FORM 27 Rev 5/22

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: 404111096
Receive Date: 04/30/2025
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 INFORMATON

Name of Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator No: 47120
Address: P O BOX 173779
City: DENVER State: CO Zip: 80217-3779
Contact Person: Ariana Ochoa Email: DJRemediation_Forms@oxy.com

Phone Numbers
Phone: (713) 350-4960
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 31974 Initial Form 27 Document #: 403513697

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.
- [X] 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.
- [X] 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 #: 123-19861 County Name: WELD
Facility Name: GRANDVIEW ESTATES (HSR) 11-19A Latitude: 40.212410 Longitude: -104.934092
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SENW Sec: 19 Twp: 3N Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 486276 API #: County Name: WELD
Facility Name: HSR-Grandview Ests 11-19A Wellhead Latitude: 40.212410 Longitude: -104.934092
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SENW Sec: 19 Twp: 3N 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

Surface water 260 feet (ft) south and 420 ft east. Water well 470 ft southeast. Occupied buildings 400 ft south, 850 ft southwest,1,210 ft northwest, and 1,230 ft north. Livestock 530 ft southwest. Agriculture 350 ft west, 710 ft north,1,040 ft southeast, and 1,100 ft northeast. Groundwater at approximately 6 ft below ground surface (bgs).

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [X] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA)
- [ ] **Non-E&P Waste**

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
No	GROUNDWATER	No impacts observed	Groundwater Samples/Laboratory Analytical Results
Yes	SOILS	23' (E-W) x 24' (N-S) x 8' bgs	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 HSR-Grandview Ests 11-19A wellhead on January 26, 2024. Visual inspection and field screening of soils around the wellhead and associated pumping equipment were conducted following cut and cap operations, and a soil sample (B01@6') was submitted for analysis of full list Table 915-1 constituents, to determine if a release occurred. Initial analytical results indicated that lead concentrations exceeding the ECMC Table 915-1 allowable level and background level were present at the former wellhead location. A verification sample was collected to confirm the initial result and also exceeded the allowable level and background level for lead. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 403695747) was submitted on February 23, 2024, and the ECMC issued Spill/Release Point ID 486276. The flowline associated with the wellhead was removed between January 26 and February 8, 2024 and soil samples were collected from the locations where the flowline risers were disconnected from the wellhead (WH01-RISER@3') and from the separator (SEP01-RISER@4'). The samples were submitted for laboratory analysis of full list Table 915-1 constituents, to determine if a release occurred. The flowline potholes are depicted on Figure 2 and the wellhead excavation is depicted on Figure 3 and 4.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

From February 8 - November 27, 2024, excavation activities were conducted to address remaining soil impacts at the former wellhead location and twenty-three (23) confirmation soil samples were collected from the sidewalls of the excavation extent at approximately 3' and 6' feet below ground surface (bgs). Additionally, five (5) soil assessment borings at approximately 4' were collected to delineate potential impacts. The confirmation soil samples were submitted for analysis of the site-specific waste profile derived from sampled from WH01-RISER@3', B01@6' and SEP01-RISER@4' including Table 915-1 Metals and Soil suitability for reclamation parameters using ECMC-approved methods. Analytical results indicate that constituent concentrations in the soil samples collected from the final excavation extents were in compliance with the applicable ECMC Table 915-1 standards and/or within site-specific background levels (x 1.25 for metals).

Proposed Groundwater Sampling

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

On January 26, 2024, one groundwater grab sample was collected from the wellhead excavation and submitted for analysis of Table 915-1 organic compounds. Laboratory analytical results indicated groundwater concentrations were within ECMC Table 915-1 allowable levels. Given that groundwater was in contact with soil previously exceeding Table 915-1 standards, five (5) temporary one-inch monitoring wells (MW01-MW05) were installed on December 2, 2024, to assess the extent of potentially remaining groundwater impacts.

Quarterly groundwater monitoring was initiated on December 23, 2024, and is ongoing. Analytical results for the Fourth Quarter 2024 groundwater monitoring event indicated that Table 915-1 organic compounds were non-detect in all monitoring wells sampled (attached). Sulfate and TDS in one monitoring well (MW-05) remain elevated relative to upgradient 'background' concentrations (MW-04). Groundwater monitoring and reporting will continue on a quarterly basis.

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 January 30, 2024, a soil gas survey was conducted at five soil vapor points installed adjacent to the former wellhead location following cut and cap operations. GEM 5000 field readings were all non-detect for methane at all soil vapor points. The soil vapor point locations are illustrated on Figure 3. The soil vapor data is presented in Table 7.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected	32	ND	Highest concentration of TPH (mg/kg)
Number of soil samples exceeeding 915-1	28	--	Highest concentration of SAR 6.88
Was the areal and vertical extent of soil contamination delineated?	Yes		BTEX > 915-1 No
Approximate areal extent (square feet)	385		Vertical Extent > 915-1 (in feet) 6

Groundwater

Number of groundwater samples collected	6	ND	Highest concentration of Benzene (µg/l)
Was extent of groundwater contaminated delineated?	No	ND	Highest concentration of Toluene (µg/l)
Depth to groundwater (below ground surface, in feet)	6	ND	Highest concentration of Ethylbenzene (µg/l)
Number of groundwater monitoring wells installed	5	ND	Highest concentration of Xylene (µg/l)
Number of groundwater samples exceeding 915-1	1	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?

