866 Initial Form 27 Document #: 403896300

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: <u>TANK BATTERY</u>	Facility ID: <u>487626</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Stromquist 14-21 Facility</u>	Latitude: <u>40.121293</u>	Longitude: <u>-105.010357</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESW</u>	Sec: <u>21</u>	Twps: <u>2N</u>	Range: <u>68W</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

Surface water: An unnamed pond is located 474 feet north of the location.
 Wetlands: An area with wetland characteristics is located 288 feet southwest of the location.
 Water Wells: The nearest water well is located 1,198 feet west of the location.
 Springs: None.
 Occupied Building: The nearest building is located approximately 451 feet northwest of the location.
 Livestock: Livestock is located approximately 774 feet northwest of the location.
 High Priority Habitats: The location resides within a Bald Eagle Roost or Communal Roost High Priority Habitat (HPH), and within ¼-mile of the boundary of a Bald Eagle Active Nest HPH buffer.

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	See attached data	Inspection/groundwater samples/laboratory analytical results
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 conducted at the Stromquist 14-21 production facility location on April 1 and 2, 2025. Visual inspection and field screening of soils at the former production facility infrastructure locations were conducted following decommissioning activities, and seven (7) confirmation 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 (x1.25 for metals), with the exception of pH in above-liner samples AST2-B01@3", PW-B01@3", separator samples SEP-B01@4', SEP-B02@4', and below-liner samples PW-B03@2', and AST1-B03@2' and selenium (Se) in PW-B03@2'. Verification soil samples AST2-B01@3"V, PW-B01@3"V, SEP-B01@4'V, SEP-B02@4'V, AST1-B03@2'V, and PW-B03@2'V were collected and submitted for pH or pH and Se only to verify initial results. Analytical results in all below liner verification soil samples were in compliance with Table 915-1 standards. Based on the results, above-liner material was removed and an additional below-liner soil sample, AST2-B03@2', was collected on May 12, 2025, to confirm liner integrity in the area of AST2 and submitted for laboratory analysis of the full Table 915-1 analytical suite. Analytical results indicated that pH was elevated in AST2-B03@2'. Due to the absence of additional 915-1 exceedances or organic detections in any soil sample locations at this facility, when compared to the background, the elevated pH at the AST2-B03@2' location is considered de minimis and not an indication of a spill or release associated with the E&P activities. The soil sample and field screening locations are illustrated on Figure 1. 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):

Between April 1 and May 12, 2025, 15 confirmation and/or verification soil samples were collected from the former separator (SEP), above-ground storage tanks (AST), and above-ground produced water vessel (PWV) locations, at depths ranging from approximately three (3) inches to four (4) feet below ground surface (bgs). The soil samples were submitted for laboratory analysis of the full Table 915-1 analytical suite or select constituents to verify initial results. Analytical results indicate that constituent concentrations in the final confirmation and verification soil samples were in compliance with 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-B03@2' as described above.

Proposed Groundwater Sampling

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

On April 1 and 2, 2025, groundwater was encountered in the facility excavations at approximately 3-ft bgs. Three groundwater samples were collected and submitted for laboratory analysis of BTEX, naph, 1,2,4- and 1,3,5-TMB, by USEPA Method 8260, as well as TDS, chloride, and sulfate. Analytical results indicated that the groundwater samples were in compliance with ECMC Table 915-1 standards and/or site-specific background standards, with the exception of TDS in groundwater sample AST1-GW01. Due to the absence of additional Table 915-1 exceedances or organic detections in groundwater sample AST1-GW01 and the soil samples (AST1-B01@3" and AST1-B03@2') collected from the corresponding AST location, when compared to background, the TDS is considered de minimis and not an indication of a spill or release associated with E&P activities. Due to the detections of total xylenes (11.4 ug/L) in PW-GW01, five temporary monitoring wells will be installed to further evaluate groundwater conditions.

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 1 and 2, 2025, visual inspection and field screening of soils was conducted at two (2) locations below the former ASTs, one (1) location below the former above-ground PWV, one (1) location at the former meter house (MH), 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 ECMC 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 15
 Number of soil samples exceeding 915-1 10
 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 4.6
 BTEX > 915-1 No
 Vertical Extent > 915-1 (in feet) 0

Groundwater

Number of groundwater samples collected 3
 Was extent of groundwater contaminated delineated? Yes
 Depth to groundwater (below ground surface, in feet) 3
 Number of groundwater monitoring wells installed 0
 Number of groundwater samples exceeding 915-1 0

ND Highest concentration of Benzene (µg/l) _____
 ND Highest concentration of Toluene (µg/l) _____
 ND Highest concentration of Ethylbenzene (µg/l) _____
 -- Highest concentration of Xylene (µg/l) 11.4
 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?