Seventeen (17) background soil samples Native-BG01@3' through Native-BG06@3', Native-BG01@6' through Native-BG06@6', and BG01@4' through BG05@4' were collected from native material adjacent to the wellhead cut and cap excavation. The background soil samples were submitted for laboratory analysis of Soil Suitability for Reclamation Parameters and Table 915-1 metals using ECMC-approved methods. Laboratory analytical results indicate that constituent concentrations are naturally high in the native soil. The background soil sample laboratory analytical results are summarized in Table 3 and Table 5. The background soil sample locations are depicted on Figure 3 and Figure 4.

☐ 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?

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.

Between January 26,2024 to November 27, 2024, approximately 60 cubic yards of impacted material were excavated and transported to the Landfarm in Weld County, Colorado for disposal. The excavation area 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 impacted soils have been remediated to be in compliance with the ECMC Table 915-1 standards and/or within site-specific background levels (x 1.25 for metals). Quarterly groundwater monitoring is ongoing and will be continued until concentrations remain in compliance with the ECMC Table 915-1 standards. Analytical results for the Fourth Quarter 2024 groundwater monitoring event indicated that COC concentrations were below ECMC Table 915-1 standards for organic compounds in all monitoring wells sampled. Elevated sulfate and TDS in MW-05 will be monitored for trend and additional monitoring wells installed as warranted. Estimated time to attain NFA is Fourth Quarter 2025 if COC concentrations continue to remain below ECMC Table 915-1 standards and/or background values.

Soil Remediation Summary

☐ **In Situ**

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

☒ **Ex Situ**

- Yes Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards) 60
  - Name of Licensed Disposal Facility or ECMC Facility ID # 149007
- No 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.

On December 2, 2024, five (5) temporary one-inch groundwater monitoring wells (MW01-MW05) were installed to further assess the extent of potentially remaining groundwater impacts. Quarterly groundwater monitoring was initiated on December 23, 2024, and is ongoing. The temporary groundwater monitoring wells will continue to be sampled quarterly and submitted for laboratory analysis of Table 915-1 constituents (BTEX, naphthalene, 1,2,4- and 1,3,5- TMB, TDS, chloride, sulfate), as approved by the ECMC in a previous Form 27-Supplemental update (Document No. 403862078). Analytical results for the Fourth Quarter 2024 groundwater monitoring event indicated that Table 915-1 organic compounds were non-detect in all monitoring wells sampled, with elevated sulfate and TDS in one monitoring well (MW-05). Additional monitoring wells may be proposed in a future F27 Supplemental to include more delineation wells or background monitoring wells if warranted.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] 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: [X] Groundwater Monitoring [ ] Land Treatment Progress Report [ ] O&M Report

[X] Other Progress Report

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: $ 12500

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 60 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 60

E&P waste (solid) description Impacted Soil

ECMC Disposal Facility ID #, if applicable: 149007

Non-ECMC Disposal Facility:

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.

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. 02/22/2024

Actual Spill or Release date, or date of discovery. 02/22/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/26/2024

Proposed site investigation commencement. 01/26/2024

Proposed completion of site investigation. 11/27/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/22/2024

Proposed date of completion of Remediation. 09/30/2025

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: Ariana Ochoa Title: Sr. HSE Advisor

Submit Date: 04/30/2025 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:

Remediation Project Number: 31974

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
404111096	FORM 27-SUPPLEMENTAL-SUBMITTED
404111173	ANALYTICAL RESULTS
404111174	ANALYTICAL RESULTS
404111175	ANALYTICAL RESULTS
404111176	ANALYTICAL RESULTS
404111178	ANALYTICAL RESULTS
404111179	ANALYTICAL RESULTS
404111180	ANALYTICAL RESULTS
404111183	SITE MAP
404111488	SOIL SAMPLE LOCATION MAP
404111489	SOIL SAMPLE LOCATION MAP
404126761	PHOTO DOCUMENTATION
404126957	SOIL SAMPLE LOCATION MAP
404132410	GROUND WATER ELEVATION MAP
404132413	LOGS
404132415	ANALYTICAL RESULTS
404132883	ANALYTICAL RESULTS
404181473	ANALYTICAL DATA SUMMARY TABLE(S)
404181673	SOIL SAMPLE LOCATION MAP

Total Attach: 19 Files

General Comments

User Group	Comment	Comment Date
Environmental	ECMC has denied this Form. Verification samples of this magnitude are not considered valid. If the Operator chooses to use multiple verification samples for a single sample point, then the Operator must explain their scientific justification for multiple reruns/resamples.	08/28/2025

Total: 1 comment(s)