Six (6) background soil samples were collected from undisturbed native material adjacent to the former 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 Stromquist 22-21 wellhead located approximately 270 feet north from similar depths, the same NRCS soil type (Aquolls and Aquepts, flooded), and same land use. 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. Background groundwater samples were collected from the former facility and wellhead listed above and submitted for laboratory analysis of TDS, chloride, and sulfate. Analytical results for the background groundwater samples are summarized in Table 6. A background proximity map is 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?

Due to low level organic constituent detections in groundwater sample PW-GW01, five (5) temporary groundwater monitoring wells will be installed at the site to further evaluate groundwater conditions. Subsequent to installation, groundwater samples will be collected and submitted for laboratory analysis of the Table 915-1 Organic Compounds in Groundwater to determine if additional assessment is necessary. Additional assessment details will be submitted in a subsequent Form 27-Supplemental update. The proposed temporary groundwater monitoring well locations are attached as Figure 3.

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.

The above-liner ballast material was removed from the facility, on May 13, 2025, and approximately 40 cubic yards of impacted material were transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado, for recycling. The excavation area was subsequently backfilled and re-graded 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.

Analytical results indicate that constituent concentrations in the confirmation and/or 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 above-liner soil sample locations AST2-B01@3" and PW-B01@3". No organic constituents were detected in any samples collected from the facility. Above-liner material was removed and confirmation soil samples were collected from the native soil below the lined secondary containment to confirm liner integrity. Analytical results indicated that constituent concentrations in the remaining confirmation soil samples were in compliance with ECMC Table 915-1 standards and/or site-specific background levels (x 1.25 for metals), with the exception of pH at the AST2-B03@2' location. However, due to the absence of additional Table 915-1 exceedances or organic detections, when compared to the background, the elevated pH at the AST2-B03@2' sample location is considered de minimis and is not an indication of a spill or release associated with the E&P activities.

Elevated TDS was encountered in groundwater sample AST1-GW01. Due to the absence of additional Table 915-1 exceedances of organic detections in groundwater sample AST1-GW01 and the soil samples (AST1-B01@3" & AST1-B03@2') collected from the corresponding AST location, when compared to background, the elevated TDS in AST1-GW01 is considered de minimis and not an indication of a spill or release associated with E&P activities. All other groundwater samples collected at this facility were in compliance with Table 915-1.

Analytical results indicated that low-level organics were detected in groundwater sample PW-GW01. Although organic concentrations were below Table 915-1 standards, five (5) monitoring wells shall be installed and sampled to further evaluate groundwater conditions. Additional assessment details will be submitted in a subsequent Form 27-Supplemental update.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 40

_____ 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 Project status update

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: \$ 10000

WASTE DISPOSAL INFORMATION

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

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Approximately 40 cubic yards of impacted material were excavated and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling.

Volume of E&P Waste (solid) in cubic yards 40

E&P waste (solid) description Impacted soil

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Kerr-McGee Land Treatment Facility - Weld County, Colorado

Volume of E&P Waste (liquid) in barrels 0

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? 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 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. 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. _____

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. 06/26/2024

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/01/2025

Proposed site investigation commencement. 04/01/2025

Proposed completion of site investigation. 06/30/2027

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/13/2025

Proposed date of completion of Remediation. 06/30/2027

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

KMOG has included the verification results from sample locations AST2-B01@3"V, PW-B01@3"V, SEP-B01@4"V, SEP-B02@4"V, AST1-B03@2"V, and PW-B03@2"V for pH or pH and Se only to further assess the ECMC Table 915-1 inorganic exceedances. The scientific justification for the inclusion of these rerun results is the assessment of soil heterogeneity and identification of analytical variability due to constituent composition and distribution within the sample media. Verification sample results were within ECMC Table 915-1 cleanup concentrations and/or established site-specific elevated background concentrations for pH and Se. The use of the verification soil samples was approved under Form 27-Supplemental Document # 404248591.

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. Due to this prioritization, no field work has been completed on this project since the previous Form 27 submittal (Document # 404248691). Field work is anticipated to resume on the project by May 1, 2026. Groundwater monitoring well installation at this location is pending. An updated proposed schedule is included as an attachment. Groundwater monitoring activities will be summarized in a forthcoming Form 27-Supplemental update.

Per the RTD comment the attachment has been removed.

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

Signed: Ariana Ochoa

Title: Sr. HSE Advisor

Submit Date: 12/02/2025

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: 12/02/2025

Remediation Project Number: 36866

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**

404439069	FORM 27-SUPPLEMENTAL-SUBMITTED
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Total Attach: 1 Files

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

Environmental	ECMC has processed this form as an update without technical review; no data was attached thus approval of this form does not imply any agreement with comments on completion of site investigation or alteration of site plan. All ongoing/unaddressed comments/COAs from previous Forms remain applicable. Operator shall not delay execution of remedial or investigative actions while waiting for ECMC approval and may request expedited review if necessary.	12/02/2025
Environmental	Remove extraneous attachments. No spill has been discovered. This form can be bulk passed if Operator omits extraneous attachment.	12/02/2025

Total: 2 comment(s)